The 10th Annual Darwinian Student Symposium

The Committee on Evolutionary Biology (CEB) and the Department of Ecology & Evolution convened this year on April 7th, 2013 to attend the 10th annual graduate student symposium. Hosted at the Daniel F. and Alda L. Rice Plant Science Center at the Chicago Botanic Garden, the day's talks featured 3rd, 4th and 5th year graduate students.

The day began with 15-minute talks by fourth year students, a group studying a broad range of ecosystems and organisms. Christopher Schell headed off the first session with a study of the relationship parental behavior in coyotes and the resulting temperament traits of the pups. Following Chris' heartbreaking pictures of coyote pups, Alice Macqueen elucidated her findings on the costs and benefits of resistance in *Arabidopsis thaliana* populations. Laura Merwin continued the discussion on adaptation to environmental stresses in her presentation on the adaptations in *A. thaliana* populations to beach environments. Switching the focus to insects, Benjamin Rubin described the genetic basis of behaviors in *Pseudomyrmex* ants. Tom Stewart followed with his discovery that adipose fins may be functional in select fish species. Concentrating on the dynamics of food webs, Si Tang then detailed her investigation of the factors that determine stability in food webs. The final student talk of the morning was given by Colin Kyle who detailed predictions for the impact of global warming on the spread of a fungal pathogen in *Conidia* moth populations.

After a full morning of interesting talks, we grabbed our lunches and scurried back to our seats to begin a delightful conversation with Dr. May Berenbaum from the University of Illinois at Urbana-Champaign. A champion of bringing science into the public sphere, Dr. Berenbaum described the many Insect Film festivals, insect art contests and insect public showings that she had helped to sponsor throughout the United States. Through her depictions of these lively and entertaining events, Dr. Berenbaum made the case that we scientists can feasibly expose the public to our work in both an entertaining and informative manner.

Following this entertaining and informative lunch, we commenced student talks with Benjamin Winger's study of the relationship between phenotypic and genotypic divergence in bird populations in exotic and beautiful locations. Talia Karasov ended the talks by fourth year students with an analysis of gene content variation in microbial populations.

With the completion of talks by fourth year students, the audience separated into two sessions, session I having a greater emphasis on molecular evolution, and session II placing more emphasis on organismal evolution and ecology.

Session I began with a talk by Paul Grabowski detailing the population genomics of the ecologically and economically important plant species switchgrass. Traci Viinanen continued the discussion of plant genomics in her presentation on on the possibility of rapid phenotypic selection in intermediate wheatgrass. Shifting focus to organisms of the deep blue, Joyce Pierretti showcased her work on the genes involved in fin morphogenesis. Returning once again to dry land, and shifting focus to *Drosophila*, Pengyao Jiang illustrated her fine-scale analysis of the evolution

of gene regulation in the *Drosophila* embryo. Remaining on dry land, but instead directing attention to the plants that inhabit it, Christopher Meyer detailed the genetic basis of the many mechanisms *A. thaliana* has evolved to evade herbivory. Deren Eaton's talk followed with the description of a powerful method to infer introgression between plant populations. Following Chris' talk, Nate Upham revealed the phylogenetic diversification of rat species spanning a wide breadth of ecosystems. Zooming down to the molecular level, Robert Arthur finished session I with a talk on the fate of epigenetic marks after gene duplication.

Sophie McCoy opened session II with a talk illuminating the effects of ocean acidification on species interactions and community structure. Following Sophie's talk, Sara Jackrel analyzed decomposition in Alder trees revealing the possibility of local adaptation in decomposition rates. Katie Brooks then discussed her findings on the impact of stress on the immune capacity of Belding's ground squirrels. Studying dimorphism in bird species, Allison Johnson detailed the influence of sexual selection on bird and plumage evolution. Switching focus to the marine ecosystem, Orissa Moulton spoke of the effect of microbes on nutrient availability and community composition. Jon Mitchell changed gear to the fossil record in which he searches for clues to the robustness of food webs in light of extinctions. Tim Sosa followed with his work studying the invasion patterns of Characiformes. Describing her work in intertidal zones, Courtney Stepien then expounded on the biotic and abiotic factors that shape communities. Rounding out a fascinating session, Matthew Nelsen elucidated the phylogenetic origins of the mutualisms that compose lichen.

Thank you once again to the Chicago Botanic Garden for hosting this symposium for the fourth year in a row. This symposium provides a singular opportunity for the many diverse graduate students from the many diverse committees to share their work and the knowledge they have accrued in their studies.