Using Phylogenetic Comparative Methods To Understand Diversification and Geographic Range Evolution

Kathryn A. Massana, Exit Seminar
Monday, April 3rd, 2017 at 9:00 a.m. in Dabney 575

In my dissertation, I studied a diverse set of questions in the realm of diversification and biogeography. I began by improving upon a popular model of geographic range evolution. I then moved on to learn how a complex trait such as parasitism could influence the diversification of parasitic angiosperms. The results indicated that all parasitic flowering plants are not undergoing an evolutionary dead end, as many have postulated. In my final chapter, I merged trait and biogeographic evolution by assembling a model that would test the influence of body size in passerine birds. The results showed that the larger body sizes do not influence greater dispersal rates in passerines. I also show support for both body size and region of occurrence in the world (temperate versus tropical) as having a slight influence on diversification. However, there is evidence of other underlying biological traits and/or processes influencing the diversification of these groups.