

## Amanda E. Haponski

Great Lakes Genetics Lab

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### PROFESSIONAL PREPARATION

Ph.D. University of Toledo, Biology (Ecology track); 2008-present; GPA – 4.00

M.S. University of Toledo, Biology (Ecology track); 2007; GPA – 3.94

B.S. University of Maine at Machias, Marine Biology (biological concentration & chemistry minor;  
Magna Cum Laude); 2005; GPA – 3.57

### APPOINTMENTS

2009 Smithsonian Institution Fellow, National Museum of Natural History

2008-2009 National Science Foundation GK-12 Fellow, University of Toledo

Graduate Teaching Fellows in STEM High School Education: An Environmental Science  
Learning Community at the Land-Lake Ecosystem Interface. NSF #DGE-0742395

2005-2008 Research assistant, Lake Erie Center, University of Toledo

2006 Teaching assistant, University of Toledo

2004 Research assistant, NSF Research Experiences for Undergraduates, Cleveland State  
University, NSF #DBI-0243878

### RESEARCH INTERESTS

Phylogeography, population genetics, systematics, ecology and natural history of marine and  
freshwater fishes

### GRADUATE RESEARCH

**Dissertation research:** 50 years of population genetic history of Walleye and Yellow Perch.  
Using scale samples and archived tissues to compare the current genetic structure versus the past  
Walleye and Yellow Perch. Also examining the systematic relationships of the Blue Pike and  
whether it is a species, subspecies, or ecophenotypic variant of Walleye.

**Master's thesis research:** Molecular, morphological, and biogeographic resolution of cryptic  
taxa in the Greenside Darter *Etheostoma blennioides* complex. Manuscript in the journal  
*Molecular Phylogenetics and Evolution*.

Genetic divergence patterns of the Rainbow Darter *Etheostoma caeruleum*: A watershed analysis  
mitochondrial DNA sequences and nuclear microsatellites. Looked at the genetic variation of the  
Rainbow Darter within the Lake Erie and Ohio River basins. Manuscript in review for the  
*Journal of Fish Biology*.

Greenside and Logperch darters above and below a low-head dam in Munroe Falls, OH. Tested a  
low-head dam acted as a barrier to gene flow and migration for these small fishes. Manuscript in  
*Journal of Great Lakes Research*.

### UNDERGRADUATE RESEARCH

2004 Research Assistant in collection and determination of benthic microalgal  
biomass under the stress of a grazer, *Littorina littorea*, across a salinity  
and nutrient gradient in Machias, ME. Advised by Dr. Ruth Carmichael.

2004 Studied the Greenside Darter morphologically and genetically following a  
previous study performed by Robert V. Miller (1968) sponsored by the  
National Science Foundation's Research Experience for Undergraduates  
program (REU) at Cleveland State University. Advised by Dr. Carol  
Stepien.

## PUBLICATIONS

- A. E. Haponski**, T. Bollin, M. Jedlicka, and C. A. Stepien *In review*. Genetic divergence patterns of the rainbow darter *Etheostoma caeruleum*: A watershed analysis using mitochondrial DNA sequences and nuclear microsatellites. *Journal of Fish Biology*
- A. E. Haponski** and C. A. Stepien 2008. Molecular, morphological, and biogeographic resolution of cryptic taxa in the Greenside Darter *Etheostoma blennioides* complex. *Molecular Phylogenetics and Evolution*, 49 69 - 83. doi:10.1016/j.ympev.2008.07.013
- A. E. Haponski**, T. A. Marth, and C. A. Stepien 2007. Genetic divergence across a low-head dam: A preliminary analysis using Logperch and Greenside Darters. *Journal of Great Lakes Research*, 33 (Special Issue 2) 117 - 126.

## PUBLISHED ABSTRACTS

- A. E. Haponski** and C. A. Stepien 2008. Molecular, morphological, and biogeographic resolution of cryptic taxa in the Greenside Darter *Etheostoma blennioides* complex. *The Ohio Journal of Science*, 108 A-14.
- A. E. Haponski**, T. Bollin, and C. A. Stepien 2008. Genetic divergence patterns of the rainbow darter *Etheostoma caeruleum*: A watershed analysis using mitochondrial DNA sequences and nuclear microsatellites. *The Ohio Journal of Science*, 108 A-13.

## PRESENTATIONS

- 2008 Walleye and Yellow Perch genetic history across the Great Lakes. Midwest Fish and Wildlife Annual Conference, Columbus, OH.
- 2008 Genetic divergence patterns of the rainbow darter *Etheostoma caeruleum*: A watershed analysis using mitochondrial DNA sequences and nuclear microsatellites. Annual conference of Sigma Xi, the Scientific Honor Society, University chapter, University of Toledo, Toledo, OH
- 2008 Molecular and biogeographic resolution of cryptic taxa in the Greenside Darter *Etheostoma blennioides* complex. Annual conference of the International Association for Great Lakes Research, Trent University, Peterborough, ON
- 2008 Molecular, morphological, and biogeographic resolution of cryptic taxa in the Greenside Darter *Etheostoma blennioides* complex. Annual conference of the Ohio Academy of Sciences, University of Toledo, Toledo, OH
- 2007 Molecular and morphological resolution of cryptic diversity in the Greenside Darter, Annual conference of Sigma Xi, the Scientific Honor Society, University chapter, University of Toledo, Toledo, OH
- 2007 The Greenside Darter: A cryptic species complex?
- International Association for Great Lakes Research, Penn State University, State College, PA
  - American Society of Ichthyologists and Herpetologists, Saint Louis University, St. Louis, MO
- 2006 Genetic diversity and divergence patterns of greenside darter populations. Ohio Fish and Wildlife Managers Association, Ohio State University, Columbus, OH
- 2005 Divergence patterns in populations of the greenside darter. Ohio Sea Grant, Ohio State University, Columbus, OH.
- 2005 The effects of *Littorina littorea*, nutrients, and temperature on benthic microalgal biomass along a salinity gradient in the Machias River, ME, Maine Water Conference, Augusta, ME.
- 2004 A genetic and morphological analysis of two subspecies of the greenside darter. Cleveland State University's Research experience for undergraduates' symposium, Cleveland State University, Cleveland, OH.

## AWARDS

Janice Lee Fenske Memorial Award Finalist; 2008  
DeepFin Student Exchange Program Award; 2008 for the project entitled “Systematic, biogeographic, genetic, and morphological relationships of the genus *Sander* (Percidae: Teleostei)”  
International Association for Great Lakes Research Scholarship; 2008  
Sigma Xi Scientific Research Society Grants-in-Aid of Research; 2008 for the project entitled “50 Years of Population Genetic History of Walleye and Yellow Perch”  
Student Travel Award from the International Association of Great Lakes Research; 2008  
Student Travel Award from the American Society of Ichthyologists and Herpetologists; 2007  
Student Travel Award from International Association of Great Lakes Research; 2007  
Student Travel Award from International Association of Great Lakes Research; 2006  
Maine Water Conference’s best undergraduate poster presentation; 2005

## GRADUATE ADVISOR

Dr. Carol Stepien, Professor of Ecology and Director of the Lake Erie Center, University of Toledo

## PROFESSIONAL MEMBERSHIPS

American Society of Ichthyologists and Herpetologists  
International Association of Great Lakes Research  
Ohio Academy of Sciences

## RESEARCH SKILLS

**Laboratory skills include:** polymerase chain reaction (PCR), gel electrophoresis, preparation of buffers and reagents, microscopy, sterile technique, PCB analysis

**Field skills include:** knowledge of standard aquatic and terrestrial sampling techniques, phytoplankton sampling

**Computer skills include:** Microsoft office, SAS, Sigmaplot 9.1, Minitab, TCS, GeoDIS, Arlequin 3.01, ClustalW, BioEdit, and basic knowledge of HTML

## MENTORING AND OUTREACH

- 2008-present Toledo Early College High School  
Mentoring student science fair projects as well as teaching students how to collect, analyze, and interpret data.
- 2008 Montessori Middle School Career Week  
Demonstrated appropriate sampling techniques and identification of local stream fishes to two seventh graders
- 2007-present Participated in a National Science Foundation Research Experiences for Teachers grant (RET) by mentoring a high school teacher (Mr. Tim Bollin) on genetic techniques, including sample collection, DNA extraction, amplification, purification, and sequencing.
- 2007-present Vice President of the Department of Environmental Sciences Graduate Student Association
- 2007-present Co-Chair of the Graduate Student Committee for the International Association for Great Lakes Research 2009 Conference. Responsible for coordinating graduate student activities and organizing graduate student workshops on how to get a job, build a resume, and how to succeed in graduate school for the conference
- 2007 Toledo Early College High School Sampling Demonstration  
Sampled Ten Mile Creek at Harroun Park with Mr. Tim Bollin’s class and showed them appropriate field techniques and also helped them to identify the stream fishes present.

- 2007 Celebrate Our River Week  
Sampling demonstration in the Ottawa River for members of the Press, Professors and Students of the University of Toledo.
- 2006 Montessori Middle School Career Week  
Took two seventh graders into the field to demonstrate proper sampling technique as well as to show the diversity of fish fauna within the streams of Toledo and Lake Erie
- 2006 Fassett Middle School Career Day  
Presented to 7<sup>th</sup> and 8<sup>th</sup> grade students a talk entitled “What a geneticist does”
- 2006 Montessori Middle School Career Week  
Took two seventh graders into the field to show them proper sampling technique as well as to show the diversity of fish fauna within the streams of Toledo

**VOLUNTEER EXPERIENCE**

- 2005 Delaware Department of Natural Resources  
Helped with Horseshoe Crab Spawning Survey
- 2004 New York State’s Department of Environmental Conservation Van Hornesville Fish Hatchery: helped to stock various lakes within New York as well as fish feeding, pond cleaning, sampling for zebra mussel detection, and any other maintenance jobs required.
- 2004 Atlantic Salmon Commission, Machias ME  
Habitat Assessment of Venture Brook, compared Venture Brook to a known spawning habitat of the Atlantic Salmon to see if Venture Brook could once again be used as spawning grounds for the Atlantic Salmon
- 2003 Inland Fish and Wildlife, Machias ME  
Sorted brood stock of Atlantic Salmon to help in prepare for the spawning season.
- 2002-2005 Department of Marine Resources  
Sampled phytoplankton at two different locations in eastern Maine to monitor harmful algal blooms and also to identify the various species of phytoplankton and zooplankton present in these areas

**HOBBIES AND OTHER PURSUITS**

Kayaking, Camping, Canoeing, and other outdoor activities