

# Mary A. Sorensen

Department of Entomology, University of California Riverside, Riverside, California 92521  
mary.sorensen@ucr.edu

## EDUCATION

- PhD Entomology (December 2007) University of California, Riverside. Advisor: Dr. John Trumble.  
Title: Assessing impacts of anthropogenic pollutants on selected aquatic and terrestrial insects.
- BS Molecular Environmental Biology (May 2003) University of California, Berkeley. Emphasis: Insect Biology.

**Research interests:** *Insect-plant interactions, applied insect ecology, impacts of anthropogenic disturbance.*

## PUBLICATIONS

- Sorensen, M.A.**, J.A. Bethke, and R.A. Redak. Potential *Trirhabda geminata* Horn (Coleoptera: Chrysomelidae) host plants: impacts on survival, development and feeding. *Submitted to Environmental Entomology*.
- Sorensen, M.A.**, D.R. Parker, and J.T. Trumble. 2009. Pollutant acquisition by the invasive weed saltcedar (*Tamarix ramosissima*) and transfer to the biological control agent *Diorhabda elongata* (Coleoptera: Chrysomelidae). *Environmental Pollution*, 157:384-391.
- Sorensen, M.A.**, C.M. Chase-Dunn, and J.T. Trumble. 2009. Chronic exposure to elevated levels of manganese and nickel is tolerated by a cosmopolitan detritivore, *Megaselia scalaris* (Loew) (Diptera: Phoridae). *Insect Science* 16:73-79.
- Trumble, J.T., and **M.A. Sorensen**. 2008. Selenium and the elemental defense hypothesis. *New Phytologist* 177:569-572.
- Sorensen, M.A.**, W.E. Walton and J.T. Trumble. 2007. Impact of the inorganic pollutants perchlorate and hexavalent chromium on the efficacy of *Bacillus sphaericus* and *Bacillus thuringiensis* subsp. *israelensis* against *Culex quinquefasciatus* (Diptera: Culicidae). *Journal of Medical Entomology* 44: 811-816.
- Jensen, P.D., **M.A. Sorensen**, W.E. Walton and J.T. Trumble. 2007. Lethal and sublethal responses of an aquatic insect *Culex quinquefasciatus* (Diptera: Culicidae) challenged with individual and joint exposure to dissolved sodium selenate and methylmercury chloride. *Environmental Toxicology* 22: 287-294.
- Sorensen, M. A.**, P. D. Jensen, W. E. Walton and J. T. Trumble. 2006. Acute and chronic activity of perchlorate and hexavalent chromium contamination on the survival and development of *Culex quinquefasciatus* Say (Diptera: Culicidae). *Environmental Pollution* 144(3): 759-764.

## Book Chapters

- Sorensen, M.A.** and J.T. Trumble. 2004. Bioavailability and bioremediation of perchlorate salts. Pp 349-363. In: Bodari, Editor, Recent Research Developments in Environmental Biology. Trivandrum, India.

## PROFESSIONAL APPOINTMENTS

Jan 2008-present. *Postdoctoral Researcher with Dr. Richard Redak, UC Riverside*

Nutritional ecology and foraging behavior of *Manduca sexta* caterpillars on artificial diet and host plants, effects of host nutrition on the parasitoid *Cotesia congregata*, ecology of native *Trirhabda geminata* beetle.

2003-2007. *Graduate Student Researcher with Dr. John Trumble, UC Riverside*

Assessed toxicity of inorganic, anthropogenic pollutants to aquatic and terrestrial insects using chronic and acute mortality, developmental rates, and population measures. Examined uptake of pollutants by the invasive weed saltcedar, and investigated effects on the plant's biological control agent.

2003. *Participant, Biology and Geomorphology of Tropical Islands, Moorea, French Polynesia.*  
Catalogued native and introduced pollinators of native tree *Metrosideros collina* (Myrtaceae) using timed observation, butterfly nets, sticky traps, malaise traps, flight intercept traps. Collected and identified pollen grains.
2002. *Field Assistant, Blake Suttle, Berkeley, CA*  
Assisted with a study of the importance of predators in pollinator-mediated interspecific interactions. Set up and maintained a field manipulation of crab spider density in a daisy field. Monitored for spider presence/absence, crab spider behavior. Quantified seed set, analyzed effect of spider density.
- 2000-2003. *Lab Assistant, Dr. Mary Power, Berkeley, CA*  
Identified benthic invertebrates in sediment samples collected from the South Fork Eel River, Mendocino Co., California.
- Summer 2001. *Lab and Field Assistant, Dr. Nick Mills, Berkeley, CA*  
Maintained colonies of parasitoid wasps for biological control of plum, pear, and walnut pests. Assisted with fieldwork quantifying aphid infestations, predator diversity, codling moth damage.
- Summer 2000. *Field Assistant, Dr. Mary Power, Angelo Coast Range Preserve, Mendocino, CA.*  
Effects of fine sediment on juvenile salmonid development. Built and maintained fish enclosures, observed fish behavior, collected invertebrate samples. Meadow food-web studies of grasshoppers and wolf spiders, including behavioral observations.
- July-December 1999. *Lab and Field Assistant, USFS Pacific Southwest Research Station, Dr. Michael Haverty, Albany, CA.*  
Maintained termite colonies, prepared samples for hydrocarbon analysis. Assisted with home inspections. Monitored for termites in urban and forest field sites.
- Summer 1997&1998. *Lab and Field Assistant, Dr. Vernard Lewis, Berkeley, CA.*  
Established a database of references specific to termites and other urban pests. Dissected building material to quantify levels of termite infestation after various treatments.
- Summer 1996. *Summer Intern, Gail Getty, MS., USFS Pacific Southwest Research Station, Albany, CA.*  
Maintained termite colonies, prepared samples for hydrocarbon analysis. Monitored for termites in urban and forest field sites.

## PRESENTATIONS

- **Sorensen, M.A.**, S.N. Thompson, and R.A. Redak. 2009. Nutritional ecology and foraging behavior of *Manduca sexta*. Pacific Branch Meeting, Entomological Society of America, San Diego, California March 29-April 1.
- **Sorensen, M.A.**, J.A. Bethke, and R.A. Redak. 2008. Potential *Trirhabda geminata* Horn (Coleoptera: Chrysomelidae) host plants: impacts on survival, development and feeding. Annual Meeting, Entomological Society of America. Reno, Nevada November 16-19.
- **Sorensen, M.A.**, and J.T. Trumble. 2007. Pollutant uptake by the invasive weed saltcedar, and effects on biological control. Annual Meeting, Entomological Society of America. San Diego, California December 9-12.
- **Sorensen, M.A.**, and J.T. Trumble. 2007. The effects of anthropogenic pollutants on the biological control of saltcedar with *Diorhabda elongata* beetles. Pacific Branch Meeting, Entomological Society of America. Portland, Oregon March 25-28.
- **Sorensen, M.A.**, W.E. Walton, and J.T. Trumble. 2006. Effects of pollutants perchlorate and hexavalent chromium on the efficacy of *Bacillus thuringiensis* var *israelensis*, *Bacillus sphaericus*, and methoprene for the control of larval mosquitoes. Annual Meeting, Entomological Society of America. Indianapolis, Indiana December 10-13.
- **Sorensen, M.A.**, W.E. Walton, and J.T. Trumble. 2006. Effects of perchlorate and chromium (VI) on the survival, development, and microbial control of larval mosquitoes. Pacific Branch Meeting, Entomological Society of America. Maui, Hawaii March 5-8.
- **Sorensen, M.A.**, W.E. Walton, and J.T. Trumble. 2005. Individual and joint effects of perchlorate and hexavalent chromium on *Culex quinquefasciatus* survival, development, and microbial control. International Congress of Vector Ecology. Reno, Nevada October 2-7. (*Invited*)

### **Poster Presentations**

- **Sorensen, M.A.**, W.E. Walton, and J.T. Trumble. 2005. A comparison of chronic and acute toxicity of perchlorate and hexavalent chromium to larval *Culex quinquefasciatus* (Diptera: Culicidae). Annual Meeting, Entomological Society of America. Fort Lauderdale, Florida December 15-18.
- **Sorensen, M.A.** and J.T. Trumble. 2005. Independent and joint toxicity of perchlorate and hexavalent chromium to larval mosquitoes. Meeting, Southern California Society of Environmental Toxicology and Chemistry. Los Angeles, California May 20-21.
- **Sorensen, M.A.** and J.T. Trumble. 2005. Preliminary studies on the toxicity of perchlorate and hexavalent chromium to mosquito larvae. Meeting, University of California Toxic Substances Research and Teaching Program. Sacramento, California April 22-23.
- **Sorensen, M.A.** and J.T. Trumble. 2004. Mosquito control with *Bacillus thuringiensis var israelensis* in the presence of perchlorate and hexavalent chromium. Annual Meeting, Entomological Society of America. Salt Lake City, Utah November 14-17.
- **Sorensen, M.A.** and J.T. Trumble. 2004. Impacts of perchlorate and hexavalent chromium on the use of *Bacillus thuringiensis var israelensis* for control of medically important mosquitoes. International Congress of Entomology. Brisbane, Australia August 15-21.
- Suttle, K.B. and **M.A. Sorensen**. 2003. Top-down effects cascade to plants through pollinators. Annual meeting of the Ecological Society of America, Savannah, GA August 3-8.

### **TEACHING EXPERIENCE**

2004 Teaching Assistant, Entomology Department UC Riverside.

Assisted Dr. John Trumble in Natural History of Insects. Attended lectures and maintained class notes, graded quizzes and exams, and held office hours.

2006, Tutor, Professional Tutors of America, Riverside, CA

Tutored students grades K-12, in all subject areas.

2003-2006, Independent Tutor, Riverside CA

Tutored students grades K-12, in all subject areas.

2002, Tutor, Student Learning Center, UC Berkeley

Tutored UC Berkeley students in Biology 1B (plant biology, ecology, and evolution).

### **AWARDS AND RECOGNITION**

- Herbert Kraft Scholarship. June 2007.
- UC Riverside Graduate Dean's Dissertation Grant. March 2007.
- Janet M. Boyce Memorial Scholarship. May 2006.
- James and Margaret Lesley Award. May 2006.
- UC Riverside GSA Minigrant Award. March 2006.
- UC Riverside Dean's Distinguished Fellowship Award. 2003.
- Honorable Mention, National Science Foundation Graduate Fellowship. 2003.
- Gompertz Scholarship for Undergraduate Research. Summer, 2000.
- Pest Control Operators of California Scholarship. Summer, 2000.
- Accelerated High School Student Program, UC Berkeley, 1998-99.

**PROFESSIONAL SOCIETIES:** Entomological Society of America, Sigma Xi.

### **UNIVERSITY AND PUBLIC SERVICE**

- Reviewer, Environmental Entomology
- September 2003-2007: Committee Member, EGSA Outreach Committee.
- September 2003-2007: Committee Member, EGSA Social Committee.
- 2005-2006: Student Representative, Instructional and Student Affairs Committee (ISAC).
- 2005-2006: Vice President, Entomology Graduate Student Association (EGSA), UCR.
- 2004-2005: President, Entomology Graduate Student Association (EGSA), UCR.
- February 2005: Welcome Committee, Environmental Sustainability Conference, UCR.