



# THE BUZZ



UCR - Department of Entomology Newsletter

Winter 1999

## ENTOMOLOGY GETS TWO NEW BUILDINGS

According to Ted Chiu, Principal Architect at UCR, construction will begin on the brand new (matching State and Federal funding) Entomology Quarantine Building in early spring of 1999, which is right around the corner. It will be located immediately behind the existing Insectary, which it is designed to replace. The Insectary, which for years has served as the center of biological control activities at UCR, was originally constructed in 1930 and expanded in 1959 to 4,191 ASF (Assignable Square Footage), mostly insect rearing rooms including a very modest quarantine room for housing and evaluating imported parasite and predator insect. The new three story Insectary and Quarantine Facility will be 16,685 ASF including BL 3A level of quarantine (restricted access) for virus work.

Seismic replacement plans by the University of California have finally caught up our dear old main Entomology Building (built in 1932 and expanded in 1959). This structure, which has played a critical role in educating generations of entomologists, has 18,556 ASF. A replacement structure is to be sited on the exact location of the famous University Club on Citrus Drive immediately north of the original Experiment Station headquarters building.

Before construction begins on the new Entomology building, the temporary lab just behind the University Club, and Vectorium, aka Entomology Annex II (built in 1940 with 1852 ASF), will have to be demolished or moved as they will be in the way of construction. The new three story Entomology Building will have some 38,731 ASF which includes 20 labs and space in one wing of the ground floor for the Entomology administrative offices. Once the new building is up and occupied, the picturesque old Entomology Annex I (built in 1947 with 11,836 ASF including its two large greenhouses) will be demolished.

Construction of the new Entomology building will begin in fall of 1999 and is slated to take 20 months, so the new face of the Entomology

Department will not be ready for viewing and occupation until late summer of 2001. At that time, the buildings assigned to the Entomology Department will include the new building, Boyden Lab, the SPI building, the new Insectary & Quarantine Facility and both floors of Chapman Hall, which is the northern wing of the old Experiment station complex. We are told that a good chunk of parking lot 12 will disappear as long term campus plans call for removal of parking to the periphery of the campus.

## EXOTIC PEST RESEARCH

By Joseph Morse

The UC systemwide Center for Exotic Pest Research is housed within the Department of Entomology at UCR (J. G. Morse, Director, M. K. Rust, Associate Director). Major Center activities during 1998-99 included:

- Organizing and hosting the 3<sup>rd</sup> Annual Fruit Fly Research Symposium in Riverside Sept. 14-16, 1998, a meeting attended by 60 fruit fly researchers and action agency officials;
- Participating in a review of USDA/APHIS operational activities - 40 scientists and state officials were divided into 4 committees which will examine how APHIS conducts its business and what improvements might be made;
- Review of a proposal by Argentina to export fresh citrus into the U.S. - a number of concerns were expressed regarding the potential introduction of exotic pests and diseases into the U.S.;
- Review of an expanded proposal by Mexico to export fresh avocados in the U.S.;
- Assistance in organizing the 1998-99 UC Agricultural Issues Center project on the economic impact of exotic pests on California agriculture; and
- Development of a proposal to fund research on exotic pests & classical biological control in Calif. annual conference.

## STUDENT UPDATE

### NATIONAL VICTORY FOR UCR LINNAEEN TEAM



Alec Gerry, Brian Cabrera, Michael Gates & Bryan Carey

UCR's Linnaean Team won its first National Championship at the 1998 meeting of the Entomological Society of America in Las Vegas. Members of the triumphant team were Brian Cabrera, Bryan Carey, Michael Gates, and Alec Gerry. After finishing first in the ESA Pacific Branch Linnaean competition each of the last three years, UCR's team was ripe for a national win at the November ESA meeting.

In the final game, the University of Massachusetts team was leading UCR by 15 points going into the last round. UCR rang in first for the toss-up question, which they answered correctly, permitting them the opportunity to attempt the final bonus. A correct answer put them ahead to garner the victory, 55 to 50.

The November 22<sup>nd</sup> issue of UCR's student paper, the Highlander, carried a front page picture of the team's members and the story of their national triumph. Modesty prohibited Nancy Hinkle from mentioning herself in preparing this article but she is responsible for coaching and managing the winning team. Great job Nancy!

**Parker Workman** won the 1999 William C. Reeves New Investigator Award for his paper entitled "Adult Spatial Emergence Patterns and Larval Behavior of the Tule Mosquito, *Culex erythrothorax*." The Reeves award is given annually by the Mosquito and Vector Control Association of California. The award is presented for an outstanding research paper delivered by a new investigator and is based on the quality of the study, a written report, and the presentation at the annual conference.

**Brian Cabrera** (Rust's Lab) is now a Postdoc at the University of Nebraska

**Steve Thibault Genetically Transforms Lepidoptera.** Steve completed his Ph.D. in June 1998 with Tom Miller. The dissertation: Towards Genetic Transformation of the Pink Bollworm (*Pectinophora gossypiella*, *Lepidoptera: Gelechiidae*): Assembling a Vector System and Cloning of a Notch Homologue, does not do justice to what Steve actually accomplished. He provided the key plasmid construct that led directly to the genetic transformation of the pink bollworm, a world first. The actual transformation was performed in March, so Steve was able to see the results of his labor before he left to take a position with the Biotech Company, Exelixis Pharmaceuticals, Inc., located in South San Francisco. Steve lives in Redwood City with his wife Kathleen who teaches in a local grammar school.

**Diana Six** is now an Assistant Professor with the School of Forestry at the University of Montana.

## POSTDOC UPDATE

**Stuart Reitz** (Postdoc with Trumble) and his wife **Katherine Luhring** (SRA with Mullens and Paine) have moved to the Tallahassee area, where Stuart has a position with the USDA - Congratulations!!

**Linda Hooper** has been appointed as an Assistant Professor and Fire Ant Entomologist at Louisiana State University. Her teaching responsibilities include insect physiology and assisting in urban entomology. Her research will focus on the biology and control of the red imported fire ant, especially the nutritional dynamics of fire ant colonies.

**Julio Bernal** is now Assistant Professor at Texas A&M.

**Larry Hanks** (Paine's Lab) is an Assistant Professor at University of Illinois.

## FACULTY NEWS

**Brad Mullens** recently returned from research/consulting trips to Denmark and Reunion Island (east of Madagascar in the Indian Ocean). He worked with the Danes on a fungal pathogen of house flies and with the French on biological control of stable flies in a sugar cane growing area. Brad has also been given the Excellence in IPM award from the Pacific Branch of the ESA.

**Brian Federici** is Editor-in-Chief of the Journal of Invertebrate Pathology;

**John Trumble** is Associate Editor of the Journal of Biological Control;

**Tom Miller** is on the Editorial Board of the Journal of Asia-Pacific Entomology;

**Jocelyn Millar** is Secretary of the International Society of Chemical Ecology and was just added to the Editorial Board of the Journal of Chemical Ecology;

**Nancy Hinkle** managed the successful Department Linnaean games team for 1998.

**Tom Bellows and Ted Fisher** are general editors of a new book on biological control: *Handbook of Biological Control, Principals and Applications*, Academic Press. The book is in galley proofs and should be out this summer.

**Mir S. Mulla** is chairman Editorial Board Journal of Vector Ecol. He is Chairman of the 3rd Int'l. Symposium on Bio Pesticides.

## SRA UPDATE

**Leo Schouest** (Ph.D., 1984 with Tom Miller) became so proficient with computers and computer graphics while developing the Departmental web site and electronic classroom, that he was hired away from his Staff Research Associate position in the Department to become an instructional technology consultant for the entire UCR campus. He currently is specializing in assisting the campus with instructional computer and multimedia development. His area of expertise includes the use of instructional technology, distance learning, and the use of the Internet in expanding teaching capabilities for campus faculty.

**Alex Pinkerton** in the Atkinson lab has placed the gene encoding the green fluorescent protein gene into a wild type strain of the yellow fever mosquito, *Aedes aegypti*. These transgenic insects now fluoresce under appropriate excitation and detection conditions. The generation of this transgenic strain demonstrates that the green fluorescent protein gene can be an effective genetic marker in mosquitoes and, as such, paves the way for introducing genes that will prevent disease transmission into medically important mosquito species.

Transformed *Aedes aegypti* adult female, showing expression of EGFP in the abdomen



## EMERITUS FACULTY NEWS

**Glenn Carman** is in Washington State. **Jim McMurtry** is in Oregon at a fantastic retirement community. **Irv Hall** is in Bishop, CA. **Lyle Gaston** is in Big Pine, CA. **Elaine Reynolds** is back in Paradise, CA where she is looking after her son. **Ted Fisher** is outside of Hemet. **Ralph March** in Santa Rosa (his wife Robin died in 1998). **Andy Anderson** is here in Riverside (his wife Mildred passed away this

year). **Vern Stern** is here in Riverside, and still comes to the check his mailbox weekly. **Martin Barnes** is here in Riverside and also shows up periodically. **Lee Brown** is also here in Riverside. **Walter Ebeling** is in Los Angeles. **Ron Jefferson** (lost his wife, Dorothy) still lives here in Riverside. **Louis Riehl**, (lost his wife) still lives here in Riverside. **Vahram Sevacherian** is living here in Riverside and often accompanies Vern Stern on his department visits. **Earl Oatman** (has published a book "Bataan: Only the Beginning") still lives in Riverside and visits the Department frequently.

## THE DEPARTMENT CHAIR'S CORNER

by **T. D. Paine**

As we approach the new century, the University of California Riverside is initiating a series of vital changes. The campus has grown to slightly more than 10,500 students this academic year. Current enrollment projections suggest the campus will nearly double in size to more than 20,000 students by the end of the next decade. To accommodate the increase in student numbers, approximately 300 new faculty will have to be hired at UCR by 2005-06. Not only will new faculty be needed, but also new laboratories, classrooms, and offices will have to be constructed to house the new research and teaching programs. Entomology is leading the way in this area. We have broken ground on a new Insectary and Quarantine Facility, which should be ready for occupancy in 18-24 months. Three of our existing buildings have been determined to be seismically unsafe and must be replaced. The design efforts are almost complete and we are scheduled to have plans for a new Entomology Building out for bid sometime after 1 July 1999. You will find details on these exciting new projects in other parts of this newsletter.

The Department is expecting to benefit from increased student growth with the addition of new faculty. The Campus has embarked on a new academic planning effort to identify areas of research excellence to invest new faculty. The Department's fundamental and applied research contributions to the broad area of pest and disease management are recognized as a critical strength for the College. In sharp contrast to what has happened to entomology departments around the country, if not around the world, the Department at UC Riverside is poised to grow in size and add exciting new research areas. The collaborations that will result from the combinations of new areas of emphasis with existing strengths will make our Department an even more exciting place to be in the new century.

# WHAT'S BUGGING US NOW

By Tom Miller

## Attack of the Avocado Thrips

Avocado thrips (*Scirtothrips perseae* Nakahara) a Serious New Pest for California Avocado Growers being studied by Mark Hoddle, Biological Control Extension Entomologist. Avocado thrips were first discovered in June 1996 damaging fruit and foliage in Saticoy and Oxnard, Ventura County, CA. By July 1997, infestations of avocado thrips were north of the initial discovery area in San Luis Obispo County and south in San Diego County. At the time of discovery in California this species was new to science. Subsequent foreign exploration efforts in Latin America indicate that this pest is commonly found on avocados ranging from Mexico City through the Oaxaca and further south to Guatemala City.

## Red Imported Fire Ant (*Solenopsis invicta*) Introduced in California

Les Greenburg, John Kabashima, Mike Rust, John Klotz and Heather Costa are working on the Red

Imported Fire Ant in California. The ants might have been transported into the state on nursery stocks, but this is by no means clear and currently the California Department of Food and Agriculture has Orange, Los Angeles, San Diego and Riverside Counties under quarantine. The Fire Ants hitchhiked to Fresno and Bakersfield counties on honey bee hives brought in from Texas to pollinate almonds last year. These infestations are being dealt with separately by the state.

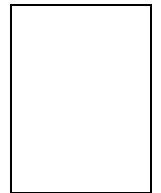
## Fruit Fly Advisory

by Bob Krieger, Extension Toxicologist

Twenty-two Mediterranean fruit fly advisories were issued for Marin, Orange, San Diego and Riverside Counties by the California Dept. of Food and Agriculture from July to December 1998. An eradication program including survey of high-risk areas, quarantine, and control including ground application of malathion bait, release of steriles, and ground application of insecticides to soil under host trees. We measured miniscule potential human malathion exposures resulting from bait sprays. These results contributed to balanced risk communication in local media.

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