

Jason Macrander - CV

Jason507@gmail.com

402-290-9549

EDUCATION

In Progress (MS) Ecology, Evolution and Behavior, University of Nebraska - Lincoln

2007 (B.S.) Biology, University of Nebraska-Lincoln

2007 (B.S.) Fisheries and Wildlife, University of Nebraska-Lincoln

RESEARCH AREA OF INTEREST

Systematics, bioinformatics, population genetics, molecular ecology and conservation genetics. I am interested in using molecular techniques to investigate ecological interactions and evaluate evolutionary processes operating within and among natural populations. I try to combine evolution, genetics, ecology and molecular biology in my graduate research.

RESEARCH AND FIELD EXPERIENCE

2008 - **Present Masters Research** Dr. Guillermo Orti & Dr. Estuko Moriyama, UNL

2007 - 08 **Graduate Researcher** Dr. Tomas Hrbek, UPR-RP (transfer to UNL)

- Euteleost Tree of Life Outreach development collaborator
- A novel approach to determine phylogenetic relationships using EST data among basal lineages of ray-finned fishes (Actinopterygii).
- Microorganism assemblage comparisons of diseased and healthy Sea Fans, *Gorgonia ventalina*
- Microsatellite development and characterization for 2 *Cichla* and 2 *Satanoperca* species.
- Comparative biogeography between once *Cichla* and one *Satanoperca* species, both with wide distributions throughout the Amazon, but apparently dramatic differences with regards to rates of molecular evolution.

2005 – 2007 **Undergraduate Researcher** Dr. Guillermo Orti, UNL

- Microsatellite development and population genetic analysis of the plains topminnow (*Fundulus sciadicus*).
- Life history strategies and paternity analysis of the three-spine stickleback (*Gasterosteus aculeatus*) when food is a limiting resource for the young.
- Collaborative research in an NSF-PIRE funded International Student Exchange program to examines the impact of geological and climatic events on the evolutionary history of various animal groups in Patagonia (<http://patagonia.byu.edu/>).

2005 **Marine Biology Intern-Living Seas** WDW, Orlando FL

- Maintaining life support systems for fish, diet preparation and medical treatment of fish.

2005 **Undergraduate Researcher** Dr. Alex Basolo, UNL

- Predator-prey interactions between *Cichlasoma octofasciatum* and *Xiphophorus maculatus*

2004 – 2005 **Undergraduate Researcher** Dr. Don Rundquist, UNL

- Close range spectral analysis of eight coral reef species off shore of Roatan, Honduras. .

2003 – 2004 **Undergraduate Researcher** Dr. Jim Alfano, UNL

- Plant pathogen interactions in *Arabidopsis*, specifically the type III protein secretion system.

PUBLICATIONS

Chenhong Li, Michael L. Bessert, **Jason Macrander**, and Guillermo Ortí. 2007. Microsatellite loci for the plains topminnow (*Fundulus sciadicus*, Fundulidae). *Molecular Ecology Notes*, 7: 691–693.

Chenhong Li, Michael L. Bessert, **Jason Macrander**, Guillermo Ortí. 2009. Low variation but strong population structure in mitochondrial control region of plains topminnow, *Fundulus sciadicus*. *Journal of Fish Biology* 74: 1037-1048.

Katherine R O'Brien, **Jason Macrander**, John A. Baker. 2009. The effects of egg size and food supply on the survival, growth, and condition of threespine stickleback (*Gasterosteus aculeatus*) fry. (*in prep*)

PRESENTATIONS

Biotechnology and Bioinformatics Symposium, Lincoln, NE (2009) *Integrating EST's and High-Throughput Sequencing to Identify Orthologous Loci for Phylogenomic Analysis: A Case Study among Basal Ray-Finned Fishes (Actinopterygii)*

Midwest Ecology and Evolution Conference, Lincoln, NE. (2009) *Construction and Screening of Microsatellite Library for Five Species of Amazon Cichla.*

Joint Meeting of Ichthyologists and Herpetologists, St. Louis MO. (2007) *Phylogeography and Conservation Genetics of the Plains Topminnow (Fundulus sciadicus) in Nebraska and Missouri*

Undergraduate Research Conference, Univ. of Nebraska-Lincoln. (2006) *Population Dynamics of the Plains Topminnow (Fundulus sciadicus)*

TEACHING EXPERIENCE

2009 Spring **Vertebrate Zoology Laboratory (BIOS 386L)** UNL

2008 Fall **Introduction to Biology Laboratory (BIOS 101L)** UNL

2005 Spring **Biology of Microorganisms Laboratory (BIOS 111L)** UNL

SERVICE / INVITED TALKS

UNL Biology Graduate Student Association Secretary (2009 – 2010) – Lincoln, NE

Midwest Ecology and Evolution Conference prize coordinator (2009) – Lincoln, NE

Phylogenetics and Evolution (2008) Mickle Middle School – Lincoln, NE

AWARDS / HONORS

2009 School of Biological Sciences Special Funds for Research (\$1500)

2007 School of Biological Sciences Special Funds for Research (\$800)

2007 School of Biological Sciences Scholarship (\$500)

2006 School of Natural Resources (SNR) Student Ambassador Fund (\$700)

2006 Undergraduate Creative Activities and Research Experience (UCARE) Funding (\$2,400)

2005 Advanced Internship, Aquarium, Living Seas Animal Care Team

2005 UCARE Funding (\$2,000)

2004 Dean's List

2002 James Canfield Scholarship (\$1,000)

2002 Lee G. Simmons Wildlife Safari and Conservation Park Scholarship (\$600)

2002 Omaha Henry Doorly Zoo Internship, Aquarium