

Kristen M. DeVanna

University of Toledo, Department of Environmental Sciences and the Lake Erie Center, 6200 Bayshore Rd, Oregon, OH 43616, (419) 530-8372, kristen.devanna@utoledo.edu

EDUCATION

Ph.D. Biology/Ecology-track, The University of Toledo, Toledo, OH (2007 - expected graduation August 2011) Current GPA: 3.97

Advisor: Dr. Christine Mayer

Committee members: Dr. Jonathan Bossenbroek (UT), Dr. Thomas Bridgeman (UT), Dr. Kenneth Krieger (Heidelberg University), and Dr. Lynda Corkum (University of Windsor)

Dissertation entitled: Spatial correlation and facilitation between *Dreissena* and *Hexagenia*: Possible food-web disruption?

M.S. Biology/Ecology-track, The University of Toledo, Toledo, OH 2004-2006 GPA: 3.95

Advisor: Dr. Christine Mayer

Committee members: Dr. Carol Stepien, Dr. Thomas Bridgeman, and Dr. Von Sigler (UT)

Thesis entitled: Role of *Dreissena* as ecosystem engineers: Effects to native bioturbators and benthic community structure and function

B.A. Zoology, Ohio Wesleyan University, Delaware, OH 1999-2003 GPA: 3.90

Summa Cum Laude; Phi Beta Kappa; Departmental Honors

Major: Zoology Minor: Psychology (Research Emphasis)

APPOINTMENTS

2010-2011 Teaching Assistant/Research Assistant, Department of Environmental Sciences, University of Toledo

2008-2010 National Science Foundation GK-12 Fellow, University of Toledo

2004-2008 Teaching Assistant/Research Assistant, Department of Environmental Sciences, University of Toledo

2007 Research Technician for T. Bridgeman, Lake Erie Center, University of Toledo

2003 Research Technician for A.L. Downing (Ohio Wesleyan University) and M. Leibold (University of Texas), Kellogg Biological Station, Michigan State University

2002 Research Assistant, Ohio Wesleyan University summer science program

PUBLICATIONS

Downing, A.L., **K.M. DeVanna**, C.N. Rubeck-Schurtz, L. Tuhela-Reuning, and H. Grunkemeyer. 2008. Community and ecosystem responses to a pulsed pesticide disturbance in freshwater ecosystems. *Ecotoxicology* **17**: 539-548.

DeVanna K.M., B.L. Bodamer, C.G. Wellington, E. Hammer, J.M. Bossenbroek, and C.M. Mayer. An alternative hypothesis for invasional meltdown: General facilitation by *Dreissena*. (in review at Journal of Great Lakes Research)

DeVanna, K.M. and C.M. Mayer. Impacts of soft-sediment *Dreissena* clusters on native mayfly habitat preference and availability as prey (in review at Freshwater Biology)

DeVanna, K.M., C.M. Mayer, and D.W. Schloesser. Scale-dependent effects of soft-sediment *Dreissena* clusters on *Hexagenia* in western Lake Erie (in review for 2nd edition of Zebra Mussels: Biology, Impacts and Control. Edited by T.F. Nalepa and D.W. Schloesser)

DeVanna, K.M., P.M. Armenio*, and C.M. Mayer. Effects of hypoxia and fish predation on the habitat association of *Hexagenia* and *Dreissena*: (in prep)

GRANTS AND SCHOLARSHIPS

K.M. DeVanna - Paul W. Rogers Scholarship awarded by the International Association for Great Lakes Research (\$2000) Predictive modeling of *Hexagenia* consumption by fish. (2009)

C.M. Mayer and **K.M. DeVanna** - Ohio Sea Grant (1 day boat time) Factors affecting the habitat association of *Hexagenia* and *Dreissena*: Effects of hypoxia and fish predation. (2008)

C.M. Mayer and **K.M. DeVanna** - Lake Erie Protection Fund (\$9,891) Yellow perch foraging on *Hexagenia*: Effects of hypoxia and *Dreissena* spp. (2007-2008)

K.M. DeVanna - Sigma Xi Grant-in-Aid of Research (\$400) *Hexagenia* habitat choice: Effects on fish foraging. (2007)

K.M. DeVanna - International Association for Great Lakes Research Scholarship (\$2,000) Burrowing mayfly habitat choice: Effects on fish foraging (2007)

K.M. DeVanna - Kraus Research Fellowship – Ohio Wesleyan University (\$500) The effects of an insecticide, Sevin, on pond biodiversity and ecosystem processes (2002)

AWARDS

International Association for Great Lakes Research Appreciation Award (2010)

Excellence in high school student mentoring – University of Toledo National Science Foundation GK-12 program (2010)

International Association for Great Lakes Research Annual Conference Travel Award (2006-2008)

Honorable mention award for oral presentation at University of Toledo Sigma Xi chapter conference (2007)

Honorable mention award for poster presentation at University of Toledo Sigma Xi chapter conference (2007)

George B. Harris Award for outstanding academic achievement by a zoology major (2003)

Edwin G. Conklin Award for outstanding independent studies in zoology (2003)

United States National Collegiate Award for the Natural Sciences (2002)

PRESENTATIONS AT PROFESSIONAL MEETINGS

DeVanna, K.M., C.M. Mayer, and D.W. Schloesser. When bugs are hard to find. Oral Presentation. American Fisheries Society Annual Conference, Pittsburgh, PA, September 2010.

DeVanna, K.M., C.M. Mayer, N. Jain**, and D.W. Schloesser. Mapping the spatial relationship of burrowing mayflies and dreissenid mussels in western Lake Erie. Poster Presentation. Lake Erie Millennium Network Biannual Conference, Windsor, Ontario, Canada. April 2010.

DeVanna, K.M., P.M. Armenio*, and C.M. Mayer. Biotic and abiotic habitat interactions determine predation risk for burrowing mayflies. Oral Presentation. International Association for Great Lakes Research, Toledo, OH, May 2009.

Jain, N.**, **K.M. DeVanna**, C.M. Mayer, and D.W. Schloesser. Mapping the spatial relationship of burrowing mayflies and dreissenid mussels in western Lake Erie. Poster Presentation. International Association for Great Lakes Research, Toledo, OH, May 2009.

Singler, K. and **K.M. DeVanna**. Engaging high school students in field research: Comparing two years of water quality data for the Ottawa River. Poster Presentation. International Association for Great Lakes Research, Toledo, OH, May 2009.

DeVanna, K.M., B.L. Bodamer, E. Hammer, C.G. Wellington, J.M. Bossenbroek, and C.M. Mayer. An alternative hypothesis for invasional meltdown: General facilitation by *Dreissena*. Oral Presentation. International Conference on Aquatic Invasive Species, Montreal, Quebec, Canada. April 2009.

Armenio P.M.*, **K.M. DeVanna**, and C.M. Mayer. Do zebra mussels and low oxygen affect the behavior and predation risk of *Hexagenia*? Oral Presentation. University of Toledo Chapter of Sigma Xi annual conference, Toledo, OH. November 2008.

Moorhead, D., M. Campbell, **K.M. DeVanna**, A.E. Haponski, and W. Penamon. Building a science learning community and enhancing student research opportunities through GK-12. Oral Presentation. GK-12 regional conference, Purdue University, Lafayette, IN. November 2008.

DeVanna K.M. and C.M. Mayer. *Hexagenia* habitat choice: Effects of hypoxia and fish foraging. Oral Presentation. International Association for Great Lakes Research, Trent University, Peterborough, Ontario, Canada. May 2008.

DeVanna K.M. and C.M. Mayer. Impacts of hypoxia and fish predation on *Hexagenia* use of *Dreissena*-colonized habitat. Poster Presentation. Lake Erie Millennium Network Biannual Conference, Windsor, Ontario, Canada. April 2008.

Bodamer, B.L., **K.M. DeVanna**, C.G. Wellington, E. Hammer, J.M. Bossenbroek, and C.M. Mayer. An alternative hypothesis for invasional meltdown: General facilitation by *Dreissena*. Poster Presentation. Lake Erie Millennium Network Biannual Conference, Windsor, Ontario, Canada. April 2008.

DeVanna K.M., C.M. Mayer, C.A. Barrett*. Role of *Dreissena* as ecosystem engineers: Effects on native bioturbators and benthic communities. Oral Presentation. University of Toledo chapter of Sigma Xi annual conference, Toledo, OH. September 2007.

DeVanna K.M., B.L. Bodamer, C.G. Wellington, E. Hammer, J.M. Bossenbroek, and C.M. Mayer. An alternative hypothesis for invasional meltdown: General facilitation by *Dreissena*. Poster Presentation. University of Toledo chapter of Sigma Xi annual conference, Toledo, OH. September 2007.

DeVanna K.M., C.M. Mayer, C.A. Barrett*. Role of *Dreissena* as ecosystem engineers: Effects on native bioturbators and benthic communities. Oral Presentation. International Association for Great Lakes Research Annual Meeting, State College, PA. May 2007.

DeVanna K.M., C.M. Mayer, C.A. Barrett*. Role of *Dreissena* as ecosystem engineers: Effects on mayflies and other burrowing invertebrates. Oral Presentation. American Fisheries Society Joint Chapter Meeting, Pokagon State Park, IN. February 2007.

DeVanna K.M., C.M. Mayer, R.A. Lohner, C.A. Barrett*. Effects of *Dreissena* on native bioturbators: benthic ecosystem function and community composition. Poster Presentation. International Association for Great Lakes Research Annual Meeting, Windsor, Ontario, Canada. May 2006.

Bridgeman, T.B., C.M. Mayer, D.W. Schloesser, **K.M. DeVanna**, R.L. Lohner and K. Sabo. Oxygen Demand of Western Lake Erie Sediments and Benthos: A Methods Comparison. Poster Presentation. International Association for Great Lakes Research Annual Meeting, Windsor, Ontario, Canada. May 2006.

DeVanna, K.M., C. Rubeck-Schurtz, A.L. Downing, and L. Tuhela-Reuning. The effects of an insecticide, Sevin, on pond biodiversity and ecosystem processes. Poster presentation. Ecological Society of America Annual Meeting, Savannah, GA. August 2003.

Rubeck-Schurtz, C.N., **K.M. DeVanna**, A.L. Downing, and L. Tuhela-Reuning. The effect of carbaryl on aquatic bacterial communities and biofilm development. Poster presentation. American Society of Microbiology Annual Meeting, Washington D.C. May 2003.

DeVanna, K.M., C. N. Rubeck-Schurtz, A.L. Downing, and L. Tuhela-Reuning. The effects of an insecticide, Sevin, on pond biodiversity and ecosystem processes. Oral Presentation. Ohio Wesleyan Chapter of Sigma Xi meeting, Delaware, OH. April 2003

* Indicates Undergraduate Student mentored under my supervision

** Indicated High School Student mentored under my supervision

MEDIA COVERAGE OF RESEARCH

Interviewed by WTVG Channel 13 about the current emergence of mayflies in the Toledo area, June 17, 2010

Quoted in “There is a good side to mayflies”, by Tom Henry. Toledo Blade, June 17, 2010

Quoted in “Mayflies begin summer swarm in Ohio”, by Tom Henry. Columbus Dispatch, June 16, 2010.

OTHER TRAINING AND CERTIFICATION

Attended “An Introduction to R” workshop at the Quantitative Fisheries Center, Michigan State University. (2008)

Environmental Protection Agency Level 1 Certified Data Collector (2008)

TEACHING EXPERIENCE

National Science Foundation GK-12 Fellowship; taught freshmen biology, honors biology, and zoology at Ottawa Hills High School; Teaching Fellow Advisor: Kathleen Singler (2008-2010)

Advanced Biostatistics; teaching assistant for Dr. Christine Mayer (2005-2007, 2010)

Environmental Problems Laboratory; laboratory instructor for Dr. Stacy Philpott (2007) and Dr. Jonathan Bossenbroek (2008)

Water Quality of Lakes and Streams; lecture and laboratory teaching assistant for Dr. Thomas Bridgeman (2006)

Introduction to Environmental Science; teaching assistant for Dr. Christine Mayer (2004-2005)

MENTORING EXPERIENCE

Undergraduate Research Supervision

Susan McCormick 2010-2011 (University of Toledo – Research Technician) Nearshore western Lake Erie *Hexagenia* Survey

Patricia Armenio 2008 (University of Toledo – Independent Study and Research Technician) Effects of predation threats and hypoxia on *Hexagenia* habitat preference.

Katie Doan 2007 (University of Toledo – Research Experiences for Undergraduates) Mayfly/*Dreissena* interactions

Caroline Barrett (University of Toledo – Research Experiences for Undergraduates and Syracuse University Summer Research Grant) 2005-2007 Effects of non-indigenous species on benthic communities

High School Student Research Supervision

Nirbhay Jain (Ottawa Hills High School Independent Research) 2008-2009 Mapping the spatial relationship of burrowing mayflies and dreissenid mussels in western Lake Erie

2008-2010 Mentored 41 freshman high school student science fair projects presented at the Ohio District 2 Science Day and the Ohio Academy of Sciences' Ohio State Science Day.

SYNERGISTIC ACTIVITIES

Student Board Member of the International Association for Great Lakes Research - Responsible for updating postings on the website, organizing student activities sponsored by the association, and bringing student issues and requests to the board meetings. Committees: Awards, Website, Conference, and Membership (2008-2010)

President of the Department of Environmental Sciences Graduate Student Association (2007-2009)

International Association for Great Lakes Research 2009 Conference – Co-Chair of Graduate Student Committee and a member of several committees. (2007-2009)

Judge for local high school science fairs and Ohio Academy of Science's Ohio District and State Science Days (2005-2011)

PROFESSIONAL SOCIETIES

Membership:

International Association for Great Lakes Research

American Fisheries Society

Sigma Xi

Ecological Society of America

Manuscript Reviewer:

Journal of Great Lakes Research

Journal of Experimental Marine Biology and Ecology