The Seventh Annual Darwinian Student Symposium

April 11, 2010, The Chicago Botanic Garden

For the seventh year running, the Committee on Evolutionary Biology and Department of Ecology and Evolution co-sponsored a student symposium. This year, the retreat was held at the Chicago Botanic Garden's new Daniel F. and Aida L. Rice Plant Science Center on a beautiful April day. Twenty-four students presented their research in a conference-style setting and answered questions from students and faculty. Research topics addressed by the students spanned the breadth of ecology evolutionary biology, focusing on differing time scales in diverse environments with a wide range of organisms all tied together a common thread: evolution.

The meeting opened with talks from fourth and fifth year students. Libby Eakin and Dave Kennedy presented their models of feeding and pathogen growth in the gypsy moth, Matt Horton addressed metagenomics and metabolomics in *Arabidopsis*, Nate Smith presented his phylogeny for Pelicaniformes (waterbirds) based on a large number of morphological characters and including many fossil taxa, and Aaron Kandur presented his work investigating range limits of a mussel species along the coast of Washington state. Bin He discussed his work on the evolution of transcription factor binding sites in two divergent species of *Drosophila* fruit flies, Cindy Carlson described her extensive fieldwork studying the social dynamics of Pig-Tailed Macaques in the wild, Brandon Kilbourne presented preliminary results on the scaling of rotational inertia in quadrupedal mammals, and Elizabeth Scordato concluded the morning program with a discussion of the causes of variance in a sexually selected trait in the Hume's Warbler.

Lunch included a discussion lead by faculty members on a variety of topics germane to graduate students: job talks, postdocs, small grants, and how to strategically tailor the graduate research and training experience to best suit ones professional goals. Breaking with previous retreat formats, the afternoon program divided into two concurrent sessions during which second and third year students presented talks on Behavior and Evolutionary Ecology, and Evolutionary History and Genetic Mechanisms.

In the Behavior and Ecology session, Paul Grabowski presented his work on switchgrass population structure and adaptation, Katherine Brooks and Andy Dosmann both described their research on Belding's ground squirrel behavior (sociality and personality, respectively), and Natasha Bloch

addressed opsin expression and color vision in warblers. Traci Viinanen discussed the allelic control of seed yield in intermediate wheatgrass, Matt Heintz presented on the characterization of play behavior in infant chimpanzees, and David Wheatcroft presented work on cooperative harassment of predators in birds.

In the History and Genetic Mechanism session, Chris Meyer showed us his method of mapping genetic information influencing defense in *Arabidopsis*, Sophie McCoy explained her research plan for studying large-scale ocean acidification and its influence on coralline algae, Will Tyburczy presented his results from studies of predator-prey dynamics on Tatoosh Island off the coast of Washington state, and Rebecca Dikow delivered preliminary results showing how whole genome data can be used in phylogenetic systematics. Ben Krinsky examined the reproductive function of new genes in *Drosophila* fruit flies, while Aaron Savit discussed the origination and maintenance of circum-Amazonian distributions in birds, and Kacy Gordon looked at the evolution of enhancers in *Caenorhabditis elegans*. Matthew Nelson concluded the program with a presentation of phylogenetic evidence that symbiosis between fungus and algae - lichenization- has evolved multiple times.

The annual retreat showcased the wide range of topics that are being researched actively by graduate students at the University of Chicago, and that much of this research addresses fundamental issues in a range of subdisciplines of evolutionary biology. The short lecture format facilitates cross-pollination of ideas among colleagues, and the informal nature of the retreat allows for constructive input as students advance with their research. Credit is due to the many students and staff who helped to organize this year's event, as well as to the Chicago Botanical Gardens for hosting the conference.

Rebecca Dikow and Aaron Savit