Graduate student profile:

Matthew A. Kolmann (Matt)

Ecology & Evolutionary Biology, Lovejoy Lab.

Previous degrees:

B.Sc. (Marine Science & Biology) – University of Tampa 2008
M.Sc. (Biological Science) – Florida State University 2012

Tell us about your research at UTSC:

My work in the Lovejoy lab focuses on the evolution of complex traits and behaviors pertaining to feeding in fishes. I use comparative phylogenetic methods to explore how some lineages, notably freshwater stingrays, have adapted to fit their new habitat and take advantage of the resources they find there. I'm particularly interested in the evolution of biomechanical and morphological traits that allow fishes with ductile skeletons (like cartilage) to consume "hard" prey like insects, crustaceans, and mollusks. Ultimately, I would like to determine if these feeding traits are truly adaptive, and have aided in the diversification of these stingrays across most of the South American continent.

Tell us about why you chose your graduate program or lab:

I chose the Lovejoy Lab because I knew I wanted an international experience for fieldwork and collaboration. Nate has a great rapport with international scientists and I knew I'd be able to work on the critters I'm interested in (freshwater rays), with his support and guidance. Most importantly I had read a lot of my advisor's publications and wanted to expand my research program using the same sort of comparative, evolutionary context that Nate brought to his research program on fishes.

What are your future career goals and how has your graduate work set you up to achieve those goals?

I see myself being a professor at a small to medium-sized university, catering mostly to engaging undergraduates and maybe Master's students in research. Most importantly I want to impart to students, both neophyte and experienced, the advantages (really, the criticality) of being astute naturalists. The natural world has solved many of the problems that modern societies continue to struggle with on an artificial level. Biomimicry coupled with good stewardship of our resources (I think) is going to be critical to thriving in the next hundred years.

Complete the sentence: In my free time I like ... *to homebrew beer, cook & grill, hike & kayak.*

Tell us about your craziest experimental finding or experience:

Fieldwork has taken me to some crazy places. I pushed a boat for nearly 5km across a mudflat in Guyana (twice, no less) in order to catch some crazy, little-known stingray specimens. Two years ago we "rediscovered" a strange catfish from the pantepuis (tabletop mountains) of Western Guyana that hadn't been seen or collected for over a hundred years. That sort of stuff just amazes me!

Do you have any advice for prospective students?

Come and interview with research questions and ideas in mind, no matter how ridiculous!