

# **Ebony G. Murrell**

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## **Current Professional Title**

Postdoctoral Research Associate

## **BACKGROUND INFORMATION**

### **Educational Background**

2012 Ph.D. in Biology – Illinois State University, Normal, IL  
2007 M.S. in Biology – Illinois State University, Normal, IL  
2002 B.S. in Biology – Illinois Wesleyan University, Bloomington, IL

### **Relevant Employment**

2014-Present Postdoctoral Research Associate, The Pennsylvania State University  
2012-2014 Postdoctoral Research Associate, University of Wisconsin-Madison  
2007-2012 PhD Research Assistant, Illinois State University  
2007-2012 PhD Teaching Assistant, Illinois State University  
2005-2007 MS Research Assistant, Illinois State University  
2001-2002 NSF CRUI Undergraduate Research Intern, Illinois State University  
2000 NSF REU Intern, University of Colorado  
1999 SCA Intern, Morristown National Historical Park, Morristown, NJ

### **Memberships and Affiliations**

2006-Present Member, Phi Sigma Society  
2006-2012 Member, Society for Integrative and Comparative Biology (SICB)  
2007-Present Member, Entomological Society of America (ESA)  
2007-Present Member, Ecological Society of America (ESA)  
2009-2013 Member, Society of Vector Ecology (SOVE)  
2010-Present Member, Sigma Xi

### **Select Awards and Honors**

2015 Henry and Sylvia Richardson Research Grant, Entomological Society of America  
2013 Clarence W. Sorensen Distinguished Dissertation Award, Illinois State University  
2012 Murray F. Buell Award for Best Student Presentation, Ecological Society of America  
2011 Susan T. Kern Special Opportunity Scholarship, Illinois State University  
2011 Outstanding Biology Ph.D. Student, Illinois State University  
2009 Invited Student Speaker at the 5th International SOVE Congress, Antalya, Turkey  
2009 University Teaching Award, Illinois State University  
2009 Charlena T. Wallen Memorial Scholarship, Illinois State University  
2007-2011 National Phi Sigma Society Travel Award

## RESEARCH

### Research Publications

- Robideau, A., **E.G. Murrell**, T. Klein, and B.H. Noden. In review. Effect of two commercial herbicides on life history traits of an important dengue and chikungunya vector. *Ecotoxicology*, in review.
- Murrell, E.G.**, C.R. Hanson, and E.M. Cullen. 2015. European corn borer (*Ostrinia nubilalis*) oviposition response to soil fertilization practices and arbuscular mycorrhizal colonization of corn. *Ecosphere* 6(6). DOI:10.1890/ES14-00501.1
- Murrell, E.G.**, B.H. Noden, and S.A. Juliano. 2015. Contributions of temporal abundance, oviposition behavior, and multispecies competitive response to invasion success of *Aedes japonicus* (Diptera: Culicidae) in North America. *Biological Invasions*, 17:1669-1681.
- Albeny-Simoes, D., **E.G. Murrell**, E.F. Vilela, and S.A. Juliano. 2015. A multifaceted trophic cascade in a detritus-based system: density-, trait-, or processing-chain mediated? *Ecosphere*, 6(3). DOI:10.1890/ES14-00365.1
- Murrell, E.G.**, and E.M. Cullen. 2014. Conventional and organic farming practices affect corn nutrition and *Ostrinia nubilalis* (Lepidoptera: Crambidae) larval performance. *Environmental Entomology*, 43(5):1264-1274.
- Murrell, E.G.**, Ives, A.R., and Juliano, S.A. 2014. Intrinsic and extrinsic drivers of succession: Effects of habitat age and season on an aquatic insect community. *Ecological Entomology*, 39(3):316-324.
- Albeny-Simoes, D., **E.G. Murrell**, S.L. Elliot, M.R. Andrade, E. Lima, S.A. Juliano, and E.F. Vilela. 2014. Attracted to the enemy: *Aedes aegypti* prefers oviposition sites with predator-killed conspecifics. *Oecologia* 175(2):481-492.
- Murrell, E.G.**, and Juliano, S.A. 2013. Predation resistance does not trade off with competitive ability in early-colonizing mosquitoes. *Oecologia* 173(3):1033-1042.
- Damal, K., **Murrell, E.G.**, Juliano, S.A., Conn, J., and Loew, S. 2013. Phylogeography of *Aedes aegypti* (yellow fever mosquito) in south Florida: mtDNA evidence for human-aided dispersal. *American Journal of Tropical Medicine & Hygiene* 89(3):482-488.
- Murrell, E.G.**, and Juliano, S.A. 2012. Competitive abilities in experimental microcosms are accurately predicted by a demographic index for R\*. *PloS One* 7(9): e43458.
- Murrell, E.G.**, Damal, K., Lounibos, L.P., and Juliano, S.A. 2011. Distributions of competing container mosquitoes depend on detritus types, nutrient ratios, and food availability. *Annals of the Entomological Society of America* 104(4):688-698.
- Disney, R.H.L., Copeland, R.S., and **Murrell, E.G.** 2009. The true identity of Copeland's aquatic scuttle fly (Diptera: Phoridae) from Indiana and recognition of a sibling species from Texas. *Proceedings of the Entomological Society of Washington* 111(3): 564-574.
- Murrell, E.G.**, and Juliano, S.A. 2008. Detritus type alters the outcome of interspecific competition between *Aedes aegypti* and *Aedes albopictus* (Diptera: Culicidae). *Journal of Medical Entomology* 45(3):375-383.
- Juliano, S.A., Olson, J.R., **Murrell, E.G.**, and Hatle, J.D. 2004. Plasticity and canalization of insect reproduction: testing alternative models of life history transitions. *Ecology* 85(11):2986-2296.

### Manuscripts in prep.

- Murrell, E.G.**, and B.T. Barton. In prep. Farming practices and global warming may interact to affect predator efficacy in agricultural crops. Currently being reviewed by coauthor.
- Murrell, E.G.**, P.M. Delaux, K.F. Rubert-Nason, E.M. Cullen, and J.M. Ané. In prep. Mycorrhiza colonization affects chemical composition of corn plants and oviposition response of European

corn borers. Manuscript currently being written.

**Murrell, E.G.**, B.U. Baraibar, D.M. Finney, M. Hunter, C.M. White, M. Schipanski, M. Burgess, B. Bradley, J. LaChance, D.A. Mortensen, and J.P. Kaye. In prep. Striking the balance: Cover crop species performances in mixtures and monocultures in an organic crop rotation. Manuscript currently being written.

## Research Support

- 2015 "Making diversity functional: Farm-tuning cover crop mixtures to meet grower needs." Co-PI and coauthor of \$1 million proposal funded by USDA NIFA OREI to Project Director Jason Kaye, the Pennsylvania State University, 2016-2019.
- 2015 Ecology Institute Mini-Grant (\$2,755), the Pennsylvania State University
- 2014 "Practiced by Farmers but Untested by Scientists: Uniting Both in Participatory Research and Education to Explain the Effects of 'Soil Balancing' on Crops and Weeds". Co-wrote University of Wisconsin-Madison Subaward (\$44,635) on \$1.9 million proposal funded by USDA NIFA OREI to Project Director Douglas Doohan, Ohio State University, 2014-2018.
- 2013 WARF Discovery Challenge research grant (\$5,000), UW-Madison
- 2007-2012 Omar Rilett travel grant (\$1545 total), Illinois State University
- 2008-2011 Weigel Grant (\$3345 total), Illinois State University
- 2007-2011 National Phi Sigma Society Travel Award (\$1400 total)
- 2011 Mockford-Thompson Fellowship (\$5,010), Illinois State University
- 2010 National Sigma Xi grant (\$400) 2006 Weigel Grant, (\$690), Illinois State University
- 2006 E. L. Mockford Fellowship (\$3,000), Illinois State University

## Research Talks and Posters Presented

### *Invited Presentations*

- Murrell, E.G., Cr. Hanson, and E.M. Cullen. Down in the Underground: Bottom-up effects of organic fertilization practices on corn pests and predatory insects. 2014. North Central Branch meeting of the Entomological Society of America, Des Moines, IA.
- Murrell, E.G., and S.A. Juliano. As time goes by: Mechanisms of succession in artificial containers. 2011. Fundação Oswaldo Cruz (FIOCRUZ), Rio de Janeiro, Brazil.
- Murrell, E.G., and S.A. Juliano. As time goes by: Mechanisms of succession in artificial containers. 2011. Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil.
- Murrell, E.G., and S.A. Juliano. Temporal colonization patterns and competitive abilities of Midwest container Diptera: Where does *Aedes japonicus* fit in? 2011. Annual Conference for the Society of Vector Ecology, Flagstaff, AZ.
- Murrell, E.G., and S.A. Juliano. Calculation and comparison of R\* values in larval mosquito species. 2009. 5<sup>th</sup> International Congress for the Society of Vector Ecology, Antalya, Turkey.

### *Contributed Presentations*

- Murrell, E.G., C.R. Hanson, and E.M. Cullen. Bottom-up effects of conventional and organic soil fertility management on *Ostrinia nubilalis* oviposition response and larval development, and resistance of corn plants to herbivory. 2013. Annual meeting of the Entomological Society of America (oral).
- Murrell, E.G., and E.M. Cullen. Bottom-up effects of conventional and organic soil fertility management on *Ostrinia nubilalis* development and resistance of corn plants to herbivory. 2013. Annual meeting of the Ecological Society of America (oral).
- Murrell, E.G., and S.A. Juliano. Predation resistance does not trade off with competitive ability in early-

- colonizing aquatic Diptera. 2012. Annual meeting of the Ecological Society of America (oral).
- Murrell, E.G., J.E. Fader, and S.A. Juliano. Detritus types and nutrient ratios of aquatic environments predict distributions of *Aedes aegypti* and *Aedes albopictus* in Florida. 2011. VII Encontro Brasileiro de Ecologia Química, Niteroi, Brazil.
- Murrell, E.G., and S.A. Juliano. Do tradeoffs among colonization ability, competitive ability, and predation resistance govern succession in an aquatic insect community? 2011. Annual meeting of the Ecological Society of America (oral).
- Murrell, E.G., and S.A. Juliano. The contributions of container age and seasonal turnover of adult insect populations to changes in aquatic insect communities. 2010. Annual meeting of the Ecological Society of America (poster).
- Murrell, E.G., and S.A. Juliano. Succession of dipterans in container communities: is the IFC hypothesis supported in an animal community? 2010. National meeting of the Society for Integrative and Comparative Biology (poster).
- Murrell, E.G., and S.A. Juliano. 2009. Succession of dipterans in container communities: is the IFC hypothesis supported in an animal community? Annual meeting of the Ecological Society of America (poster).
- Murrell, E.G., and S.A. Juliano. Calculation and comparison of R\* values in three larval mosquito species. 2008. Annual meeting of the Ecological Society of America (oral).
- Murrell E.G., K. Damal, and S.A. Juliano. The role of detritus type in competition and distribution of container-dwelling *Aedes*. 2008. National meeting of the Society for Integrative and Comparative Biology (poster).
- Murrell E.G., K. Damal, and S.A. Juliano. The role of detritus type in competition and distribution of container-dwelling *Aedes*. 2007. National meeting of the Ecological Society of America (poster).
- Murrell E.G., Exclusion or coexistence of competing mosquitoes: The role of type of detritus in determining distributions of invasive container dwelling *Aedes*. 2006. Annual NCB meeting of the Entomological Society of America (oral).
- Tillman, E.G., Olson J.R., Hatle J.D., and Juliano S.A. Plasticity and canalization of insect reproduction: testing alternative models of life history transitions. 2001. National meeting of the Society for Integrative and Comparative Biology (poster).

## TEACHING

### Formal Courses

- 2011 Teaching Assistant for Entomology (BSC 301), Illinois State University
- 2007 and 2011 Teaching Assistant and guest lecturer for Ecology (BSC 201), Illinois State University
- 2010 Teaching Assistant for Rainforest Ecology (BSC 311)
- 2010 Lecturer and Teaching Assistant for Concepts of Biology (BSC 101), Illinois State University
- 2007 and 2008 Teaching Assistant for Biostatistics (BSC 420.27), Illinois State University

### Other Teaching Activities

- 2008 Guest lecturer for Biostatistics (BSC 420.27), Illinois State University
- 2008 Mentored undergraduates Jessica Frigo and Ross Massey on student research (BSC 400), Illinois State University
- 2011 Guest lecturer for Ecology (BSC 201), Illinois State University
- 2012-2013 Mentored undergraduate Crystal Hanson on an independent research project (ENT 299), University of Wisconsin-Madison

## **SERVICE**

### **Professional Societies**

2012 Presider at the national Ecological Society of America meeting, Portland, OR

2010 Student volunteer at the national Ecological Society of America meeting, Pittsburgh, PA

2008 Student volunteer at the Society of Integrative and Comparative Biology, Seattle, WA

Reviewer for *Ecological Entomology*, *Journal of Medical Entomology*, *Environmental Entomology*, *Ecology*, *Oecologia*, *Journal of Applied Ecology*, *New Zealand Journal of Ecology*, and *Behavioral Ecology and Sociobiology*

### **State, National, and International Agencies**

2012 Reviewer for Inter-American Institute for Global Change Research, Collaborative Research Network (CRN3) grant program

### **Community and Other**

2015 Co-organized the 5<sup>th</sup> Annual PSU Sustainable Agriculture Symposium, the Pennsylvania State University

2013-2014 Fellow and committee member of the Integrating Research Ethics and Scholarship, Office of the Vice Chancellor for Research and Graduate Education, University of Wisconsin-Madison

2010-2011 University Teaching Committee member, Illinois State University, Center for Teaching, Learning & Technology (CTLT)

2009-2011 Graduate Studies Committee member, Illinois State University, School of Biological Sciences

2006-2007 Treasurer of local Beta Lambda Chapter of the Phi Sigma Society