

Getting Back to Tulane and the Lab

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newcomb@tulane.edu

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Hey all, I'm Amie! I am a rising senior at Tulane studying Ecology and Evolutionary Biology. This summer I am returning to the Derryberry Lab at Tulane after a semester studying Tropical Biology in Costa Rica (that's me in Costa Rica above). The Derryberry lab is focused on behavioral and evolutionary ecology and, more specifically, on addressing questions about variation in communication signals. Multiple lines of ongoing research address the evolution of bird song in White Crown Sparrows in California. In addition, our lab is involved in a large collaborative project

aimed at developing a molecular species level phylogeny for the Tyranni, a large pantropical suborder of Passerine birds. (Want to know more?) I am so excited to be starting research for my upcoming honors thesis and to be continuing to assist with the ongoing Tyranni project!

I have been working in this lab since taking Dr. Derryberry's Intro to Animal Behavior course my sophomore year. For the most part I have helped with the Tyranni project, learning some essential wet and molecular lab techniques like DNA extraction, PCR, and gel electrophoresis along the way. When I started out I was interested primarily in phylogenetics and the evolution of cooperative behavior. Since then, my interests have shifted to the field of phylogeography which is a kind of meet- in-the-middle of population genetics and phylogenetics. Phylogeography addresses questions about the processes that have influenced the distribution of populations of organisms.

My main focus this summer is getting a jumpstart of my honors thesis project which will focus on the phylogeography of a number of bird species, from the continga family, already being studied in our lab for the Tyranni project. In addition, I am continuing to help with whatever happens to be going on with the Tyranni project in order to refresh and build on my lab skills. Basically, an average day this summer will start with a few hours in the lab in the morning followed by research for my honors thesis project in the afternoon.

This first week back in the lab has been great!

Since I've been gone, we have moved from a temporary lab in Flowers to our new home on the fourth floor of Boggs. Even though it's a new space for me and I have been gone for a while, getting back in to the lab flow has been a really comfortable adjustment. It may have to do with having Andres, a post doc leading the Tyranni project in our lab, around and available for questions as usual. I have also met some people this week for the first time like Mae, the lab manager, who joined last semester while I was away. In the mornings I've been working on extracting DNA from samples for the Tyranni project.

In the afternoons I have been in the library, delving into books on population genetics as advised by Andres. Before I can really jump into executing the phylogeographic analyses necessary for my honors thesis project, I need to learn A LOT about phylogeography. Population genetics theories are at the core of phylogeographic methods. Eventually, my project will involve exploring patterns of

historical demography between rare and widespread species of cotingas in the
Lipaugus and Tijuca genera...more details on that to come later (: