



These Weeks in Biology

May 7th, 2009 - November 2nd, 2009

Special Events

In life, dormancy is a natural state, which in awakening reminds us of the great resilience of the things we love so well. Similarly, TWIB stirs from its slumbers.

Accolades

Former graduate student Jason Burkhead started this fall in a tenure track faculty position in the Department of Biological Sciences at the University of Alaska Anchorage.

Chris CoHu who successfully defended his Ph.D. dissertation this summer has been hired as senior biologist at Solix, a biofuels company in Fort Collins.

Welcome

The Garrity lab welcomes two REU students this summer. Crisol "Sol" Morales is from Sacramento City College in California. Maricarmen Perez is from the University of Puerto Rico. Welcome!

The Pilon lab welcomes new post doc Karl Ravet. Karl comes from Montpellier France.

Postdoc Dr. Kyle MacLea joined the Mykles lab in July. He's a graduate of Cornell (A.B.) and Dartmouth (Ph.D.). He is most recently from Indianapolis, where he taught at nearby Franklin College.

On the Road

Jennifer Cappa, Colin Quinn, Stormy Dawn Lindblom and Rodolfo Valdez, of the Pilon-Smits lab are traveling to Berkeley, CA mid-May and mid-August to do x-ray absorption spectroscopy studies at the synchrotron of the Lawrence Berkeley Lab.

Pat Bedinger, Paul Covey, and Steve Stack have returned from a 23-day trip (April 16 - May 8) to Peru where they observed, cross pollinated, and collected tissues and fruits from wild tomato species as part of the NSF-funded project titled "GEPR: Using genomic tools to identify interspecific reproductive barriers in the tomato clade". Other participants included Roger Chetelat (UC Davis), Esther van der Knaap (Ohio State University), Bruce McClure (University of Missouri), Gloria Lopez (Cornell), Reynaldo Nunez (Ohio State University/CIP), and Phillip Kear (University of Missouri/CIP). Aside from awaiting formal permission to return samples to the United States, the trip was successful both scientifically and personally. Early on the group put on a symposium titled "Reproduction in the Solanaceae" at the International Potato Center in Lima (CIP). Pat gave a talk titled "Unilateral Incongruity in the tomato clade," and Steve gave a talk titled "Cytogenetics of tomato." However, most of the time was spent on wonderful trips up steep valleys with fast-flowing streams and breath-taking views from narrow gravel roads that often thread along the sides of steep cliffs. The cities were congested with all forms of motor transportation in constant danger of collision. Still there were no serious injuries or illness, and the enthusiastic group got along well together. Google "irbtomato.blogspot.com" for blogs with text and photographs describing the trip.

Assistant professor Rachel Mueller was at NSF June 1-2.

Dr. Greg Florant was performing research with Dr. Loren Buck at the University of Alaska, Anchorage from May 22nd to 29th. Dr. Florant is a mentor in the INBRE program in Alaska which fosters collaborative research between UAA professors and their mentors.

Postdoctoral Fellow Joe Covi traveled to the Oregon Institute of Marine Biology to participate in the initial phase of a two year FIRST (Faculty Institutes for Reforming Science Teaching) IV program. FIRST IV is an NSF funded program intended to improve undergraduate education by providing instructional training and

support for postdocs.

The 17th International Chromosome Conference was held June 23-26 in Boone, North Carolina. Several members of the Stack-Anderson lab attended the meeting. In addition, Prof. Steve Stack and Spec. Asst. Prof. Lorrie Anderson were co-organizers of the meeting, Lorrie was program chair, and Steve was the leader for the session on meiosis. Graduate student Joe Qiao presented a poster of his work, and new graduate student Leslie Lohmiller designed the website (www.biology.colostate.edu/icc2009).

The Garrity Lab recently attended the Society for Developmental Biology 68th Annual Meeting in San Francisco. Yelena Chernyavskaya, Lindsay Parrie and Cory Harrell all presented posters and won travel awards from the society.

Arathi Seshadri gave a talk and presented a poster at the Annual Meeting of the Botanical Society of America in Snowbird, UT, July 25 - 29

Assistant Professor Shane B Kanatous recently gave the keynote address to the summer REU program for the Department of Biochemistry and Molecular Biology at CSU.

Assistant Professor Shane B. Kanatous gave an invited lecture entitled Changes in myoglobin levels during ontogeny that enable long deep dives in Weddell seals at the 2nd International Conference of Respiratory Science in Bad Honnef, Germany.

Prof. Don Mykles continued his research on molting physiology of lobsters and green crabs during the summer at the UC Davis Bodega Marine Lab.

Graduate student Wiebke Tapken attended the Gordon Research Conference on the Cell Biology of metals in RI this August and she presented a poster.

Marinus Pilon gave a lecture at the 5th International Conference on Iron-Sulfur Cluster Biogenesis in Athens GA (Aug 30-Sept 2).

On October 12, Assistant Professor Joe von Fischer gave an invited seminar at the University of Colorado's Institute for Arctic & Alpine Research entitled "Mechanisms controlling terrestrial and aquatic methane release from the Arctic Coastal Tundra at Barrow, Alaska."

Dhruba Naug was a plenary speaker at an European Union action group meeting on honeybee colony loss at Guadalajara, Spain.

New Publications from Biology

Pilon-Smits EAH, LeDuc DL (2009) Phytoremediation of selenium using transgenic plants. *Current Opinion in Biotechnology*. In press, published online

Pilon-Smits EAH, Quinn CF, Tapken W, Malagoli M, Schiavon M (2009) Physiological functions of beneficial elements. *Current Opinion in Plant Biology*. In press

Freeman JL, Quinn CF, Lindblom SD, Klamper EM, Pilon-Smits EAH (2009) Selenium protects the hyperaccumulator *Stanleya pinnata* against black-tailed prairie dog herbivory in native seleniferous habitats. *American Journal of Botany*, In press + cover photo

A paper authored by former graduate student Tyler Zarubin, UC Davis Prof. Ernest Chang, and Prof. Don Mykles (Expression of recombinant eyestalk crustacean hyperglycemic hormone from the tropical land crab, *Gecarcinus lateralis*, that inhibits Y-organ ecdysteroidogenesis in vitro) has been published in *Molecular Biology Reports* (36: 1231-1237).

Prof. Don Mykles coauthored a paper with postdoc Kyoung Sun Kim and former graduate students Hyun-Woo Kim and Sung Gu Lee in *Comparative Biochemistry & Physiology* (153B: 178-184), entitled "Twelve actin-encoding cDNAs from the American lobster, *Homarus americanus*: cloning and tissue expression of eight skeletal muscle, one heart, and three cytoplasmic isoforms."

Professor A.S.N. Reddy and his collaborators (Maia Vinogradova, Galina Malanina, Robert Fletterick) from

University of California at San Francisco have published a paper on a microtubule motor protein from Arabidopsis (Title: Structure of the complex of a mitotic kinesin with its calcium binding regulator) in Proceedings of National Academy of Sciences.

Stack, S.M., S.M. Royer, L.A. Shearer, S.B. Chang, J.J. Giovannoni, D.H. Westfall, R.A. White, L.K. Anderson. 2009. Role of fluorescence in situ hybridization in sequencing the tomato genome. Cytogenet. Genome Res. 124: 339-350. This was an invited article for a special issue on Chromosome Structure and Function.

Hartley, Laurel M., James K. Detling and Lisa T. Savage. 2009. Introduced plague lessens the effects of an herbivorous rodent on grassland vegetation. Journal of Applied Ecology 46:861-869.

Bedhomme, S. P., Bernasconi, G., Koene, J. M., Lankinen, & Atilde;. S., Arathi, H. S., Michiels, N. K. & Anthes, N. 2009 How does breeding system variation modulate sexual antagonism? Biology Letters 5, 717-720.

Naug D, 2009. Nutritional stress due to habitat loss can explain recent honeybee colony collapses. Biol. Conserv. 142:2369-2372.

A new publication by Asst. Prof. Joe von Fischer examines the role of Arctic Lakes in amplifying global climate change. Mazeas, O., J.C. von Fischer and R.C. Rhew (in press) ";Impact of terrestrial carbon input on methane emissions from an Alaskan Arctic Lake." Geophysical Research Letters.

S.M. Stack and L.K. Anderson. 2009. Electron microscopic immunogold localization of recombination-related proteins in spreads of synaptonemal complexes from tomato microsporocytes. in: Meiosis Vol. 2, Cytological Methods. Ed. S. Keeney.p. 147-169.

A new publication from graduate student Meribeth Huizinga was published recently in Journal of Evolutionary Biology.

M. Huizinga, C.K. Ghalambor and D.N. Reznick. The genetic and environmental basis of adaptive differences in shoaling behavior among populations of Trinidadian guppies, *Poecilia reticulata*. Journal of Evolutionary Biology 22(9): 1860-1866

A former Postdoctoral Research Associate Sai Prasad Goud and Professor A.S.N. Reddy have published a paper (Title: Extensive coupling of alternative splicing of pre-mRNAs of SR genes with nonsense-mediated decay) in New Phytologist.

Cibrian-Jaramillo, A., Bacon, C.D., Garwood, N.C., Bateman, R.M., Thomas, M.M., Russell, S., Bailey, C.D., Hahn, W.J., Brdigewater, S.G.M., and DeSalle, R. 2009. Population genetics of the understory fishtail palm *Chamaedorea ernesti-augustii* in Belize: high genetic connectivity with local differentiation. BMC Genetics 10:65.

TWIB is published (semi) weekly by the Department of Biology, Colorado State University.