

Amanda Lynn Buchanan

Department of Entomology • Michigan State University

1129 Farm Lane, East Lansing, MI 48824

971-373-5103 • alynnbuchanan@gmail.com • alynnbuchanan.com

Professional appointments

2015-present Postdoctoral Research Associate, Department of Entomology, Michigan State University, East Lansing, MI. Advisors: Zsofia Szendrei and Matthew Grieshop

2013-15 Postdoctoral Research Associate, Department of Entomology, University of Maryland, College Park, MD. Advisor: Cerruti Hooks

Education

2012 PhD, Ecology and Evolutionary Biology, Florida State University. Advisors: Nora Underwood and Brian Inouye

2001 BA, Spanish/Exercise & Movement Science (*cum laude*), University of Oregon

Research publications (*undergraduate co-author)

Buchanan, Hermann, Lund & Szendrei. 2017. A meta-analysis of non-consumptive predator effects in arthropods: the influence of organismal and environmental characteristics. *Oikos* 126(9): 1123-1240

Buchanan, Gibbs, Komondy* & Szendrei. 2017. Bee community of commercial potato fields in Michigan and *Bombus impatiens* visitation to neonicotinoid-treated potato plants. *Insects* 8(1): 30

Buchanan, Kolb, & Hooks. 2016. Can winter cover crops influence weed density and diversity in a reduced tillage vegetable system? *Crop Protection* 90:9-16

Kim, Spiesman, Buchanan et al. 2015. Selective manipulation of a non-dominant plant and its herbivores affects an old-field plant community. *Plant Ecology* 216: 1029-1045

Buchanan, Zobel, Hinds, Rosario-Lebron & Hooks. 2015. Can row spacing influence arthropod communities in soybean? *Environmental Entomology* 44(3): 557-561

Buchanan. 2015. Effects of damage and pollination on sexual and asexual reproduction in a flowering clonal plant. *Plant Ecology* 216: 273-282

Buchanan & Underwood. 2013. Attracting pollinators and avoiding herbivores: insects influence plant traits within and across years. *Oecologia* 173: 473-482

Buchanan. 2013. Damage by *Neochetina* weevils (Coleoptera: Curculionidae) induces resistance in *Eichhornia crassipes* (Commelinales: Pontederiaceae). *Florida Entomologist* 96(2): 458-462

Holland, Buchanan & Loubeau. 2004. Oviposition choice and larval survival in an obligately pollinating granivorous moth. *Evolutionary Ecology Research* 6: 607-618

Selected research presentations (*invited talk)

2017 *Habitat management for conservation biocontrol of a stem mining fly. Entomology Society of America (EnSA), Denver CO

2016 Alternative pest management strategies in specialty crops. Intnat'l Congress Ent., Orlando FL

2016 *Pest management strategies for asparagus. EnSA North Central Branch, Cleveland OH

- 2015 *Cover crop diversity and management for weed control in organic agro-ecosystems. EnSA/ASA/CSSA/SSSA, Minneapolis MN
- 2014 Soil disturbance and ground cover: How weed communities and weed seed predators respond to tillage and cover crop residue in organic agricultural systems. Ecological Society of America (EcSA), Sacramento CA
- 2014 *Induced resistance in invasive plants: Implications for biocontrol. EnSA, Portland OR
- 2012 Allocation shifts favor asexual reproduction: response to damage and pollination in a clonal flowering plant (*Eichhornia crassipes*). EcSA, Portland OR
- 2011 Attracting pollinators and avoiding herbivores: Resource allocation in a perennial plant. EcSA, Austin TX
- 2009 A dynamic optimization model of the influence of allocation pattern and herbivore and pollinator environments on plant fitness. EcSA, Albuquerque NM
- 2009 Evolutionary consequences of plant phenology, herbivory, and pollination. SEEC, Gainesville FL

Extension publications

- Buchanan et al. 2017. Striped and spotted cucumber beetles as pests of cucurbits in Michigan. *MSU Extension*
- Buchanan et al. 2017. Squash bugs as pests of cucurbits in Michigan. *MSU Extension*
- Werling, Buchanan & Szendrei. 2016. A tale of two cutworms: Cutworm control in asparagus. *MSU Extension*
- Buchanan et al. 2015. Common and spotted asparagus beetle as pests of asparagus. *MSU Extension*
- Buchanan et al. 2015. Squash vine borer as a pest of cucurbits in Michigan. *MSU Extension*
- Phillips & Buchanan. 2015. Squash vine borer biology and management. *MSU Extension*
- Krasnow, Hausbeck, Bryant, Morrison, Werling, Quinn, Szendrei & Buchanan. 2015. Diseases and insects in Michigan cucurbits and their management. *MSU Extension*
- Buchanan & Hooks. 2014. Cover crops can improve soil quality and suppress weeds. *UMD Extension Vegetable and Fruit Headline News* 5(7): 5-8
- Hooks, Buchanan, Chen & Rosario-Lebron. 2014. Offing cover crops for weed suppression: Featuring the roller-crimper and other mechanical contraptions. *UMD Extension Vegetable and Fruit Headline News* 5(6): 4-8
- Buchanan, Chen & Hooks. 2014. Managing the weed seedbank with cover crops and tillage. *UMD Extension Vegetable and Fruit Headline News* 4(10): 4-6
- Hooks, Buchanan & Chen. 2013. The stale seedbed technique: a relatively underused alternative weed management tactic for vegetable production. *UMD Extension Vegetable and Fruit Headline News* 4(5): 5-7
- Chen, Buchanan & Hooks. 2013. Using reduced tillage and cover crop residue to manage weeds in vegetable production. *UMD Extension Vegetable and Fruit Headline News* 4(10): 1-4

Selected extension presentations (m = grower's meeting, f = field demonstration, w = workshop)

- 2017 Attract-&-kill: Case study with Japanese beetle (w) Small Farm Pest Management, Ann Arbor MI
- 2017 Asparagus insect management update (m) Oceana Asparagus Day, New Era, MI
- 2017 Asparagus insect pest management (m) Asparagus Advisory Council, Dewitt, MI
- 2016 Habitat management for insect control (f) Zilke Vegetable Farm Field Day, Milan, MI
- 2016 Asparagus research update (f) Oceana Research Tour, Oceana County, MI

- 2016 Asparagus insect pest management (m) Oceana Asparagus Day, New Era, MI
- 2016 Managing Japanese beetle & asparagus miner in asparagus (m) Great Lakes Expo, Gr Rapids, MI
- 2015 Asparagus research update (f) Oceana Research Tour, Oceana County, MI
- 2014 Ecological effects of winter cover crops on organic vegetable production (m) USDA-ARS-UMD Annual Trends in Agriculture Fall Symposium, Beltsville, MD
- 2014 Native bees as crop pollinators (m) MD Agricultural Pesticide Conference, Denton, MD
- 2014 Using cover crops for pest suppression in crookneck squash (m) MD Organic Food & Farming Association, Annapolis, MD
- 2014 Sustainable pest control: Using cover crops & tillage in vegetable crops (m) Eastern Shore Vegetable Meeting, Cambridge, MD
- 2014 Winter cover crops influence soil quality, pest suppression & crop yield (m) Southern Maryland Vegetable & Fruit Meeting, Gambrills, MD
- 2013 Organic vegetable planting systems, cover crops & greenhouse gas emissions (f) Central Maryland Research & Education Center Field Day, Upper Marlboro, MD
- 2013 Using winter cover crops to enhance organic vegetable industry (f) Central Maryland Research & Education Center Field Day, Upper Marlboro, MD

Grants, honors and awards

- 2016 Buchanan, Grieshop & Szendrei. Developing novel pest management tactics for asparagus & cherry. Project GREEN Michigan State University, \$80,000
- 2016 Szendrei, Buchanan & Grieshop. Developing novel pest management tactics for asparagus. Michigan Asparagus Research Committee, \$5,000
- 2013 Hooks, Chen & Buchanan. Developing economic & ecological sustainable pest management practices for growers of leguminous and solanaceous crops. USDA-NIFA Northeastern IPM Competitive Grants Program, \$83,058
- 2013 Chen, Hooks & Buchanan. Evaluation of cover crop mixtures on soil fertility & quality, insect & pest management, crop yield & profitability for corn production. USDA-OREI Integrated Agriculture & Natural Resources Extension & Research Competitive Grants Program, \$32,000
- 2011 Buchanan. Growth, reproduction, & herbivore resistance in water hyacinth (*Eichhornia crassipes*). Florida Exotic Pest Plant Council Julia Morton Invasive Plant Research Grant, \$1,612
- 2011 Robert K. Godfrey Endowment for Botany, Florida State University, \$1000
- 2011 Presidential Fellowship, Florida State University
- 2009 Dissertation Research Grant, Florida State University, \$750
- 2007 Presidential Fellowship, Florida State University
- 2007 Mechanisms of spatial & temporal variability in pollinating bee guilds, NSF GRF Hon. Mention
- 2006 Robert B. Short Scholarship in Zoology, Florida State University, \$1000
- 2005 Presidential Fellowship, Florida State University

Undergraduate research projects

- 2011 Kerri Brinegar, *Effects of plant height on pollination & seed predation in Rhexia virginica*, Florida State University
- 2009 Rachel Atchison, *Root herbivory by banded cucumber beetles (Diabrotica alateata) affects zucchini plant performance (Cucurbita pepo)*, Florida State University

2009 Hannah Carey, *Clonal integration of induced resistance to herbivory damage in Chamerion angustifolium*, Rocky Mountain Biological Lab

Undergraduate teaching (*primary instructor)

General Biology Lecture for Non-Majors*	Experimental Biology Lab: Foraging Ecology
Plant Biology Lecture	General Ecology Lecture
Plant Biology Lab	Research Methods Lecture + Lab
Experimental Biology Lab: Pollination Biology	Anatomy & Physiology I & II Lab

Guest lectures:

“Chemical Ecology” for General Ecology

“Mutualism” for General Ecology

Service

Professional societies

2013-present Entomological Society of America

2006-12 Ecological Society of America

Manuscript reviews

Insects (guest editor), Acta Oecologica, American Journal of Botany, Annals of Applied Biology, Ecology, Environmental Entomology, Oecologia, Plant Production Science, PLOS One, Weed Research

Community service

2017-present Postdoc Association, Digital Presence Committee, Michigan State University

2017 Judge, Graduate Academic Conference, MSU

2016 Judge, University Undergraduate Research & Arts Forum, MSU

2016 Judge, Plant Science Graduate Student Research Symposium, MSU

2015 Judge, Chesapeake Bay Governor’s School Science Symposium, Virginia Commonwealth University, Richmond, VA

2013 Demonstrator, Maryland Day Insect Zoo, University of Maryland

2013 Judge, Graduate Research Interaction Day, UMD

2012 Presenter, “Insects as Food”, School of Arts & Sciences, Tallahassee, FL

2012 Presenter, “Insects as Food”, Leon County Libraries, Tallahassee, FL

2011 Instructor, “Art & Ecology”, Pineview Elementary School, Tallahassee, FL

2004-2005 Teacher, Biology & Integrated Science, U.S. Peace Corps, Guyana, South America