



THE BUZZ



UC RIVERSIDE – DEPARTMENT OF ENTOMOLOGY
NEWSLETTER

WINTER 2008

MIR S. MULLA – 50 YEARS OF RESEARCH, TEACHING AND SERVICE

Numerous speakers, former students, colleagues, friends and family attended a 3-day symposium honoring Professor **Mir S. Mulla** on the occasion of his 50 years of research, teaching and service with the University of California, Riverside. The symposium “Vector Biology, Ecology and Control” was held at the historic Mission Inn in Riverside from May 29 to June 1, 2007.

Keynote speakers included:

Robert Ridley, Director of Tropical Diseases Research, World Health Organization, Geneva Switzerland “Global status of diseases vectored by mosquitoes”

Duane Gubler, Asia-Pacific Institute of Tropical Medicine, Honolulu, Hawaii “The 20th century reemergence of vector-borne diseases: Lessons learned and prospects for the future”

Barry Beaty, Colorado State University, Fort Collins, Colorado “Novel and not-so-novel strategies to control vectors and vector-borne diseases”

Christopher Curtis, London School of Hygiene and Tropical Medicine, U.K. “Current prospects for control of malaria and filariasis vectors”

Other speakers included Norbert Becker (Germany), David Brown, Brian Federici, Peter Atkinson, Anthony James, Gregory Lanzaro, William Reisen and Thomas Scott (California), Chris Curtis (London), Alvaro Eiras (Brazil), Bart Knols (The Netherlands), Laura Kramer (New York), Kenneth Linthicum (Florida), Donald Roberts (Maryland), Robert Novak (Alabama), Richard Russell (Australia), Josephat Shililu (Kenya), and Apiwat Tawatsin (Thailand).

The symposium, organized by Dr. Peter Atkinson, was opened by Ring Cardé, Department Chair. Remarks were presented by UCR Chancellor France Córdova.

Dr. Mulla began his career shortly after high school at the close of World War II. He was



Pictured L-R – Dr. Ring Cardé, Mrs. Mulla, Dr. Mir Mulla, Chancellor France Córdova, and Chris Foster

among those students selected by the Afghan government to travel to the United States to further their education with a scholarship in agriculture and other fields; he was selected to specialize in entomology. Upon the advice of former graduates of U.S. universities recommending the world-renowned Entomology and other departments in agricultural sciences, he entered Cornell University in 1948 and received his B.S. degree 3½ years later. He then transferred to UC Berkeley to broaden his educational experience by obtaining his Ph.D. at a different institution. After receiving his Ph.D. degree, he moved in 1956 to the University of California, Riverside, to launch research on the control of eye gnats and mosquitoes and to later become one of the founding UCR faculty. With Professor Louis Riehl, he created an undergraduate - graduate course and seminars in Medical and Veterinary Entomology. During his career, Dr. Mulla

has served as major professor for 27 Ph.D. students and 3 M.S. students. In his remarks, he recognized the contributions of his former students and postdoctoral scientists now serving in key positions in academia, vector control agencies, the U.S. military and industry as well as in foreign countries. He has also mentored more than 30 visiting scientists from overseas and trained 20 postdoctoral scientists.

Dr. Mulla has made noteworthy contributions to, and has served in, numerous national and international organizations. These include the World Health Organization, with over 40 years of service in capacities such as science advisor, member of the Expert Advisory Panel, member or chair of steering committees or scientific working groups, as well as temporary advisor on numerous international projects. His pub-

lications (over 400) are well known around the world and are sought after by many scientists and specialists.

We congratulate Dr. Mulla on this auspicious occasion and wish him many continued years in the profession he loves so much.

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*** HONORS AND AWARDS

From the Department Chair



As is evident in the activities and accomplishments detailed throughout this newsletter, Entomology continues to prosper. You can follow our activities via our new web site, with its revolving cast of more than 40 highlighted insects—Greg Ballmer has provided these superb insect photographs and biographies. Take a department tour web tour at <http://www.entomology.ucr.edu/>.

If you have not visited UCR recently, you will be in for quite a surprise—the campus has so many new buildings that you may feel disoriented. The campus has nearly doubled in size since I arrived here 11 years ago—and the number of students has swelled from under 10,000 to over 17,000, and is headed to 22,000, including the future addition of a medical school. Entomology has 50 graduate students and Entomology faculty supervise another 20 graduate students in interdisciplinary degree programs. Thanks to Tom Perring's efforts, our undergraduate ranks have grown markedly to 39 majors. Both programs are among the largest nationwide. This past year the number of graduate degrees awarded by the Department of Entomology passed the 500 mark, quite remarkable in that the first graduate degree was granted in 1963, not long after UCR was designated a UC campus.

Although Entomology remains the top department on campus in grants (both per capita and in total), we have many areas that need your support. Among these are funding for students to enable them to attend meetings and support for our outstanding series of seminar speakers. These activities are to be funded by the Department's new Endowed Fund for Excellence. When you visit the Entomology Department web site, you can easily access a secure link at http://www.entomology.ucr.edu/supporting_entomology to direct your gift to this fund (or the Harry Scott Smith and Shorey funds). Our efforts to train students, to discover the intricacies of insect biology, to provide environmentally sound options for insect management, and to remain in the top rank of Entomology departments, depend on your support. You may have a special area or activity that you wish to encourage—let us know.

We look forward to hearing from you or having you visit in 2008

Ring T. Cardé

UC Riverside Entomologists Win ESA Awards

Two UC Riverside entomologists have received awards from the Entomological Society of America (ESA). Professor Michael E. Adams won the 2006 Recognition Award in Insect Physiology, Biochemistry & Toxicology, and former Ph.D. student Jeremy D. Allison received the 2006 John Henry Comstock Graduate Student Award from the ESA's Pacific Branch.

Professor Adams received his Ph.D. from UC Riverside and is now a Professor of Entomology and Neuroscience. He has combined his research in insect physiology with studies in toxicology and neurobiology, and has published papers in *Nature*, *Science*, *Neuron*, *Proceedings of the National Academy of Sciences*, and other high-profile journals. His research involves ecdysis-triggering hormones (ETH), which regulate sequential behaviors involved in shedding of the cuticle at each moult, as well as paralytic venoms from spiders and scorpions.

Dr. Allison's award recognizes outstanding graduate students in entomology. His research focused on the genetic basis of variation in sex pheromones in Ring Cardé's group. The results have documented how directional selection can modify sex pheromone blends. Jeremy is now a postdoctoral associate with Ken Haynes at Kentucky

Still More Honors and Awards

- **Dr. Tom Perring** received the 2005-2006 UCR Teaching Innovation Award.
- **Elissa Wampler**, graduate student in Dr. Mark Hoddle's lab, was awarded a Temecula Valley Wine Society Nancy Johnston Memorial Scholarship for 2007-08



- **Dong-Hwan Choe**, graduate student in Dr. Mike Rust's lab, received a \$1,500 Scholarship for Pi Chi Omega (urban

pest management organization) for his research on Argentine ant behavior.

- **Allison Hansen** was awarded the "best paper" in the C.C. Burkhardt Graduate Student Competition at the 77th Rocky Mountain Conference of Entomologists July 30-August 3, 2006.



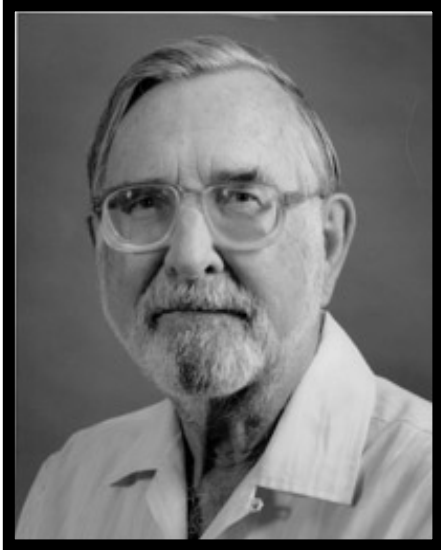
Her paper presentation was entitled "Symbiotic relationship between a facultative endosymbiont and an invasive psyllid, *Glycaspis brimblecombei*, in California," co-authored with Dr. Timothy Paine. Allison won a \$100 award.

Where Are They Now?

Teun Dekker, Ph.D. 2002 with Ring Cardé spent a year and a half as a postdoc on fruit fly olfaction and two years as a Marie Curie Fellow on fruit fly and mosquito olfaction in Alnarp before joining the faculty in the Division of Chemical Ecology, Swedish Agricultural University in Alnarp. Teun is continuing studies on olfaction in fruit flies (*Drosophila melanogaster* and related species), and other groups including mosquitoes and moths.



In Memoriam



MARTIN BARNES, professor emeritus of entomology, died on Sunday, April 29, 2007. Barnes was an economic entomologist and professor in the Department of Entomology, where he also served as chair before retiring in 1991. A long-time leader in the practical control of insects that attack grapes, apples and walnuts, Barnes served farmers and the university for 46 years. He achieved national and international recognition for his research in fundamental and applied aspects of the entomology of deciduous orchards and vineyards.

At UCR, Martin directed 8 M.S. theses and 12 Ph.D. dissertations as well as chairing the Executive Committee of the College of Natural and Agricultural Sciences. He authored 70 research papers, several book chapters, and over 100 technical and popular publications. He served in many capacities for the Entomological Society of America, on the Editorial Board of the *Journal of Economic Entomology*, and on a number of national committees. He was a Fellow of the American Association for the Advancement of Science, and a Fellow and Honorary Member of the Entomological Society of America. In 2006, Dr. Barnes was honored for his lifelong services to the profession in the 135th Anniversary Edition of the *American Fruit Grower* magazine, which recognized him as one of “100 Innovative Horticulturists” of the last 125 years for his nearly three decades of research on tree nut pests.

Dr. Barnes is survived by sons Wayne Morris, Martin Killian, and Brian McRae; daughter Delia Elizabeth; sister, Martha Jane Dowds of Pasadena; and 11 grandchildren. His wife, Julia, preceded him in death.



RALPH BURTON MARCH died August 6, 2007, one day past his 88th birthday, at Carol Woods Retirement Community in Chapel Hill, North Carolina.

Following military service in World War II, March received his Ph.D. in entomology from the University of Illinois.

March arrived at UCR in 1948, was head of the Division of Toxicology and Physiology from 1969 to 1972, was chair of the Department of Entomology from 1978 to 1983, and served as the first dean of the Graduate Division from 1961 to 1969. He was an eminent insect toxicologist noted for developing strains of house flies that were resistant to different classes of insecticides. These colonies proved invaluable in his and many others' work on studying the metabolism and mode of action of insecticides. He was also known as a superb teacher who infused his lectures with concrete and detailed examples.

March was married to Robinetta Tompkin March for 58 years. They traveled the world together and spent many happy hours fly fishing in Montana. She preceded him in death, as did a daughter, Janice. He is survived by a son, John S. March; daughters Susan E. March, Kathleen Davidson; and three grandchildren.

Entomology Department Faculty Members Win AAAS and ESA Awards

The American Association for the Advancement of Science has named 21 UC Riverside faculty members as 2006 AAAS Fellows.

Two of our faculty were honored: **Dr. Joseph G. Morse**, Professor of Entomology and **Dr. P. Kirk Visscher**, Associate Professor of Entomology.

The citation for Professor Morse reads as follows: *For distinguished contributions to integrated pest management research on citrus and avocado in California, in particular, reducing industry reliance on broad-spectrum pesticide use.*

Professor Visscher's citation reads: *For distinguished contributions to our understanding of social behavior, particularly kin recognition and decision-making in animal societies.*

Dr. Timothy D. Paine and **Dr. Marshall W. Johnson** were elected as Fellows of the Entomological Society of America (ESA). They and four others were elected to this honor and were recognized at the Annual Meeting in Indianapolis, Indiana, on December 10, 2006.



Joseph G. Morse



P. Kirk Visscher



Timothy D. Paine



Marshall W. Johnson

Friends of the Entomology Research Museum (FERM) Annual Meeting

The Annual FERM meeting and Potluck Dinner will be held on February 23, a Saturday, at the UCR Entomology Bldg. foyer and large conference room.

Setup for the dinner starts at 5:00 pm. Dinner will be served at 6:00 pm and the lecture will begin at 7:00 pm.

What to bring: something for yourself and 3 others. FERM will provide cups, plates, utensils, hot/cold drinks.

This meeting will see the installation of new officers, and we need people interested in helping to direct and

lead FERM through the coming year and years.

Dr. Deborah K. Letourneau (Professor, UC Santa Cruz) will present our Keynote lecture. Dr. Letourneau will be talking about a Costa Rican wet forest ant-plant system that she has been working on now for well over half her lifetime. The project started small, in the 1970s and 80s, with only the notion of determining if the Pheidole ants and Piper plants were involved in a true mutualistic relationship. "My early work showed that the ants served as 'custodians' of the plants by removing vulnerable stages of

herbivorous insects from the plant (dropping eggs off the side of the leaf to the forest floor) or consuming them." She will also be our featured speaker at the ENT 250 seminar scheduled for February 25, 2008, 4:00 p.m. in Engineering-II, room 138.

FERM: Friends of the Entomology Research Museum is a UCR campus sponsored support group whose membership is open to students, faculty, staff, and the general public. Annual dues are ten dollars. Membership privileges include the annual meeting, and other occasional meetings and events including field trips and lectures.

Urban Pest Management Conference

The 17th Annual Urban Pest Management (UPM) Conference will be held March 27, 2008, at the UCR Theater. This conference is chaired by Dr. John Klotz and provides training for pest management operators. Continuing education units (CEUs) are offered in the areas of rules and regulations, termite control, safety, and general pest control. Participants come from southern California, Arizona and Nevada. Speakers include experts in entomology, pest control, state regulatory agencies, and Cooperative Extension. Much of the expense for this conference is offset by sponsorships from corporations throughout the U.S. which are involved in the pest control field.



Dairies Weigh Merits Of Fly Management Strategies

(Excerpted from article by Kathy Coatney for Ag Alert, August 28, 2007)

Dairy producers deal with myriad challenges on a daily basis—including odor, dust and flies. In response to the latter, many counties now insist that new dairy operations submit plans for fly control. Fresno County, for example, has enacted a policy that requires new dairies to implement a fly abatement program.

Alec Gerry pointed out that new dairies in several counties are required as part of the initial documentation to have a nuisance

management program as well as a waste-water management program.

“You have to not only say, ‘This is how I’m going to build my dairy,’ but you have to address these particular nuisance issues and environmental issues,” said Gerry, assistant entomologist and extension specialist with the University of California, Riverside.

Gerry said that dairies attempting to get expansion permits are subject to similar scrutiny. “The county has basically told them, ‘We’re not going to give you a permit unless you do something to reduce fly numbers,’” he said. This would include improving sanitation techniques, changing sanitation measures and management programs, and generally demonstrating a better knowledge of fly development and biology.

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Gerry added that it’s worth it for dairy producers to figure out how they can either modify their current operation, or if they’re planning a new one, design it to address fly problems. Control measures vary from chemical and biological control to manure management techniques. Any area where manure might build up is a place for flies to develop, Gerry said. The use of flush lanes to remove manure and appropriate grading on the cattle pens to prevent water from pooling near manure are common management options.

There are also biological control options for reducing fly numbers. “Wasps actually pierce the (fly) puparium (outer pupal shell) to lay an egg inside where the fly pupa is developing into an adult fly,” Gerry

said, adding that the wasp larva inside the fly pupae will consume the larva and prevent the fly from emerging. Gerry stated he hasn’t seen a lot of success with biological control on dairy operations. “I think what happens is, you release all those parasitoids and the majority of them move off to other sites. They don’t stick around at the dairy to parasitize things.”

Linnaean Team Wins Again

The UC Riverside Department of Entomology is the winner of the 2007 Pacific Branch Linnaean Games! The Linnaean Games is a college bowl-style question-and-answer competition on entomological facts and trivia. The Games took place on March 26 in Portland, OR. The UCR team, coached by Dr. Darcy Reed, consisting of Apostolos Kapranas, Jennifer Henke, Rebecca Waterworth, Deane Zahn, and Casey



Butler (pictured above), defeated teams from Oregon State in the preliminary round and UC-Davis in the championship round. The team represented the Pacific Branch at the annual meeting of the Entomological Society of America December 9-12 in San Diego.

Position Accepted

Recent Ph.D graduate Dr. Raj Saran accepted a position as a Research Scientist with MGK (McLaughlin Gormley King Company), Minneapolis, MN. Raj began working for MGK in June.

NEWS FROM THE MUSEUM

by Doug Yanega, Senior Museum Scientist

It's been a long time since our last newsletter, and a lot has been happening.

Two of the most important things are quite recent. The first is that we have been awarded a grant (roughly \$50,000) by the Global Biodiversity Information Facility (GBIF) to database our bee collection over the next 16 months. The estimate is that we have around 150,000 specimens, and if about 500 specimens can be entered into the database each day, the entire holdings can be processed over this time. Hopefully, this will be very beneficial exposure for our collection in the growing "digital museum" community, and possibly open the door for similar projects in the future.

The second significant development is that the Entomology Research Museum (ERM) has been given a major material donation from the estate of the late Kenneth Cooper, UCR professor and a prolific insect collector/researcher, by his children Geoff and Tera. This includes a huge number of insect specimens, many of which are potter wasps, carabid beetles, cuckoo wasps, and bees, plus a large assortment of valuable entomological books and reprints, and some useful entomological equipment (particularly tools for micro-dissection and microscope slide preparation).

It will take a long time to incorporate all of this into the ERM's collection and library, but it will be well worth

the effort, and we'd like to express our gratitude for such a generous donation.

In other news, Peter Brabant picked up where Andy Ernst left off mounting specimens, and has also been doing an excellent job. James Gibson, who came to us via UCR's "transitional return-to-work" program, has been doing an exceptional job with the labeling, and making points for Peter to use for mounting. We had a number of curatorial visitors in the fall, including ex-grad-student Matt Buffington, who organized our Cynipoid holdings into excellent shape, and Brett Ratcliffe and Ron Cave, working on the Dynastine scarab beetles of Central America.

The Buzz is compiled by UCR Entomology Administrative Department Staff. We welcome comments and suggestions for articles. Please contact Cherie Skinner at (951) 827-5294 or cherie.skinner@ucr.edu

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