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The University of Florida Tropical Aquaculture Laboratory (TAL) Fish Disease Diagnostic Laboratory, in Ruskin, serves Florida's commercial fish producers, wholesalers, retailers, and state agencies. Since it is located in the heart of the ornamental aquaculture industry, the majority of the caseload is made up of freshwater and marine ornamental fish, but also includes invertebrates, amphibians and reptiles. A four week Ornamental Aquaculture Production and Medicine Externship from mid July to early August was an awesome opportunity to learn about aquaculture and ornamental fish medicine. The externship is coordinated and supervised by Dr. Roy Yanong and Ms. Debbie Pouder. As a student at North Carolina State University, I am lucky to have classes that involve fish medicine and rotate through NCSU's Exotic Animal Medicine Service, which has fish patients. Throughout my externship, I applied and reinforced facts I learned in classes and other past experiences. However, I had (and still have) a lot to learn about ornamental aquaculture medicine. I am very thankful that The Fish Vet Group in Portland, Maine supported my efforts to learn more about aquatic veterinary medicine through an AAFV scholarship.

Throughout my clinical year, I am learning the importance of obtaining thorough histories of each patient, however prior to my externship, the majority my patients were mammals. Watching and working with Dr. Yanong and Ms. Pouder helped me better understand which questions are critical to ask fish producers as well as how obtaining a good history can be the key to providing management recommendations. The externship provided me numerous opportunities to interact with fish producers and researchers, which allowed me to practice communication skills. My advisor, Dr. Greg Lewbart spent multiple lectures discussing the aspects and importance of water chemistry. However, I soon realized that I still had a lot to learn about water quality, especially with pond and large-scale systems. Seeing and discussing the pond and system designs was very helpful in identifying and understanding various types of filtration. Since most of my water testing experience involves API test kits, I enjoyed testing with the HACH kits.

The externship also enabled me to practice appropriate fish examination and necropsy techniques. I feel that my fish handling and "awake" diagnostic techniques improved greatly. Prior to my externship, I had only performed skin scrapes and fin clips on immobilized fish. Now I feel much more comfortable performing skin scrapes, fin clips, and gill clips on live, non-sedated fish. Most cases involved internal exams (necropsy) and bacteriology. I enjoyed learning how to sterilely obtain bacterial samples from the brain and posterior kidney. My previous classes taught me a lot about bacterial diseases, but I had not performed any bacterial cultures since AQUAVET®I in 2015. This provided me opportunities to practice skills I had forgotten and better understand culture identification and sensitivity testing. Many cases also involved histological or virology sampling. Learning about the sampling technique, preparation, and packaging was great preparation for future jobs.

At least once a week, Dr. Yanong and/or Ms. Pouder would ask me questions to check my progress and understanding during white board sessions. Topics included water quality, system design, parasites, bacterial diseases, common drugs, treatment plans, management recommendations, or discussions of homework assignments. These sessions challenged me to think and better understand things like why certain treatments are done differently in fresh water versus saltwater as well as allow me to practice client communication skills. They also gave presentations on various topics. I feel very lucky that I had an opportunity to learn from two experts in the fish medicine field!

In addition to the disease diagnostic lab, the UF TAL is also an extension service, operational farm and research facility. Within the same building as the diagnostic lab, there are offices for USDA Wildlife Services and USDA APHIS Veterinary Services (Aquaculture Program Leader and Veterinary Medical Officer). One morning, Dr. Kat Starzel, Aquaculture Import/Export Coordinator, allowed me to accompany her to the airport to inspect an imported shipment. This was a great way to learn about Spring Viremia of Carp Virus as well as regulations regarding import and export of fish. I was fascinated to learn about current research projects involving non-native species, reproductive studies including induced spawning, non-native species research, work with live feeds, and other ornamental aquaculture research projects. I also enjoyed learning about the extension work done at TAL. One of the coolest programs I observed was the weekly mosquitofish (*Gambusia*) giveaway. It is inspiring to see multiple organizations working together synergistically.

Dr. Yanong gave me a thrilling tour of the facility while testing and expanding my knowledge of common ornamental fish families and water quality. While the entire facility was impressive and many species represented, the highlight of tour was viewing Pacific Blue Tang (*Paracanthurus hepatus*) larvae. Rising Tide Conservation is a project that began about six years ago and has resulted in the successful aquaculture of over twenty species of marine ornamental fish. The program is currently made up of multiple research facilities (UF TAL, UF Indian River Research and Education Center, Hawaii Pacific University/Oceanic Institute, Mystic Aquarium, Florida Keys Community College, and HUBBS SeaWorld Research Institute), stakeholders (SeaWorld, PetCo, Quality Marine, Segrest Farms, Jellyfish Art, Boyd Enterprises), and other partner aquariums and organizations. The program focuses on more difficult to breed marine fish species whose wild populations are fished very heavily and/or for which collection impacts surrounding aquatic ecosystems or have other concerns. Last year, UF TAL successfully raised Pacific Blue Tang. I was thrilled to view some of these older juveniles as well as young larvae.

Throughout my externship, Dr. Yanong and Ms. Pouder provided me with numerous opportunities to meet people in the ornamental aquaculture industry. In addition to the TAL, I also toured 5D Tropical, Inc., Urban Tropical, Aquatica Tropicals, and ACI Aquaculture. I appreciate the opportunity to see each of these facilities and expand my knowledge of the industry. Networking opportunities included meeting

aquatic veterinarians including Dr. Ari Fustukjian, Dr. Johnny Shelley, Dr. Lindsey Waxy, and Dr. Shelly Marquardt. I also was lucky to spend time working and living with fellow veterinary students, Cait Moreland and Jake Bryan. In the future, I hope to see many of these people again at fish and aquatic animal medicine conferences.

Since the Tampa area is where a large portion of ornamental fish production occurs in the US, the Ornamental Aquaculture Production and Medicine Externship was a perfect opportunity to learn about ornamental aquaculture health management, system design, water quality, disease, and treatment. Ultimately, I intend to pursue a career in aquatic animal medicine and look forward to continuing to learn about fish medicine.