

Eloy Martínez Rivera

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Education

May 2006. *Cum Laude*, Bachelor degree in Coastal Marine Biology, University of Puerto Rico at Humacao.

Research Experience

Assessing Habitat Quality in Chesapeake Bay: Application of RNA:DNA Indices to Blue Crab (*Callinectes sapidus*, Rathbun, 1896). University of Maryland, Center of Environmental Science, Chesapeake Biological Laboratory, Summer 2006.

In my summer research I developed a new technique to quantify growth and production in the blue crab (*Callinectes sapidus*). This method measure the fluorescence of the genetic material in muscle tissue and expresses growth as the ratio of the amount of RNA to the amount of DNA in a cell. If successful, the tool will provide a better understanding of habitat-specific growth patterns and the overall health of the population.

Development and Ecology of the Tunicate *Ascidia nigra*. University of Puerto Rico at Humacao, August 2005 to May 2006.

Little has been written about the ecology of this tunicate, and through this research individuals were collected and larvae were reared in controlled conditions. Developmental stages were documented and compared to previous studies to understand its complex life history and associate it with its distribution.

Settlement Behavior as a Function of Light Intensity: Tests with Larvae of Three Solitary Ascidian Species. Western Washington University, Shannon Point Marine Center, winter 2005.

In this research I worked with larval stages of *Styela gibbsi*, *Boltenia villosa* and *Pyura haustor* measuring their behavior under different light conditions.

Carbon Budget Description of *Rhizophora mangle* Ecosystem Using System Dynamic Software STELLA[®]. University of Puerto Rico at Humacao, August 2003 to December 2004.

Exploring new methods for wetland management, I have been studying carbon budget in a red mangrove community using system dynamic modeling to determine specific role of the species in the ecosystem.

Viability of Bioremediation Using Microalgae on U.S. Navy Installations on Vieques Island, Puerto Rico. University of Puerto Rico at Humacao, August 2002 to May 2003.

This research consisted of determine concentrations of heavy metals in organisms and sediment associated with red mangrove (*Rhizophora mangle*), produced by U.S. Navy practices in Vieques Island, Puerto Rico.

Workshops and Conferences attended

February 2007. Santa Fe, New Mexico. **American Society of Limnology and Oceanography (ASLO) winter meeting.**

February 2006. Honolulu, Hawai'i. **Ocean Science winter meeting.**

February 2005. Salt Lake City, Utah. **American Society of Limnology and Oceanography (ASLO) winter meeting.**

September 2004. University of Puerto Rico at Humacao, **19th annual junior technical meeting (sponsored by PR-LSAMP).**

July 2004, Interamerican University at Bayamón, Puerto Rico, **Applying system dynamics modeling software to biological systems.(workshop sponsored by Puerto Rico Louis Stokes Alliance for Minorities Program PR-LSAMP)**

October 2003, Ponce, Puerto Rico. **32nd Best practices annual conference (sponsored by PR-LSAMP).**

August 2002, University of Puerto Rico, Mayagüez campus, **Potential viability of aquaculture in Puerto Rico; developing an intern economy. (Sponsored by AGEPE)**

Presentations

Poster Presentation - **Assessing Habitat Quality in Chesapeake Bay: Application of RNA:DNA Indices to Blue Crab (*Callinectes sapidus*, Rathbun, 1896).** American Society of Limnology and Oceanography Winter meeting, Santa Fe, New Mexico, February, 2007.

Can sunlight be a determinant in distribution and abundance of *Ascidia nigra*? 21st annual Junior Technical meeting, Sponsored by PR-LSAMP, March 2006.

Settlement Behavior as a Function of Light Intensity: Tests with Solitary Ascidian Larvae. Ocean Science winter meeting, Honolulu, Hawai'i, February 2006.

Light Effects on Larval Behavior of Three Common North Pacific Ascidians. Alaska Fisheries Science Center, National Oceanic and Atmospheric Agency (NOAA), Seattle WA, March 2005.

Poster Presentation - **Settlement and swimming behavior as a function of light intensity; tests with three solitary ascidian larvae.** Sigma Xi Conference, Western Washington University, Washington, USA, May 2005.

Poster Presentation - **Settlement and swimming behavior as a function of light intensity; tests with three solitary ascidian larvae.** Estuarine Research Federation (ERF) Conference, Norfolk, Virginia, October 2005.

Specialized Courses

- Problems on Coastal Development
- Coastal Geomorphology
- Coastal Ecology
- Dive Course Applied to Marine Studies
- Oceanography
- Current Trends in Marine Science
- Biology of Fishes
- Coastal Resources
- Environmental Law and Legal Aspects
- Scientific Communication

Special Skills

- Fluorometry
- Image analysis using Image Pro[®] software
- Dynamic modeling using STELLA[®] software
- Distillation and purification techniques
- English and Spanish languages
- Certified PADI Open Water diver
- Advanced knowledge of automobile engine reconstructions
- Advanced skills on fiberglass reconstruction
- Certified boat captain
 - o Coast Guard Auxiliary boating skill course
- 6 years of navigation experience
- Familiarized with GPS equipment
- Image editing using Adobe Photoshop[®] software
- Sailing Experience
- ArcGIS[®] experience
- DNA extraction and analysis
- Spectrophotometry

Work Experience

MRFSS Field Interviewer. From December 2006 to June 2007. During this time I interviewed marine recreational fishers about their fishing trip, providing to the ORC-Macro company of a catch-effort data set. This information is later used by the National Marine Fisheries Service.

Laboratory technician. From January 2003 to December 2004, work study program at University of Puerto Rico at Humacao. I organized zoology and botany laboratories sessions, preparing specimens and dissection equipment. I was also in charge of maintenance of field equipment.

Aquarium and research vessel maintenance. From August 2002 to December 2002, work study program at UPR – Humacao. In this job I repaired and maintained laboratory

equipment, I also did engine maintenance of the research vessels and cleaned the aquarium tanks.

Extracurricular Activities

From May 2005 to March 2006. **Associated Member of Sigma Xi Honor Society.**

From January 2005 to May 2006. **Member of the American Society of Limnology and Oceanography (ASLO).**

From 2001 to May 2006. **Member of the Marine Biology Association of UPR-Humacao.**

Outreach Experience

Outreach Specialist. Developed lessons and taught marine science in 4th grade classrooms. (Anacortes School District, Anacortes, WA.), Jan-March 2005.

Sea Grant Outreach. I taught Marine science to students from K-12, performing workshops and other activities for the students, including data collection in field. (Public schools in Puerto Rico), August 2005 to May 2006.

Honors & Awards

National Science Foundation. Funded award to attend the 2007 meeting of the American Society of Limnology and Oceanography (ASLO) in Santa Fé, New Mexico.

One of fourteen students participating in Research Experience for Undergraduates (REU) in University of Maryland, Center of Environmental Science, supported by the National Science Foundation (NSF). For twelve weeks I participate in an individual research project at the Chesapeake Biological Laboratory, Maryland.

First place. Best presentation at the student symposium in 2006 Ocean science meeting, Honolulu, Hawai'i.

National Science Foundation. Funded award to attend the 2006 American Society of Limnology and Oceanography (ASLO), Estuarine Research Federation (ERF) winter meeting, Honolulu, Hawai'i.

National Science Foundation. Funded award to attend the 2005 meeting of the American Society of Limnology and Oceanography (ASLO) in Salt Lake City, Utah.

Honorable mention. Poster attended at Sigma Xi Conference in Western Washington University, Washington USA.

Sigma Xi Membership. An invitation to from part of the Sigma Xi Scientific Society.

One of eight students participating in Minorities in Marine Science Undergraduate Program (MIMSUP), supported by National Science Foundation (NSF). For six month I participated on intense marine science education program.

Honor Student Grant provided by University of Puerto Rico at Humacao. From 2002-2003.