

Melissa B. DeBiasse

Postdoctoral Scholar

Whitney Laboratory for Marine Bioscience
University of Florida
9505 North Ocean Shore Blvd.
St. Augustine, FL 32080

email: melissa.debiasse@gmail.com
web: melissadebiasse.weebly.com
lab: 904.461.4000
cell: 513.659.1980

CURRENT POSITION

Postdoctoral Scholar, Whitney Laboratory for Marine Bioscience, University of Florida
Supervisor: Joseph Ryan (Sept 2016 – present)

EDUCATION

PhD (2014) Biological Sciences, Louisiana State University, Baton Rouge, LA
Advisor: Michael E. Hellberg
Recipient of a Louisiana Board of Regents fellowship (2008-2012)
MSc (2008) Marine Biology, Nova Southeastern University, Fort Lauderdale, FL
Advisor: Mahmood S. Shivji
BSc (2003) Biology (minor in History), Indiana University, Bloomington, IN

RESEARCH EXPERIENCE

Postdoctoral Scholar (2014-2016) Phenotypic and transcriptomic responses to biotic and abiotic stressors in marine invertebrates. Louisiana State University. Supervisor: Morgan W. Kelly
Doctoral Student (2008-2014) Model-based tests of historical demography and species delimitation in a coral reef sponge genus. Louisiana State University.
Masters Student (2004-2008) Conservation genetics and phylogeography of marine invertebrates. National Coral Reef Institute and Guy Harvey Research Institute, Nova Southeastern University.
Graduate Internship (2003-2004). Acoustic monitoring of estuarine habitat use by juvenile sharks and effects of environmental pollutants on reproduction and development in elasmobranchs. Mote Marine Lab Center for Shark Research, Sarasota, FL. Advisors: Michelle R. Heupel and James J. Gelsleichter

PUBLICATIONS

10. Kelly MW, **DeBiasse MB**, Villela V*, Roberts H*, Cecola C* (2016) Adaptation to climate change: trade-offs among responses to multiple stressors. *Evolutionary Applications*, **9**, 1147–1155
*Undergraduate authors
9. Kelly MW, Pankey MS, **DeBiasse MB**, Plachetzki DC (2016) Adaptation to heat stress reduces phenotypic and gene expression plasticity in a marine copepod. *Functional Ecology*, accepted
8. **DeBiasse MB**, Richards VP, Shivji MS, Hellberg MH (2016) Shared phylogeographic breaks in a Caribbean coral reef sponge and its invertebrate commensals. *Journal of Biogeography*. accepted.
7. Brzeski KE, **DeBiasse MB**, Rabon Jr. DR, Chamberlain MJ, Taylor SS (2016) Mitochondrial DNA variation in Southeastern pre-Columbian canids. *Journal of Heredity*, **107**, 287-293.
6. **DeBiasse MB**, Kelly MW (2016) Plastic and adaptive responses to global change: what can we learn from comparative transcriptomics? *Journal of Heredity*, **107**, 71-81.
5. **DeBiasse MB**, Hellberg MH (2015) Discordance between morphological and molecular species boundaries among Caribbean species of the reef sponge *Callyspongia*. *Ecology and Evolution*, **5**, 663-675

4. Richards VP, **DeBiasse MB**, Shivji MS (2015) Genetic evidence supports larval retention in the Western Caribbean for an invertebrate with high dispersal capability (*Ophiothrix suensonii*: Echinodermata, Ophiuroidea). *Coral Reefs*, **34**, 313-325
3. Prada C, **DeBiasse MB**, Neigel JE, Yedock B, Stake J, Forsman ZH, Baums IB, Hellberg ME (2014) Genetic species delineation among branching Caribbean *Porites* corals. *Coral Reefs*, **33**, 1019-1030
2. **DeBiasse MB**, Nelson BJ, Hellberg ME (2014). Evaluating summary statistics used to test for incomplete lineage sorting: mito-nuclear discordance in the reef sponge *Callyspongia vaginalis*. *Molecular Ecology*, **23**, 225-238
1. **DeBiasse MB**, Richards VP, Shivji MS (2010) Genetic assessment of connectivity in the common reef sponge, *Callyspongia vaginalis* (Demospongiae: Haplosclerida) reveals high population structure along the Florida reef tract. *Coral Reefs*, **29**, 47-55

MANUSCRIPTS IN REVIEW & NEAR SUBMISSION

- DeBiasse MB**, Kelly MW (*in review*) Intraspecific variation in phenotypic and transcriptomic plasticity in *Tigriopus californicus* in response to salinity stress.
- Richards VP, **DeBiasse MB**, Shivji MS (*in prep*) Deep mitochondrial lineage divergence and secondary admixture among highly structured populations of the southern stingray (*Dasyatis americana*) throughout the Southeastern United States and Caribbean.

TEACHING EXPERIENCE

- Guest Lecturer, Evolution (Spring 2016) Dept. of Biological Sciences, Louisiana State University.
Lectured on species and speciation.
- Guest Lecturer, Evolution (Fall 2015) Dept. of Biological Sciences, Louisiana State University.
Lectured on molecular phylogenetics and evolution.
- Guest Lecturer, Evolution (Spring 2015) Dept. of Biological Sciences, Louisiana State University.
Lectured on molecular methods of species delimitation.
- Guest Lecturer, Evolution (Spring 2014) Dept. of Biological Sciences, Louisiana State University.
Lectured on species and speciation.
- Teaching Assistant, Invertebrate Zoology Laboratory (Fall 2013) Dept. of Biological Sciences, Louisiana State University. Lead laboratories involving observation of live invertebrates.
Organized an outreach event at a local elementary school.
- Teaching Assistant, Introductory Biology Laboratory (Fall 2012, Spring 2013, Spring 2014) Dept. of Biological Sciences, Louisiana State University. Lead laboratories covering topics ranging from photosynthesis and respiration to evolution and biodiversity.
- Teaching Assistant, Genetics Laboratory (Fall 2005-Spring 2008) Division of Math, Science, and Technology, Nova Southeastern University. Lead laboratories covering topics ranging from DNA extraction and sequencing to bioinformatics and phylogenetic methods.

STUDENTS MENTORED

2015-2016	Daniel Liu	Undergraduate	Louisiana State University
2015-2016	Colleen Cecola	Undergraduate	Louisiana State University
2015-2016	Vidal Villela	Undergraduate	Louisiana State University
2015-2016	Hope Roberts	Undergraduate	Louisiana State University
2014-2016	Will Murdock	Undergraduate	Louisiana State University
2014	Byanjana Thapa	Undergraduate	Fairleigh Dickenson/HHMI
2014	Brandon Lawson	Undergraduate	Louisiana State University
2014	Elliot Wheeler	Undergraduate	Louisiana State University
2013-2105	Chelsea Wallace	High School	LSU EnvironMentors
2013	Jamie Gay	Undergraduate	University of Colorado/STRI

STUDENTS MENTORED continued

2013	Sarah White	Undergraduate	University of Colorado/STRI
2010	Catalina Restrepo	Undergraduate	Louisiana State University
2010	Maria Costantini	Undergraduate	Rowan University/HHMI
2010	Maxine Tan	Undergraduate	Eckerd College/HHMI

GRANTS and AWARDS

2014 American Genetics Association Ecological Genomics Symposium Travel Award **\$500**
2013, 2014 Molecular Ecology Best Reviewer
2013 Smithsonian Tropical Research Institute Short Term Fellowship, “The effects of climate change and species interaction on calcification in the reef building coral *Porites furcata*,” **\$2,400**
2013 Sigma Xi Grant-in-Aid of Research Award, National Chapter, **\$500**
2012 Sigma Xi Grant-in-Aid of Research Award, Louisiana State University Chapter, **\$500**
2012 Lerner Gray Grant for Marine Research, **\$1,990**
2010 Best Oral Presentation, Louisiana State University Biology Graduate Student Symposium
2009 Research Award, Louisiana State University Biology Graduate Student Association, **\$600**
2008-2012 Louisiana Board of Regents Fellowship **\$80,000**

INVITED SEMINARS

Patterns of genomic and phenotypic variation over evolutionary and ecological timescales in marine invertebrates. Department of Biology, University of North Florida, November 2015
Patterns of genomic and phenotypic variation over evolutionary and ecological timescales in marine invertebrates. Department of Evolution, Ecology and Organismal Biology Seminar Series, The Ohio State University, October 2015
Genomic basis of salinity tolerance in *Tigriopus* copepods. Louisiana State University Museum of Natural Science Seminar Series, Louisiana State University, September 2015
Using transcriptomic data to test biotic and abiotic interactions in marine invertebrates. Keynote speaker for Summer Undergraduate Research Symposium, Louisiana State University, July 2015. Watch my presentation here: <http://bit.ly/1GFNcBY>

PRESENTATIONS

DeBiasse MB, Kelly, MW (2016) Intraspecific variation in phenotypic and transcriptomic plasticity in *Tigriopus californicus* in response to salinity stress. Evolution, Austin, Texas
DeBiasse MB, Hellberg ME (2015) Discordance between morphological and molecular species boundaries in the sponge genus *Callyspongia*. Society for Systematic Biologists Standalone Meeting, Ann Arbor, Michigan
DeBiasse MB, Kelly MW (2014) The genomic basis of adaptation to salinity in the tide pool copepod *Tigriopus californicus*. American Genetics Association Ecological Genomics Symposium, Kansas City, Missouri
DeBiasse MB, Hellberg ME (2012) Mitochondrial and nuclear gene sequences show conflicting patterns of genetic structure in the coral reef sponge *Callyspongia vaginalis*. Evolution, Ottawa, Canada
DeBiasse MB, Hellberg ME (2010) Mitochondrial and nuclear gene sequences show conflicting patterns of divergence among putative cryptic species in the marine sponge *Callyspongia vaginalis*. World Sponge Conference, Girona, Spain
DeBiasse MB, Richards VP, Shivji MS (2008) Genetic connectivity in the branching vase sponge (*Callyspongia vaginalis*) across the Florida reef tract and Caribbean. 11th International Coral Reef Symposium, Fort Lauderdale, Florida
DeBiasse MB, Richards VP, Shivji MS (2007) Genetic assessment of connectivity among populations

of the branching vase sponge (*Callyspongia vaginalis*) in the Florida reef tract reveals a strong phylogeographic break at the Middle Keys. Florida Ecology and Evolution Symposium, Lake Placid, Florida

FIELD WORK

June-August 2013 Smithsonian Tropical Research Institute, Bocas del Toro, Panama. Performed long-term experiments to test the effect of ocean acidification on a sponge/coral species interaction. Project included sample collection and construction and maintenance of 180 mesocosm tanks.

May 2007 Dry Tortugas National Park. Organized and led a week-long dive trip to sample sponges and brittle stars for phylogeography research.

May 2006 Utila, Bay Islands, Honduras. Organized a week-long dive trip to collect sponge and coral samples for phylogeography research.

March 2006 Crooked Island, Bahamas. Organized a five day dive trip to collect coral reef invertebrate samples for phylogeography research.

December 2003 Tampa, Florida. Participated in five day research cruise for a mark recapture project focusing on sharks from the Gulf of Mexico.

INVITED COURSES

Evolutionary Genomics of Non-Model Species: Next Generation Sequencing, Data Management, and Hypothesis Testing. Sponsored by the American Genetics Association. Irapuato, Mexico, 2011

NSF AToL: Taxonomy, Systematics, and Ecology of Sponges. Smithsonian Tropical Research Institute, Bocas del Toro, Panama, 2010

SERVICE

Contributor to *The Molecular Ecologist* blog, 2014 – present

Founder of LSU Women in Science organization, 2014 – present

Mentor for Louisiana State University Chapter of EnvironMentors, 2012 – 2015

Mentor for three undergraduate Howards Hughes Medical Institute interns, Summer 2009 and 2014

Mentor for LSU Upward Bound, Spring 2014

Graduate Student Rep for LSU Computational Biology faculty position search committee, 2014

Graduate Student Rep for LSU Aquatic Ecology faculty position search committee, 2013

Exhibitor for Louisiana State Sea Grant program Ocean Commotion, 2008 – present

Reviewer for Nature Climate Change, Molecular Ecology, Heredity, BMC Evolutionary Biology, Aquatic Biology, Journal of the Marine Biological Association of the United Kingdom, PLOS ONE, Peer J, Scientific Reports

PROFESSIONAL SOCIETY MEMBERSHIP

Society for the Study of Evolution

American Association for the Advancement of Science

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