

2017

AAFV Student Scholarship Committee

Experience Report

Delta Diagnostics

MSU Aquatic Diagnostic and Research Lab

Duration: 2 weeks

Extern and scholarship recipient: Erika Brigante

I am a third year veterinary student attending RUSVM in St. Kitts, West Indies. When I was a first year vet student, I remember thinking that becoming an aquatic veterinarian would be impossible, so I considered becoming an equine vet. Since then, I have been able to research and study lionfish, study Tilapia as well as reef fish, work with sea turtles, and study bottlenose dolphins at a dolphinarium. In addition to these hands-on experiences, I have taken aquatic electives at Ross, all of which have encouraged me to follow my passion and strive to use my career to make a positive impact on aquatic veterinary medicine, especially in aquaculture and aquatic wildlife. My experience in aquatics is limited, although much improved after completing this externship. Even with this narrowed-down interest, I still feel as though I have yet to determine my one specific dream job which is one of the reasons I intend to complete various aquatic externships before graduation.

At the MSU Aquatic Diagnostic and Research Lab, I got to work with and learn from countless inspiring veterinarians and technicians, but I especially worked under Dr. Lester Khoo. On many occasions, he showed me how aquatic veterinarians can apply principles from small or large animal medicine to fish medicine, though considerable differences exist. I was able to practice and improve my skills in diagnostic techniques such as performing skin-scrapes, gill clips, blood draws, bacterial culture and sensitivity testing, and microscope proficiency. I learned about and assisted with cell culturing, water quality testing, PCR, histopathology, and BBL crystal identification systems. I also got to experience and learn about different aspects of the catfish aquaculture industry including herd health and genetic concepts, production stages, different methods of farming, veterinary feed directives, and more.

Dr. Khoo presented many diseases to me that affect catfish and other fish, and eventually I was able to diagnose, list differential diagnoses, describe the pathogenesis of, describe treatment of, and discuss implications of the main diseases. This was my first experience doing this with real cases, and I cannot fully express how helpful this was in my learning experience. I was able to ask questions from an expert and receive thorough answers often leading to more insightful discussions. All of this helped me prepare for my last semester on the island when vet students are responsible for clinical rotations as well as our standard academic workload, and I'm sure it has helped prepare me for clinics and future externships. Dr. Khoo also provided me with an evaluation of my performance as an extern which has proved particularly useful for my professional development. Furthermore, I am happy to say that I feel more knowledgeable and comfortable with fish medicine, though I still have much to learn. Finally, I feel more motivated than ever to pursue my goals, which is especially helpful to me during my last semester of academics in veterinary school.

During my externship, I was shown cultural aspects of the area in Mississippi

which made the experience even more meaningful and made my traveling feel cohesive. For example, I went to various wildlife parks which displayed historically large Cypress trees, alligators, gar, swimming snakes, and other exciting wildlife. I was also introduced to the many ways catfish and crawfish are typically prepared in the area. Learning about and enjoying the area while networking with experts in the field added even more value to the externship overall. I am very grateful for the scholarship from the AAFV which made this invaluable experience possible! My first aquaculture and diagnostic experience with fish was amazing, so depending on how future externships go, I may pursue something very similar down the road. Finally, Dr. Khoo allowed me to take photographs for learning purposes, and I have shared some of the ones I found especially interesting in the following pages.

Enteric septicemia of catfish (*Edwardsiella ictaluri*) and *Flavobacterium columnaris* case



This photo was taken of a gill clip wet mount with breaks in cartilage suggestive of Proliferative Gill Disease (*Henneguya ictaluri*)



Intussusception in an atypical *Aeromonas hydrophila* case



*Henneguya* cysts on gills



Interesting parasites found, some of which were likely incidental:

Cestode



*Capriniana*



*Ambiphyra*



*Trichodina* spp

