



BIOSPHERE

The Weekly Bulletin of Biology

Biology Colloquium: Friday, 7 October 2011, 2:00 pm in CR 5125

"Causes and Beginnings of Signal Divergence in *Enchenopa* Treehoppers"

Rafael Rodriguez, Ph.D.

Department of Biological Sciences, University of Wisconsin, Milwaukee

New Publication

Canadian Journal of Fisheries and Aquatic Sciences has published a paper by Brad Erisman, **Dr. Larry Allen**, J. T. Claisse, D. J. Pondella, Eric Miller, and J. H. Murray: "The illusion of plenty: hyperstability masks collapses in two recreational fisheries that target fish spawning aggregations." Erisman and Miller did their master's theses with Allen once upon a time.

Scientific Travels, a beginning

—by Sylvia Zamudio

I completed my B.S. in Marine Biology this past spring at CSUN. Now I am a new graduate student in the lab of Dr. Peter Edmunds. Our lab focuses on the physiological ecology of scleractinian corals, which are the stony corals people associate with expansive coral reefs. Recently, our lab has been examining how climate change impacts the early life-history stages of these corals. Climate change is causing ocean acidification, as well as a rise in ocean temperatures. Temperature changes can have a negative impact on the symbiotic relationship

between dinoflagellates and their coral hosts, resulting in coral bleaching.

Ocean acidification is caused by the dissolution of atmospheric CO₂ in seawater. Acidification makes the process of calcification difficult for corals and coralline algae. Although scientists are making headway toward understanding the mechanisms behind these processes, many questions remain unanswered. It's exciting to be on the forefront of these studies.

Scleractinian corals are distributed in the tropics, so we travel to different parts of the world to do our experiments. As an undergraduate, I had the privilege of being included on research excursions to Taiwan and Moorea in French Polynesia.

During summer 2010, two labmates and I went to southern Taiwan for two months. We conducted research at Taiwan's National Museum of Marine Biology and Aquarium (NMMBA). This was my first time traveling outside of the U.S., and it gave me my first exposure to science in action as well as to a culture completely different from my own.

I was struck by the importance of collaboration in science. People often view science as a vast population of researchers, but I quickly found out that on

a particular topic, like effects of climate change on corals, everyone knows one another. It was a much smaller community than I had ever imagined.

The facility at NMMBA is impressive. We worked in the husbandry building where we were surrounded by massive tanks full of many fishes and invertebrates. One of the largest tanks held sea turtles. What was even more impressive is that we rarely ran into limitations; we seemed to have infinite access to resources, technology, and smart people. In completing my experiment on the interactive effects of ammonia and pCO₂ on coral larvae, I was proud of how resourceful we were. Some of the equipment was worth thousands of dollars, but there were also times when we used a hot glue gun and nick knacks from the junk drawer.

The culture of Taiwan was very different from my own. It was sometimes challenging to be a vegetarian, but I was also amazed by all of the delicious dishes. We experienced what it was like riding a scooter through town, as well as touring along secluded roads that followed the Taiwanese coast. In the countryside, the sound of thousands of cicadas was intense, and the torrential downpours of tropical storms would get so loud that they would wake us up at night. Then they would stop as quickly as they came. Best of all was making the transition from diving in our 60 °F Californian waters to the 86 °F of tropical marine paradise.

In fall 2010, I enrolled in the Catalina semester, where I further acquainted myself with the CSUN faculty and graduate students. It was a valuable experience spending 15 weeks on Santa Catalina Island fully immersed in the study of marine biology.

In January 2011, I was offered the opportunity to work for three weeks in Moorea. I traveled there with Dr. Robert Carpenter and three of his graduate students. The small island of Moorea is

very different from Taiwan and the research we did there was mostly field-based, versus lab-based. Likewise, the structure of the reefs surrounding Moorea is unique. This research gave me the opportunity to work with organisms *in situ*. When a tropical storm blew through in Taiwan, we worried about sedimentation in our tanks, but we did so from the comfort of the lab. When a tropical storm blew through in Moorea, we would have to work out in the rain and wind, or if it was really bad, cancel fieldwork for the day entirely.

During summer 2011, I returned to Taiwan for another two months. During that trip we examined the effects of temperature and pCO₂ on coral larvae. I experienced more Taiwanese culture on that trip by visiting the night markets and even attending the annual ghost festival. During this festival competing teams race to climb 100-foot logs greased with cow fat. *Ooo!* It was interesting to see the different strategies for completing this task, as well as being part of the excitement of the surrounding crowd. I was also introduced to a famous Taiwanese tongue twister that included tones so similar that I couldn't tell any differences between the words.

I look forward to conducting my future research in Taiwan and diving deeper into the field of marine biology. I know that the topic of global climate change and its affects on scleractinian corals will raise a plethora of exciting questions worth investigating by myself, as well as current scientists and future students to come.

Students who wish to write articles should contact the editors.

Biosphere: The Weekly Bulletin of Biology

Department of Biology
California State University, Northridge
Editors: Paul Wilson and Robert Espinoza
For past issues: www.csun.edu/biology