Entomology Newsletter 2005 - 2006

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Cover photograph taken by Josephine Rodriguez.
The photograph of *Oleria tremona tremona* (identified by K. Willmott) was taken June 2006 at the Yanayacu Biological Station, Napo Province, Ecuador.
A project is underway to inventory and rear the caterpillars and their parasitoids of the Ecuadorean cloud forest. Microgastrine braconids, attacking many of the Lepidoptera, are being identified by the Whitfield Lab.
In honor of school spirit, the original gray-blue color of the wings were digitally enhanced.

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Message from the Head

May Berenbaum

Since our last newsletter came out in 2004, two more years have gone by in which the Chicago Cubs didn't win the World Series. Actually, the last year that they won, 1908, was the year before our department was founded and I can't help wondering if somehow we're responsible for their run of bad luck. As befits our academically fertile soil, the faculty keeps growing. Charlie Whitfield joined us in August 2004 and immediately improved our quality of life by offering the first Ent. 426 Advanced Topics in Entomology course in genomics since 1995. M Alleyne, former postdoctoral associate in Rob Wiedenmann's lab, joined us in January 2005 and ironically enough departmental affiliate Rob Wiedenmann left us in March 2005 to assume the headship of the Department of Entomology at the University of Arkansas at Fayetteville. M graciously took over as chair of the local arrangements committee for the 2006 Entomological Society of America North Central Branch meeting, for which UIUC was nominally the host institution (but which took place in Bloomington, Indiana), and in doing so apparently broke all registration records for the North Central branch; who would have guessed that Bloomington ("Beer Nut Capital of the World") was such an appealing convention venue?

Other upcoming additions to the faculty include the eventual recipient of the Kearns, Metcalf and Flint Endowed Chair in Insect Toxicology, the greatly appreciated generous gift from our Arizona alumnus Roy Barker; there are several likely prospects on the horizon. As well, in summer 2006 we received permission to partner with the Department of Pathobiology to search for a senior-level hire with expertise in the genomics of vector-pathogen interactions; this position represents the first hire (well, half-hire) in the field of medical entomology since 1985, when Barry Miller left to work for the Centers for Disease Control (as did his predecessor Duane Gubler before him, in 1980, after what is described as a "short stay at the University of Illinois" at his website at http://www.pdvi.org/organization/Duane_Gubler.asp). So, all told, we're creeping upward and are now at 10.794 FTE (Art Zangerl now has a 0 .19 appointment). Interestingly, with Gene Robinson's election to the National Academy, that means 19% of our faculty are National Academy members, the highest percentage of any department on campus (and any entomology department in the country). Although we lost a couple of affiliates—Mike Irwin of the Department of Natural Resources and Environmental Sciences retired after three decades at UIUC and affiliate Ray Cloyd left NRES for a position at Kansas State--we gained three new affiliates: *Drosophila* neurobiologist Akira Chiba from the Department of Cell and Developmental Biology, our own alumna Susan Ratcliffe, who is an extension specialist in the Department of Crop Sciences, and S. Raghu, weed biological control scientist at the Illinois Natural History Survey. Other hires in SIB have expanded entomological opportunities on campus; Plant Biology, for example, hired Ray Ming in plant genomics and the good news is that he has worked on the genomics of insect resistance (the slightly less good news is that the genome he has been working with is papaya, not a conspicuous crop here in central Illinois). And the Department of Animal Biology interviewed Hans Hofmann, who works mainly on fish behavior but who also studied aggression in crickets and published a fascinating paper on the ancient Chinese sport of cricket boxing. Unfortunately, Dr. Hofmann decided not to accept the offer so sports fans in the department will have to fill the athletic breach at least for the interim with UIUC basketball.

As for teaching, we've survived two successive years with our new rubrics, although frankly I find it easier to remember phone numbers from third grade than I do course numbers that have changed twice now in the last three years. Our last official undergraduate entomology major, Bridget Wille, graduated in December 2004, but in spring 2007 the first student in our LAS-approved independent plan of study in entomology, Lynn Fennema, will graduate—and I'm happy to say she is applying to our graduate program, so we must have done something right. We continue to broaden our undergraduate teaching, adding several Discovery courses and even taking on the "minor" (i.e., non-insect) invertebrates in IB466 Invertebrate Zoology, taught by Jim Whitfield (at least I think it's still IB466).

Entomology-related construction has proceeded at a rate disproportionately greater than the size of the organisms being housed. A splendid new bee research facility, probably the best-equipped in the world for the study of *Apis mellifera*, was dedicated in fall 2005, and in fall 2006 the new $70 million Institute for Genomic Research will open, with at least two of the eight themes (Genomic Ecology of Global Change and Genomics of Neural and Behavioral Plasticity) housing entomology faculty. These days, it's hard to find a faculty member who isn't dealing with genomics to some degree--fully 15% of the 70 authors of the honey bee genome paper published in *Nature* on October 26, 2006, for example, have some association with our department. A new insectary is under construction in the basement of Morrill Hall in connection with efforts to centralize Animal Care campus-wide (no, insects aren't covered under animal care regulations—it's just that SIB made the space available with the proviso that we could move our animal care operation from the fifth floor to the basement). Longtime basement resident *Blattella germanica* are apparently not happy about the gentrification but we're confident they'll manage to find other accommodations.

Over the past two years, UIUC entomologists have been involved in hosting or helping to host a wide variety of meetings, including Evolution 2002, the American Ornithological Union annual conference in 2003, the NSF PEET Fifth Biennial Conference in 2004, and an LAS-sponsored state-of-the-art Phylogenetics Workshop on Methods in

Bayesian and Likelihood Inference in 2005. We're planning to bring the focus back to insects in 2009, in a centennial celebration of the official founding of our department (and, most likely, the centennial celebration of the last Chicago Cubs World Series team). Circle the date in your calendar (but make it a big circle—we're still not sure of the exact schedule); you're all invited back for the party!

Kiwi Wanderings

Jim Whitfield

From 4 February 2006 to 13 April 2006, I had the pleasure of working at the Allan Wilson Centre of Molecular Ecology and Evolution as a "sabbatical leave visitor" (although technically as far as U of I was concerned I was not really on sabbatical!). The diverse yet highly interactive faculty, staff and students at the Centre form a unique resource in the world for scientists such as myself interested in learning more about the development of new methodology for inferring and visualizing evolutionary relationships among organisms. The group based at Massey University headed by David Penny, Mike Hendy and Peter Lockhart is world-famous for its integration of new analytical ideas from both mathematics and biology. Working in the Centre for just a few months sent me home with some exciting things to think about; not to mention memories of some spectacular New Zealand landscapes (from alpine hikes to tide-pooling) and unusual wildlife!

The Pacific at Kaikoura

Sydney & Jim at Ngaurahoe (Mt. Doom in Lord of the Rings)

Sydney & Colleague in New Zealand rainforest

I went to the Allan Wilson Centre to explore the phylogenetic challenges presented by ancient rapid evolutionary radiations, to learn some network methods being developed at the Centre for visualizing conflict in phylogenetic data, and to use what I learned to better analyze relationships among the parasitoid wasps that I study and their associated viruses. I feel that even in the all-too-short 2.5 months I largely met my own goals for the visit, and exceeded them in some ways I had not anticipated.

For the first few weeks after settling in I attended and presented my wasp/virus phylogenetic research at the 10th New Zealand Phylogenetics Conference in Kaikoura (a lovely coastal location on the west coast of the South Island famous for watching sperm whales). As one of the few true biologists there I learned a huge amount about mathematical approaches to phylogenetics, and the conference gave me a chance to not only meet a lot of scientists developing new methods, but also to expose my research system to their insights. The remainder of the time in New Zealand was spent capitalizing on these interactions (and also traveling and enjoying New Zealand!). For the last 3 weeks I was joined by Sydney Cameron, who also developed some excellent collaborations there (and equally enjoyed our friendly hosts and the fantastic scenery). We truly had a great time in that marvelous country!

A Brief History of the Honey Bee Genome Project

Gene Robinson

Honey bees benefit humankind in exceptionally broad ways. In agriculture, honey bees are the most important pollinators of food and fiber crops, and in biology and biomedicine, they are popular model research organisms in diverse areas including allergic disease, development, gerontology, neuroscience, social behavior, and venom toxicology. But honey bees are also threatened by human activity, perishing due to insecticides that indiscriminately kill both pests and beneficial insects, and exotic parasitic mites vectored around the world by human commerce. As the new science of genomics--spawned by the drive to sequence and understand all the genes in the human genome—took hold in the latter part of the 1990's, scientists working with honey bees began to imagine the possibilities for advances in basic biology and applied apiculture by developing bee genomics.

The honey bee community met three times to mobilize for a honey bee genome project (HBGP) between 2000 and 2001. Together with Danny Weaver, a prominent member of the beekeeping industry, I formed the Honey Bee Genome Sequencing Consortium in 2001, consisting of members from university laboratories throughout the world, USDA bee laboratories, and the US bee industry. Weaver also enlisted the support of one of the leading sequencing centers in the country, the Human Genome Sequencing Center at the Baylor College of Medicine (BCM-HGSC). We then submitted a white paper to the National Human Genome Research Institute in February 2002 to sequence the honey bee genome. The project was accorded "High Priority" in May, 2002.

With financial support from NHGRI and a timely contribution directed by USDA Under Secretary Joseph Jen, the project began in December, 2002 at BCM-HGSC. Other support for the project has come from a variety of academic and private sources, including the University of Illinois Sociogenomics Initiative.

During the sequencing phase of the HBGP, the Honey Bee Genome Consortium was represented by a steering committee composed of Weaver; two well known bee scientists, Jay Evans and Ryszard Maleszka; our own Hugh Robertson, and me. Robertson's involvement is especially noteworthy. He is an internationally recognized expert in comparative genomics, has had extensive involvement with fly and mosquito genome projects, but had not worked on the honey bee prior to this project. One important goal of the HBGP was to increase the number of scientists studying honey bees, particularly from molecular and genomic perspectives; Robertson's decision to join the HBGP was the first success towards this goal.

In September 2005, when the HBGP shifted from generating sequence to genome annotation and analysis, broader participation by the Consortium began. The HBGP united a broad range of scientists, from leaders in human genomics and bioinformatics at BCM-HGSC and elsewhere to members of diverse disciplinary and organism-based communities, including those studying mammals and humans**.** A total of 112 individuals in 63 institutions around the world signed on to analyze the newly available bee genome sequence, including additional members of our department: graduate student Reed Johnston and Profs. May Berenbaum, Stewart Berlocher, Andy Suarez, and Charlie Whitfield.

This large group of distinguished scientists has generated exciting results in many areas of biology. A special issue of *Nature*, published on 26 October 2006, contains a major paper on the honey bee genome as well as specially commissioned commentary. Related papers also are being published in *Science, Proceedings of the National Academy of Sciences, Genome Research,* and *Insect Molecular Biology.* Over 45 papers are being published now and over the next few months in scientific journals based on analyses conducted as a result of the availability of the honey bee genome sequence.

Just like the first phase of the human genome project, the HBGP has produced an excellent "draft" of the honey bee genome sequence. To further increase the value of the honey bee genome sequence to researchers, a white paper to obtain additional sequence information was submitted to NHGRI in July 2005 by the Honey Bee Genome Sequencing Consortium. The project was again accorded "High Priority" in August, 2005, and this work will begin late in 2006. The honey bee genome project is expected to usher in a bright era of bee research, for the benefit of agriculture, biological research and human health.

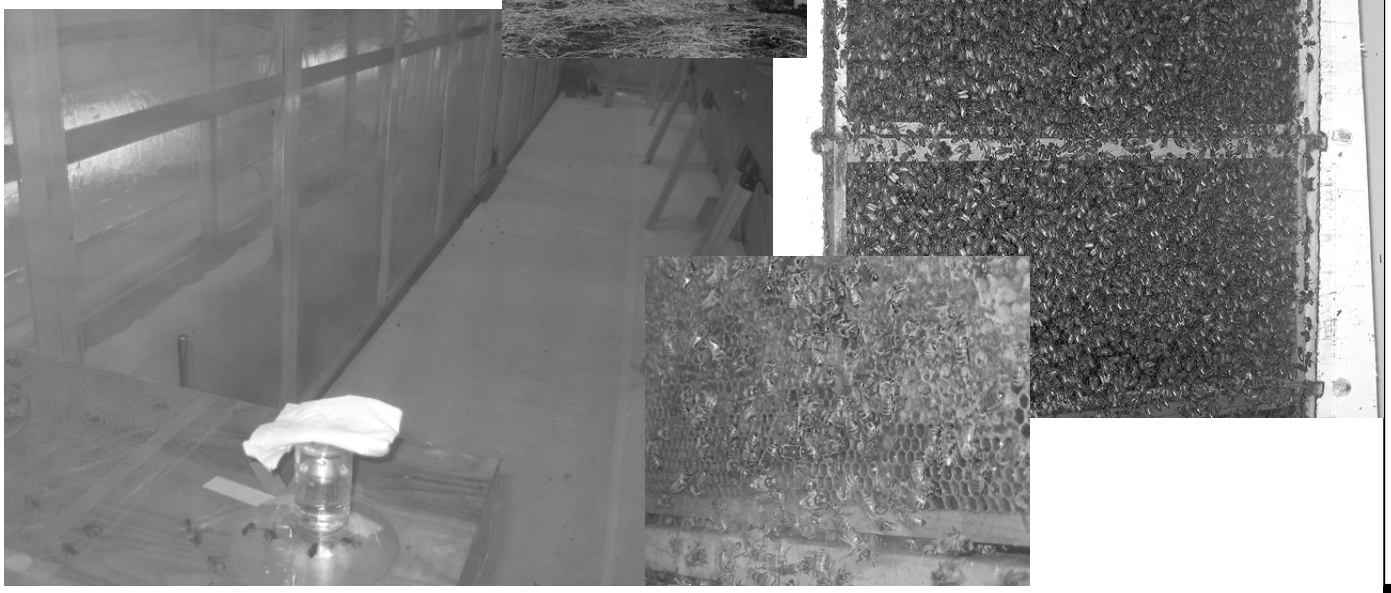
Ron Fischer (left), Chicago-area beekeeper and subject of the famous Richard Avedon photograph, "The Beekeeper" with Gene Robinson

Portions excerpted from Robinson, G.E. and Weaver, D.W. The honey bee genome project: a model of cooperation between academia, government, and industry. *American Bee Journal.* In press.

Gene Robinson

On September 16, 2005, the Entomology Department celebrated the opening of the new Bee Research Facility with a symposium and a reception. The symposium was titled "Growth Points in the Study of Genes, Brains and Behavior: Honey Bees and Other Models" and consisted of presentations by current students, alums of the Robinson lab, and former and present Entomology Department faculty. The reception featured a "honey-inspired" menu that paired different mono-floral varietal honeys with various food items to create a delicious array of treats. The Bee Research Facility supports the research programs of Profs. Gene Robinson and Charles Whitfield. It is located in the area of South Farms that is being newly developed as part of the new Master Plan for research, recreation, and technology transfer. The new 4000 sq. ft. bee lab is twice the size of the current facility and boasts state-of-the art flight chambers to accommodate work on transgenic bees planned by both the Robinson and Whitfield labs. Ample space is available to enhance training and outreach activities that are a key component of our bee program.

Reception at the opening of the new Bee Research Facility, supporting the research of Profs. Gene Robinson and Charles Whitfield. A symposium was held to celebrate the opening featuring former graduate students and postdoctoral associates from the Robinson lab. From left to right: May Berenbaum, Sarah Farris (Ent. Ph.D. '99), Ginger Withers (Neuroscience Ph.D., '93), Dustin Rubenstein (B.S., Honor's Biology, '2000), Gene Robinson, Devrim Assam, Henry Dykema, Tugrul Giray (Ent., Ph.D. '96).



Top Left: Bee Lab
Top Right: Honey extraction room
Middle & bottom Right: Bee hive
Below: Flight chamber

May Berenbaum

According to Thomas Friedman's best-selling book, the 21st century world is flat—globalization is leveling communication, commerce and culture. As it turns out, globalization is also leveling insect-plant coevolution. In 1980, when I arrived here at UIUC I began studying the interaction between wild parsnips and parsnip webworms with a resolutely Midwestern focus; my main research site was my neighbor's yard. In the past quarter century, as interest in invasion ecology and geographic mosaic theories of coevolution increased, we've added states, countries, and, since the last newsletter came out, hemispheres to our portfolio. It took ten years to expand to a second site in Champaign County, just six miles away from the first; eight years after that, we broke out of Champaign County to Peotone and Charleston and ventured across the border into Wisconsin. Students in search of latitudinal and altitudinal diversity left the Midwest and added Idaho, Washington, New Mexico, and Utah in 2003. Only a year after that, passports were pulled out to go first to Alberta, Canada and then all the way across the Atlantic to Europe, the ancestral home of the interaction, to check out Holland, Austria, Germany, and Switzerland. The year 2004 was the first time parsnip webworms were found on parsnips in New Zealand so in 2006 the always amazing Art Zangerl flew down to catch the first moments of reacquaintance between these coevolved world travelers. All told, we've looked at webworms and wild parsnips in almost a dozen states and seven countries; we're thinking now of outsourcing the interaction to Bangalore.

But even at home in the lab, globalization is a palpable force. From 1980 to 1990, there was only one non-North American graduate student in the lab (although there were two Canadians, eh?); by contrast, in summer 2006, from China alone there were three post-docs, one student, and a visiting professor. For 18 months, Rensen Zeng visited the lab from South China Agricultural University and got us going on multitrophic interactions between plants, herbivores and fungi, a project that's now the focus for Guodong Niu's dissertation research (necessitating multiple inspections by the Institutional Biosafety Committee for approval to work with the mycotoxin aflatoxin, one of the world's most carcinogenic substances). In addition, Prithwiraj Das joined us from India to work on molecular aspects of lepidopteran chemoreception, Joris Glas is visiting from the Netherlands for a few months working on oviposition behavior of rotation-resistant corn rootworms, and Jorge Zavala came from Argentina to examine effects of elevated carbon dioxide on proteinase inhibitors in soybeans. And every region of the U.S. is represented except for the deep South—New England (Bridget O'Neill, looking at impacts of elevated carbon dioxide on soybean herbivore preference and performance), the Atlantic states (Cindy McDonnell, working on regulatory mechanisms of insecticide metabolism), the West (Reed Johnson, examining cytochrome P450 genes in honey bees), and even the Midwest (Terry Harrison, conducting a biotic inventory of hill prairie Lepidoptera in Illinois). As for those missing southern states, perhaps it's not a coincidence that, although cosmopolitan in distribution, wild parsnip just doesn't do well down in Dixie.

Our family travels have also reflected the newly flat world—Hannah, now sixteen years old, has put her French and German language instruction to good use with trips to Montreal, Quebec in 2005 for the annual meeting of the Ecological Society of America and Jena, Germany in 2006 for a symposium at the Max Planck Institute. In fact, she had to translate for her parents on occasion in Germany, given that we learned the language decades ago and haven't caught up with such useful 21st century words and phrases as "computer," "Internet access," or "cell phone" (which I now know is called a "Handy" in German, although I'm not sure etymologically why). She was especially helpful with contemporary cultural translations late at night, when, due to jet lag, we found ourselves in our 500-year-old hotel (where Martin Luther stayed in 1525) watching American television programs like "CSI: New York" and "South Park" dubbed into German (although even I didn't need help translating "Oh mein Gott! Ihr habt Kenny getötet! IHR SCHWEINE!").

Stewart Berlocher

The Berlochers just keep on truckin' along. Jeanine now teaches yoga and Sunday school, is a Cub Scout den leader and PTA volunteer, and mentors kids at the middle school. Austin is a 2nd degree black belt in Taekwondo and a Star Scout, and in the 8th grade. Paul is now in 3rd grade, and continues to be a totally dedicated naturalist; we returned from vacation in Texas this summer with a large male *Dynastes tityus*, and we recently reared a bunch of silk moths. Austin is 14, Paul is 8, Jeanine is mumble mumble, and Stewart is, miraculously, still 39, as he has been for some years now.

Research continues apace. Collaboration with Jeff Feder, Wendell Roelofs, Charlie Linn, and Hugh Robertson has resulted in the most productive period of my research career. We are now much closer than ever before to being able to map the genes involved in host odor response and thus reproductive isolation in the apple maggot and its lovely congeners. Proof of sympatric speciation looms closer all the time, with progress following roughly the rate of increase as the increase in availability of enchiladas in Champaign-Urbana. Regards to all my former students out there, and don't be strangers.

Sydney Cameron

Well, I guess all those collecting expeditions around the world paid off! We have recently completed the comprehensive phylogeny of the bumble bees (in press in the *Biological Journal of the Linnaean Society*), which I reported on in the last Newsletter (China expedition). With the new phylogeny as our template, a small assembly met in Uppsala, Sweden in August to begin the work of reclassifying the group. The phylogeny sets the stage for examining color pattern mimicry and its developmental genetic regulation in bumble bees. Besides completing the bumble bee phylogenetic work (daunting when we began in 2002), the last two years have been packed with other activities. We've completed a backbone molecular phylogeny of the stingless bees, and although there is a lot of filling in to complete the DNA sequencing, the basic framework for all the genera is in place (in press in *Systematic Entomology*). My students continue to keep the airlines companies solvent, with Claus Rasmussen's expeditions to Borneo and Brazil for work on stingless bees, and Heather Hines' trips to Costa Rica, Mexico and Sweden for work on bumble bees. Christina North, my newest student, spent part of last summer in California and the Rockies (cut short by an attack of appendicitis at the Rocky Mountain Biological Laboratory!) doing survey work on species of disappearing bumble bees. In case you may not have heard, there have been reports, nation-wide, that particular species of bumble bees, some of our most important native pollinators, have not been seen in the last several years. Thus, in collaboration with Lee Solter (Director of UIUC Center for Ecological Entomology, an expert on the insect pathogen Microsporidia), Christina North and I are looking into these reports more seriously, and examining possible causes.

During the spring of 2005 we organized a training workshop on Bayesian phylogenetics, bringing faculty from across the country, together with graduate students from UIUC and other universities, to the Beckman Institute for a week of intensive lectures and laboratory practica. This was a challenge for all, and with expert assistance from Sudhakar Pamidighantam of UIUC's National Center for Supercomputing Applications, the experience was greatly enriched.

Fred Delcomyn

Day to day and month to month, it sometimes seems as if not much is happening, but when I look back over several years I realize that as always, change has crept up on me. The most significant change has come on a personal level – Nancy and I became grandparents on July 27th this year. Audrey is a charmer (and what grandparent wouldn't say that!) and living as she does in nearby Springfield, Illinois means that we get to see her every few weeks. Her father Michael is a Public Defender in the Illinois Appellate Court district centered in Springfield, a job that certainly keeps him on his toes.

In the university setting, the most significant activity is that with Steve Marshak, Head of Geology, I am teaching a Discovery course (limited to freshmen only) entitled *Creationism, Intelligent Design, and the Nature of Scientific Evidence.* It is interesting, to say the least. And yes, we do have several students with creationist beliefs in the class.

Otherwise, much remains the same. The School of Integrative Biology is prospering in spite of various financial and other challenges. At present we have five (!) active searches underway, including the Entomology endowed Chair position and a position that will be split with Pathobiology in Veterinary Medicine.

Bettina Francis

As always, my lab is involved with several very diverse projects. Katy Lustofin has completed her study of the effects of 3 plant alkaloids on development in chicks and fruit flies, and has begun writing her dissertation. We hope to extend the work to include the synthetic insecticide imidacloprid, which acts by the same mechanism as nicotine, coniine and anabasine. Meanwhile, I am collaborating with several psychologists who want to look at interactions between their favorite behaviors and one or more genes that may affect that behavior. They interview their subjects and collect cheek cells, and my lab extracts the DNA and determines the relevant genotypes.

The developmental projects remain 'in progress' – somewhat slowed because this year I am teaching Animal Biology on my own, after co-teaching it for 4 years with Hugh Robertson. A class with 270 students takes a lot of e-mails, even though the TAs are doing a super job in the labs. There is always one more detail to see to (Handouts? Webnotes? Conflict exams?), and I always seem to be a little late with something. Fortunately Jerald, Leta and Rachel are willing to photocopy lots of copies on short notice when I am really late – a terrific support network!

My younger son, Theo, married Jenny Liberto last March, so I now have 2 terrific daughters-in-law. And a charmer of a grandson, William, who just turned two. As befits the son of two linguists (Alex and Elaine), William already talks in full sentences. Wait one second and I'll show you some pictures…

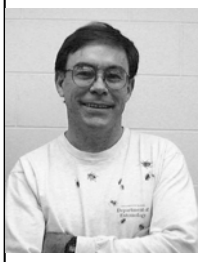
Larry Hanks

It has now been a decade since Jean and I moved to Illinois from Southern California. A sobering thought. We now have two children that we didn't have then (Rebecca and Mason). A herd of graduate students have milled around in the lab, then moved on: John Tooker (now a postdoc at Penn State), Matt Ginzel (assistant professor at Purdue), Rob Moore (Medical Entomologist, US Army), Jodie Ellis (Exotic Insects Education Coordinator, Purdue), Ashley Bennett (PhD student, U. Wisconsin), Erin Grossman (USDA-APHIS). Nevertheless, a herd remains in the lab, if 9 people can constitute a herd. Seems like a herd to me. Perhaps our greatest recent accomplishment, in collaboration with Stewart Berlocher and Andy Suarez, has been the revival of the Friday happy hour. A not so sobering thought.

How to sum up 10 years of nose-to-the-grindstone, blood-sweat-and-tears research? Our web page pretty much does that (http://www.life.uiuc.edu/hanks/index.html). Perhaps there is no clearer synopsis of our efforts than the following direct quotes of lab members and associates:

"If this works, we'll be swimming in dwarf millipedes." - J. F. Tooker
"There is no 'we' in buying molasses." - M. D. Ginzel
"I've been really pounding the mouthparts this semester." - E. S. Lacey
"Does this one smell like vomit to you?"- M. D. Ginzel
"Well if a schnitzel is heaven, then call me Jesus!" - E. C. Kluger
"When I'm feeling a little crazy, I like to sharpen ALL my pencils." - A. M. Ray
"Holy cow! NINE! God bless them every one." - J. A. Ellis
"I like my work how I like my coffee: covered in bees!" - Applicant for field tech position
"I'm gonna try to get another national park under my belt." - E. S. Lacey
"How am I supposed to know what's real and what's not!" - S. Berlocher

Grant panels:
Natl. Program Panel to review ARS CRIS Research Project Plans, Biological Control and Development of Insects and Mites, Office of Scientific Quality Review, USDA-ARS, February 2005



Hugh Robertson

2005/2006 saw our family make some major adjustments. Gabriel turned 18 and headed off to Japan as an exchange student for his final year of high school. While this was a tough and sometimes isolating experience, he made three sets of family friends, learned enough Japanese to maintain conversations, and reinforced his determination to find a career that involves Oriental cultures. Erica negotiated first grade at Leal School, Christina had her last year as a major volunteer and designer at the Orpheum Children's Science museum, and I worked hard on the honey bee genome project and associated manuscripts in collaboration with Gene Robinson, Charlie Whitfield, and many others. I took my first sabbatical in 18 years in Spring 2006, and together with my 50th birthday in December 2005, we decided to do it right. The six-month sabbatical was spent in Cape Town, South Africa, in part to allow regular interactions with my aging parents who retired there from Johannesburg. It helped that we rented an apartment in their building with views over Table Bay to Table Mountain. While I toiled on wrapping up our contribution to the bee genome project effort and occasionally took off for kitesurfing excursions, Erica attended a local school for the second half of her

Hugh Robertson (cont..)

second grade, made four new good friends there, learnt a little Afrikaans and how to speak "South African", and Christina mastered driving on the left side of the road and the geography of Cape Town and did some watercolor painting. We had the pleasure of visits by Christina's mother Lee for a month and the three ladies had a grand trip around Kruger National Park for a week, and then (ex-colleague here, now at Wake Forest University) Susan Fahrbach and her son Nate spent 10 days of fevered touring the Cape Peninsula (a highlight was walking among sandsharks at Langebaan). Gabriel and friend Ravi Solter joined us for June doing volunteer work at a teenage boy's home in one of the massive "townships". Then our family returned home around-the-world with five weeks in Australia, including seeing platypus and echidnas and a week's bareboat yacht charter in the Whitsunday Islands on the East Coast, a week in Hawaii to visit my brother's family in Honolulu, and then Santa Barbara to visit Christina's uncle's family there. Altogether a wonderful and productive sabbatical, the only downside the difficulty settling back into CU. This is made easier by the satisfactory conclusion this Fall of the honey bee genome project with the central paper in Nature and several companion papers elsewhere, my postdoc Kevin Wanner winning a USDA-NRI grant to continue studies on moth odorant receptors involved in female recognition of host plants and oviposition sites, and a joint USDA-NRI grant with Stewart Berlocher to push his apple maggot flies into the genomic era with some EST projects. Otherwise we continue work on *Anopheles gambiae* and *Aedes aegypti* odorant gustatory receptors (graduate student Lauren Kent) and the local crop rotation resistant *Diabrotica virgifera* corn rootworms (graduate student Lisa Knolhoff). I'm involved peripherally in most of the on-going arthropod genome projects, including the wasp *Nasonia vitripennis*, beetle *Tribolium castaneum*, louse *Pediculus humanus*, aphid *Acyrthosiphon pisum*, bug *Rhodnius prolixus*, water flea *Daphnia pulex*, and tick *Ixodes scapularis*, which should keep me off the streets and sitting in front of this computer most nights for the next few years until we can escape central Illinois on another sabbatical.

Gene Robinson

As described elsewhere in this Newsletter, on October 26, 2006, *Nature* published a major paper on the sequencing of the honey bee genome as well as specially commissioned commentary. Related papers also were published in *Science, Proceedings of the National Academy of Sciences, Genome Research,* and *Insect Molecular Biology.* This is a thrilling event for me, since I have worked toward this goal for almost ten years.

Bringing honey bees into the genomic era has changed the way we do research in labs throughout the world, including my own. Our main line of research continues to focus on the mechanisms and evolution underlying the honey bee's fascinating system of division of labor. We are particularly interested in finding the genes and molecular pathways in the brain that regulate this system of social behavior. The genome gives us many new resources to aid in this research, including the means to make a "gene chip" capable of measuring the expression of all the known bee genes at the same time. We are also able to use databases on computers to get information that formerly would have taken weeks or months to obtain in the laboratory!

As we all know, things change quickly in science, and even with the last few bases of the honey bee genome just coming off the sequencing machines, it is time to think of the next major goal, the NIH has recently put out a call for the "$1000 human genome"—a new generation of technology to dramatically lower the cost of DNA sequencing, primarily to develop diagnostic sequences for medicine. But if a $1000 human genome is achieved, then for many insect species, we can get a complete genome sequence for under 100 bucks! I truly believe inexpensive sequences are around the corner, and that could really open up the field of sociogenomics.

There are so many different species of social insects and their relatives. Some have strikingly similar societies even though they evolved independently of one another. Others have different levels of sociality, from solitary species to those with the most structured animal societies on earth. To be able to study all of that natural variation in social organization with the tools of genomics is going to be fantastic. This will finally allow us to start building the connections between genes, social behavior, and social evolution. And we are especially well positioned to do these kinds of studies right here in our department, with expertise in honey bees in my lab and the lab of Prof. Charles Whitfield, Prof. Sydney Cameron's expertise in the biology of bumble bees, orchid bees and stingless bees, Prof. Andrew Suarez's expertise in the biology of ants and Prof. Hugh Robertson's expertise in molecular evolution. I look forward to these future developments with great anticipation.

On the home front, all is well. Our oldest son Aaron is a junior at Washington University in St. Louis majoring in Engineering. Our middle son Daniel is a junior at Champaign Central High School, and we're savoring his last few years of high school before he goes to college. Our youngest son Sol has just started 8th grade at University High School as a "Subbie," and he's enjoying the challenges of a very demanding curriculum. My wife Julia continues to enjoy her new job as outreach coordinator at the Spurlock Museum of World Culture, a gorgeous new museum on campus. They even have some entomological artifacts on display, so next time you come back to campus, be sure to check it out.

James Sternburg

Several years ago, John Bouseman, James Wiker and I began work on a Field Guide to the Skipper Butterflies of Illinois. This was planned as a sequel to the Field Guide to the Butterflies of Illinois by Bouseman and Sternburg. As an authority on skippers, James Wiker's contribution has insured the accuracy in identification and in describing ecological aspects of skipper's environmental needs. After a number of unavoidable delays, the book is now in press. In fact, all 207 pages are printed, and awaiting deliver of the hardcover books from the printer.

Sadly, John Bouseman died before the editorial work was finished, but thankfully he knew publication was near. He is missed by his friends at the Natural History Survey.

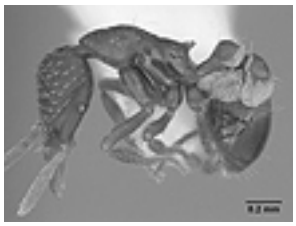
With regard to my other activities they involve the usual. There is photography, gardening and keeping a number of aquariums going. And I am trying digital photography, but still prefer film cameras.

I have also served three times as an instructor in 3-day field classes on butterflies and once on Odonata. These have been sponsored by the Natural History Survey. I find the participation rewarding and stimulating.

Andy Suarez

Things have been moving forward in the Suarez lab this last year. New members include postdoc Joe Spagna, masters student Sara Kantarovich, and a number of great undergraduate students. Our lab research continues to focus on ant ecology and behavior and now includes a wide variety of new topics on the physiology and chemical ecology of Dacetine ants and on biomechanics of trap-jaw ants. We are also still conducting research on Argentine ants as a model for invasion biology and are looking forward to our next trip to Argentina as winter settles in...

The trap-jaw ant Odontomachus bauri can reach speeds up to 60 m/s with its mandibles (unfortunately for this cricket).
Photograph by: Alex Wild
Www.mymecos.net



Many Dacetine ants like this local Illinois species (Pyrmica rostrata) have novel spongiform tissue whose purpose is sompletely unknown.
Image courtesy of: California Academy of Sciences
Www.antweb.com

Gil Waldbauer

In the last couple of years, my fiancée, Phyllis Cooper, and I have taken some very interesting trips. We have, for one, been exploring the little towns near Champaign. Among them were Oakwood, which has an ancient log cabin that is still inhabited, Sullivan with its handsome county courthouse and the Sisters Restaurant, and Greenup, where we found a soda fountain just like those I knew in the 1940s – phosphates on the menu and round tables with wire chairs.

Our first big trip took us to Harrodsburg, Kentucky, where we stayed at the Beaumont Inn, a wonderful place, saw Kentucky blue grass horse farms, and visited the nearby Shaker village. Then on to Smoky Mountain National Park, where the dogwoods and redbuds were just coming into bloom. From there we went on to the Outer Banks of North Carolina, where we enjoyed walking the beaches and Phyllis had her first crab cakes that consist mainly of crab meat and very little filler. The next trip took us to the Missouri and Arkansas Ozarks and down to Hot Springs, where we enjoyed the baths. Just a few weeks ago we returned from a trip that took us to Copper Harbor, Michigan, on the Keweenaw Peninsula, the very northernmost tip of the Upper Peninsula. The autumn colors were fantastically beautiful, especially as seen from the top of nearby Brockway Mountain. On the way north we stayed with Phyllis's daughter, Vicki and her husband Gary Gallup near Traverse City, Michigan, and on the way back with her daughter Kathy and husband Dan Pixler in West Bend, Wisconsin.

I am still writing. My book on aquatic insects, *A Walk Around the Pond*, was published by Harvard University Press in the spring of 2006. My next book, *Honey, Fireflies, and Silk*, which is about the insects people like, is in its final stages, and will go to my agent in a few weeks. This will be my eighth book since retiring in 1995. I have another book planned and will soon start on it. It will be about trees and the insects and birds associated with them.

Jim Whitfield

The past two years have seen a gradual changing of the guard in my lab. Three graduate students – Andy Deans, Alejandro Valerio and Won Young Choi - all successfully finished their Ph.D.s in 2005, and postdoc Jonathan Banks moved on to a prestigious FRST fellowship back in his native New Zealand. Andy is now a postdoc with Fredrik Ronquist on Hymenoptera phylogenetics at Florida State University; Alejandro is back teaching and continuing his systematics research at the University of Costa Rica, and Won Young has a new postdoc on molecular systematics of ichneumonid wasps at Yeungnam University back in Korea. It has been tough to see them all leave, but also exciting to follow their continuing careers as colleagues (not to mention good to see them both successfully finish and continue on in entomology!).

Fortunately, graduate student Josephine Rodriguez remained to form the nucleus of a new lab group (still being rebuilt), and her morphological and (recently) molecular work on the insanely diverse *Apanteles* wasps keeps the lab hopping. We have also had Chris Grinter join the lab as an NSF Research Experiences for Undergraduates student, and he is completing a revisionary systematics paper to be submitted this fall (as an undergraduate!). While the lab has shrunk in size it has kept up quality! – Josephine winning awards for both research and teaching, and Chris being awarded the Undergraduate Research Award in Entomology in 2006. We expect to see the lab grow in numbers this coming year.

The lab research continues to combine field work (see some of the travels elsewhere in this issue!), morphological and molecular systematics of parasitoid wasps, studies of their associated polydnaviruses and their genomes, and finishing up a field guide to caterpillars on oaks (there are a lot more than you'd imagine....). Recently I was asked to revise Daly, Doyen and Purcell's *Introduction to Insect Biology and Diversity* for the third edition, so next issue I will no doubt be moaning about how much work that was!

On a more personal level, it has been a fun time, with lots of travels around the world (New Zealand – see article!, Ecuador, Australia, Alaska), meeting many rewarding new colleagues, and exploring some new research areas (genomics of polydnaviruses, network methods in phylogenetics, etc.). Sydney and I are mostly through renovations at our house and garden, and looking forward to more backyard entomology!

Charlie Whitfield

We've had a busy and productive few months with the publication of the honey bee genome sequence and several companion papers. The highlight for our lab was a *Science* paper called "Thrice out of Africa: ancient and recent expansions of the honey bee, *Apis mellifera*" with two co-authors from our department, Andy Suarez and Stewart Berlocher. In this paper we developed 1136 informative single nucleotide polymorphism (SNP) markers and used these to analyze about 350 honey bees from their native ranges (Europe, Africa and central to western Asia) and introduced populations in the Americas. These studies have indicated an African origin for the species and at least two separate expansions into Eurasia, leading to populations in Europe that are geographically close but genetically very distant. In the Americas, our data has contributed to our understanding of Africanization, including the extent to which *A. m. scutellata*-derived ("African") bees have replaced or mixed with previously established European honey bees. We have also identified genes that might be under selection in both native populations (perhaps related to expansion into temperate regions) and during Africanization. Two members of my lab, Josie Chambers and Amro Zayed, are busy pursuing a number of questions that have arisen from this study. My personal highlight from all of this was an interview from Joe Palca at NPR.

Two other members of my lab, Jason Ebaugh and Chen Fu, are working on several candidate genes that we believe are involved in behavioral division of labor between honey bee workers. One of these is ERK7 and is present in vertebrates (including humans) and most insects, but is of unknown function. Jason Ebaugh is studying protein modifications (such as phosphorylation) that are likely to be involved in ERK7 regulation in the honey bee, while Chen Fu is testing ERK7 function in other model systems where we can more easily manipulate gene function (*Caenorhabditis elegans* and *Drosophila melanogaster*).

On a personal note, I became engaged over the summer to Joanna Shisler. She is still with me after the honey bee genome publication (I don't know who else would have!) which I appreciate very much.

Department

May Berenbaum: Entomological Society of America 2006 Distinguished Achievement Award in Teaching
Ecological Society of America 2005 Robert Mac Arthur Award

Emily Kluger and Larry Hanks: Paper Presentation BS/MS Second Place Sections A, B, Cb, Cd, Cf and D, NCB meetings 2005

Cynthia McDonnell: Winner of the 2005 MRC/SOT Young Investigator Award, for her research proposal entitled "Molecular Mechanisms of Methoprene Resistance in *Drosophila melanogaster* and *Anopheles gambiae* and their Relationship to the Mammalian Aryl Hydrocarbon Response Cascade"

Miminirina Randrianadrasana: received the North American Benthologial Society's Boesel-Sanderson Fund Award

Miminirina Randrianadrasana receiving Boesel-Sanderson Fund Award from Mark Wetzel

Alumni Awards

Gretchen E. Schultz and Joel Coats: Paper Presentation BS/MS Winner Sections A, B, Cb, Cd, Cf and D, NCB meetings 2005
Lori Kae Schwab: W.H. Luckman for Student Research in Insect Pest Management
John Tooker: Henry & Sylvia Richardson Research Grant from the Entomological Foundation

CTE Center for Teaching Excellence
University of Illinois at Urbana-Champaign

Incomplete List of Outstanding Teachers at UIUC Spring 2005

Bettina Francis	Hugh Robertson
Casey Funderburk TA	James Whitfield

Incomplete List of Outstanding Teachers at UIUC Fall 2005

Marianne Alleyne	Sara Kantarovich	Matthew Richardson*
Emilie Bess*	Rob Mitchell	Josephine Rodriguez*
Elizabeth Graham	Dominic Philpott	James Zahniser
Larry Hanks*		

Incomplete List of Outstanding Teachers at UIUC Spring 2006

Emilie Bess	Katrina Lustofin	Silvia Remolina*
Elizabeth Graham	Rob Mitchell	Matthew Richardson*
John Kane	Dominic Philpott	Leellen Solter

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Robinson Elected to NAS

By: May Berenbaum

When I first arrived at UIUC in August 1980, the ten-member Department of Entomology contained two members of the National Academy of Sciences, the honorific society founded in 1863 by Abraham Lincoln and charged ever since with providing objective scientific guidance to the nation. Short of a National Medal of Science NAS membership the highest honor achievable for American scientists and at any given time during its long history its ranks of entomologists have been fairly thin. By 1990, due to the ravages of time, our department had no NAS members. It took us 15 years but we're finally back up to our historical 20% (once again, the highest proportional membership among entomology departments in the country). We were ecstatically happy to hear in April 2005 that Gene Robinson had been elected to the National Academy of Sciences. Although he's the first UIUC entomologist elected to NAS who works on bees, he's one of a cadre of NAS members with interests in social insects. Gene's interest in bees arose not in a classroom here in the United States but on a kibbutz in Israel (not inappropriately, the land of milk and honey), where Gene spent time after a year of college (1973) at the State University of New York at Buffalo. One of his tasks was to fill in for a fellow kibbutznik who was called up to the army and work the bees for the community. What started as a temporary job and a favor to a friend became a lifelong passion. After returning from Israel, he transferred to Cornell to complete three degrees in entomology (working in between the first and second degrees as a beekeeper in California and Colombia). At Cornell, Gene studied under the legendary bee biologist Dr. Roger Morse, and as a graduate student began to make important contributions to honey bee neurobiology and behavior. Gene determined that responsiveness to alarm pheromone, a key characteristic determining aggression levels, is affected by juvenile hormone, establishing a clear link between hormones and behavior in insects. As an NSF postdoctoral fellow working with the Strambis in France, Robinson elucidated the hormonal mechanisms regulating reassignment of tasks in an insect colony. Published in *Science*, this work received broad media coverage (a hallmark of projects Gene has been involved in). As a postdoctoral associate of Robert Page at Ohio State University, Gene pursued his interest in untangling genetic determinants of behavior by establishing that such activities as guarding and undertaking in a bee hive are genetically predetermined; these findings resulted in the first of what would be six *Nature* papers, within two years of earning his Ph.D.

In 1989, we were fortunate to outcompete University of California-Riverside in attracting Gene to join our faculty, and at UIUC Gene has continued to pursue twin lines of investigation in genetics and physiology. His work on decision-making at both the colony and individual level spans a breadth of investigation of social behavior demonstrated by few investigators. Gene has examined the role of neuropeptides in regulating social behavior in insects and documented associations between brain neuromodulator levels and morphological and behavioral development. Working with Susan Fahrbach and Ginger Withers, he demonstrated that certain behaviors are accompanied by anatomical changes in bee brain structure, the first such finding in invertebrates, bolstering the assertion that the honey bee is an appropriate model for studies of human behavior. This report, not surprisingly, was another of Gene's ubiquitous *Nature* papers.

A sabbatical in 1996 allowed Gene to incorporate molecular approaches into his program and he soon completed a groundbreaking study showing that age-related division of labor in honey bees is associated with differential expression of mRNA levels of the *period* gene, known to contribute to regulation of circadian rhythms. This finding is the first demonstrating the function of a "clock" gene in a social context and is a step toward achieving his goal of creating a new field of sociogenomics, an investigation of genetic contributions to social behavior. In continuing to integrate across disciplines, Gene has enthusiastically embraced genomics and all that it offers for solving previously intractable scientific questions and is now a leading figure among insect genome scientists,with an EST project complementing the genome sequencing work and microarray analysis already applied toward elucidating the genetic components of chemical communication in honey bees (yet another paper in *Science*). His effectiveness in leading the honey bee genome sequencing initiative, published in *Nature* (once again) in October 2006, is clear evidence of his vision, his leadership, and his energy as a preeminent scientist and spokesperson for the research enterprise. To put this accomplishment in perspective, the National Human Genome Research Institute placed the honey bee genome at a higher priority than the cow, the chicken and the chimpanzee, any of which one would have thought would be an easier sell. Given that we don't milk them, fry them or claim them as our closest relatives, bees weren't the obvious successor to the human genome project yet Gene managed to convince an entire scientific establishment of their value.

In a word, Gene is outstanding. Not only has he contributed in a fundamental way to understanding of the role of hormones and neuropeptides in social behavior, but he has shown that social insect colonies provide a tractable model system for investigating hormonal and genetic control of behavior in human societies. His was the first non-vertebrate project funded by the National Institutes of Mental Health in over 30 years. And his influence is palpable not only at NIH--when you apply for NSF funding, you have to check off a box if you're working with a model organism. There, in with *Drosophila melanogaster, Arabidopsis thaliana*, and rats and mice, is the honey bee (thanks, almost singlehandedly, to Gene).

In February, 2006, Jackie Bowdry, adminstrative secretary for the Department of Entomology for six years and currently on disability leave, received the College of Liberal Arts and Sciences Distinguished Staff award. Here are excerpts from the nomination letter--alumni who remember Jackie will appreciate the challenge I faced in keeping my letter down to three pages of praise.

The first criterion for evaluation for this award is that the candidate **1. Demonstrates excellence in overall work performance**, To illustrate overall excellence in work performance, people in my position writing letters of nomination like to point to crises that were handled efficiently. Jackie, however, is so outstanding that crises almost never gain purchase. This is the general perception across our department—that we don't have crises because Jackie has everything under control at all times. Faculty member Gene Robinson says, "She is so damn good that things just get done. I honestly haven't seen her have to go beyond the call of duty because she just gets stuff done. Or else, she does the beyond stuff so quietly that it is not apparent." And fellow faculty member Bettina Francis says, "Jackie never says that something is difficult, or outside her responsibility, or too much trouble. Whatever I've gone to Jackie with, she's taken care of -- and she makes it seem easy, all part of the day's work. The result is that I have no stories, no memory of heroic efforts on her part. I just know that I can count on Jackie, and she *will* get the job done. Even if I muff it by skidding in 5 minutes before a deadline, she'll make the call, get the information, or find out what I had to do so that it's OK after all." This is everyone's perception—"Whatever it is, Jackie can take care of it." Her phenomenal recall of past history, her ability to monitor current developments throughout the School, and her absolute familiarity with university rules and practices have saved me literally entire weeks' worth of time that would otherwise have been spent making fruitless phone calls and otherwise scrambling for information.

I routinely take on way too many responsibilities; to illustrate, this year, which is by no means unusual, I am serving on 8 campus committees and 18 off-campus committees (including the National Academy of Sciences Council, which meets six times a year in DC or CA). Yet, because of Jackie, I can take care of all of my department head responsibilities without even the benefit of an associate head. During Jackie's tenure, our department has never missed an administrative deadline and I assure you that our perfect record in this regard is not at all a reflection of my own ability to meet deadlines.

Jackie's ability to take on a punishing amount of work allows me to represent the University much more capably in the scientific community at large. Here's one case in point; from 2001-2003 I served as chair of Section 27, Evolutionary Biology, of the National Academy of Sciences. This is a key position in that section chairs oversee the election process and play an instrumental role in identifying and promoting candidates for membership in NAS (the most prestigious and influential scientific society in the nation). As chair it was my responsibility to handle all correspondence involved in the election process—sending ballots out three times over the course of the year (straw poll, informal ballot, formal ballot), along with nominations for dozens of candidates to eligible voters (which at the time included about 27 full members and as many affiliates and foreign associates). Because of the confidential nature of the process, it was critical that only a single person have responsibility for the sensitive correspondence. Although this process represented an enormous workload, Jackie handled all of it quietly, efficiently, with minimal direction, and without missing a single deadline, as is her custom. When my successor was named, I discovered that her home institution, upon hearing that she was named Section chair, provided her with an additional half-time secretarial line solely to take care of these responsibilities! I subsequently discovered that my two predecessors as Section chair had had similar arrangements with their home institutions. Yet Jackie had managed to handle every single task, while shouldering the burden of overseeing the entire department's needs! This, in the view of my NAS colleagues, is nothing short of miraculous (and they probably didn't know that for at least part of this time, Jackie was alone in the office with no other fulltime help).

By the way, it's important to point out that, despite her nominal status as Secretary to the Head, our miniscule office staff size has meant that Jackie has always provided the same outstanding service to every member of the department, providing them with appropriate campus contacts, answering questions, and performing hundreds of department-related tasks.

The second criterion for recognition is that the candidate 2**. Promotes positive morale through a congenial, supportive attitude and by providing service to others**. To address this point, I could have appended a list of testimonials that would have filled a book. For example, Prof. Francis, who knew Jackie from her days at the Institute for Environmental Studies as well as her time in Entomology, aptly summarized, "I have never - never in 15 years! - talked to Jackie without getting a smile or a cheerful quip. I've never been made to feel that I'm interrupting, that my request is a nuisance, or that I should have figured out the answer myself." And when new faculty member Andy Suarez first arrived on campus, his laboratory was still under construction and he was temporarily housed in the Entomology office. During this time Jackie not only helped him set up his accounts and take care of orders, she made

sure that he felt welcome and helped introduce to him to all of his new colleagues. Despite that by his own description he 'must have been a royal pain (being the new person without a clue of how to do anything)," Jackie was always attentive to his questions and helped his transition here go flawlessly. Moreover, as he relates,"she always had a smile." This relentless cheerfulness and upbeat attitude is unfailingly directed not just at faculty but at every single member of the department: department head, faculty, students, staff, visitors, undergraduate hourlies, insectary workers, even the photocopy machine repairman. Her congenial and supportive attitude extends to those over whom she has supervisory responsibilities as well—and as a result the vast majority of our office staff have thoroughly enjoyed working in our office.

Jackie also invariably **3. Puts forth an effort to improve self as well as to develop and recognize others** She has a superb eye for talent and has been extremely effective at cultivating strengths in her co-workers. For most of her tenure, the Entomology office has been profoundly understaffed as a result of budget hits (see #4 below), which means spotting and developing talent is of prime importance, particularly when extra-help hiring rules guarantee high turnover. When, as part of a retention package in 2004, the campus finally allowed us to bring our office back to its historical size of 2.5, we were able to recruit a new permanent secretary. Jackie sought out Leta Nugent, an outstanding extra-help hire who left our office to work in ACES because there had been at the time no hope of a permanent position; Leta was absolutely thrilled at the prospect of coming back; her interest in returning was in large measure a reflection of Jackie's ability to run an efficient and collegial office. In short order, with Jackie's encouragement, direction, and instruction, Leta received all of the training she needed to transition quickly. In fact, because Jackie is currently out on disability, Leta, who was Extra Help February 2002, is now, 3 years later, essentially doing the job of a Secretary Level VI—a true testament to Jackie's ability to spot and cultivate (and reward) her co-workers.

Jackie **4. Exhibits initiative and creativity resulting in improved operating efficiency of a unit,** again, in ways too numerous to do justice to in this letter. She has been unbelievably resourceful in designing an office that can handle a workload far too large for its size. For most of her tenure here, we've been functioning in Entomology with a skeletal staff—at one time, just Jackie and an extra-help person, when downsizing in Spring 2003 hit just as we lost Dorothy Nadarski, our halftime Secretary III for over ten years, to a particularly tragic fate (heart-wrenchingly precipitous terminal cancer). This was a devastating and demoralizing time for the department, made even more so for Jackie, who was dealing with a major family emergency of her own at the time. Somehow, our decimated office staff functioned with unbelievable efficiency at one of the busiest times of year—our graduate recruiting season. Here's what a recent Chair of our Graduate Student Admissions Committee says about Jackie's role: "When I became GSAC chair a couple of years ago she not only meticulously kept the files for all of the applicants up-to-date, handled many questions about the requirements for applying to our program and the University, helped arrange their itineraries for interviews, and juggled the schedules of hard-to-pin-down faculty members, but also had most of the information that had passed by her on the tip of her tongue whenever I came in. This meant that the committee could (perhaps selfishly!) focus squarely on the admission decisions and not all of the other details of requirements, the vagaries of student backgrounds, plane flights, hotel rooms, etc. Whenever a problem cropped up, the solution was almost always "ask Jackie"! The visiting prospective graduate students noticed this too, and almost always went out of their way to go meet Jackie, this person who had set everything up for them and patiently answered all their questions by phone." Jackie somehow always pulls us through; our at times ridiculously tiny office takes care of 8-10 fulltime and very active faculty, 4 active emeritus professors, a dozen post-docs, visiting professors, or research specialists, a couple of animal care people, and 30 to 40 graduate students. Moreover, the fulltime faculty for the most part route their course-related work through our departmental office and several of these courses (Ent. 105, Bio. 346, Bio 104, e.g.) involve hundreds of students. I don't know how, exactly, but Jackie pulls us through—I know she put in many long hours above and beyond those required by her job description to insure that everything that had to get done did in fact get done in a consummately professional way.

One reason our secretarial staff has repeatedly been able to cope with onslaughts is that Jackie has an uncanny ability to hire exceptional people, difficult to do with a job that is not very financially remunerative and that is potentially oppressive. She has been endlessly creative to extract optimum performance from her staff—summer schedules, just to cite one example, were rearranged so that we wouldn't lose a particularly adept and knowledgeable Extra Help person.

Within the School and within the College, Jackie **5. Enhances the image of the department** She is well known among the secretarial staff across the School of Integrative Biology for her encyclopedic knowledge of University policies and practices, and is a resource for other secretaries (and for other faculty as well, particularly with respect to assembling promotion documents, e.g.). Her network of contacts across the campus is invaluable; our department can get its problems solved with campus help in large part because Jackie is as patient and pleasant with everyone on campus as she is within her own department.

Alissa Eisenstein

Being smart is not how much you know, but how well you can use and command your resources, be they graduate students, researchers, scientists, professors, librarians, books, the internet, etc. During the spring semester, I audited Insect Pathology, IB 483, which I found most interesting and challenging. Last summer, I participated in the Bioblitz at Busey Woods, created display boxes and helped with Mandala, the database. May is involved with students at Ithaca College, who were doing an insect study in North Carolina. It took me 5 months to identify the insects. I set up a database for the historic collection that has over 11,200 records and revised the specimen file. I made several trips to the archives to research the history of the department for the centennial of the department in '09. I took a Fast3 workshops on Dreamweaver 8 to maintain and change the website http://www.life.uiuc.edu/entomology/entoillinois/Faculty/allfaculty.htm. I am entering the lantern slides into an ever growing Excel file. In my spare time, I enjoy spending time with family, friends, reading, writing, swimming, walking, my gecko King Leopold (not named after the king of Belgium), cat sitting, dog walking, and smiling.

Todd Fulton

My name is Todd D. Fulton, I've worked in the Insectary on a part time basis for the past 18 yrs. I have a wonderful wife and four children; one is a Sergeant in the Marine Corp, the other son is a Champaign Co. Deputy, my oldest daughter graduated from the U of I in May 2006, and my youngest daughter is a freshman attending Mahomet High School.

My wife and I are both R.N's working at Carle; I work in the Occ. Med Dept full time and she works in the Allergy Dept. part-time.

I enjoy fishing, hunting, photography and generally any activity that gets me out in the woods or on the water.

Jerald Kimble

I first walked through the door of 320 Morrill Hall on August 16, 2005 – the day Leta refers to as the worst day of her life! – & I haven't left yet. At the time I was working as Extra Help, but after about two months, Leta approached me with the possibility of coming on permanently. I have been in a permanent position as an Account Technician since November of 2005, & I am very thankful for the job and the positive experiences I have had here.

After renting since moving to Champaign in October of 2004, my wife Leslie & I bought a house of our own this spring. In addition to adjusting to our new home, we recently became first-time Apple owners, so we are adjusting to a new home computer as well as learning to use an i-Pod! We enjoy spending time together & with our soon-to-be three-year-old daughter Jessa. We have also hosted five international students in the past 12 months.

My wife bought me cello lessons as a birthday gift this year. So if you ever walk into the Entomology office & notice a large black case, you'll know it is lesson day for me!

Leta Summers

Many changes have taken place in the office since the last newsletter. I have had the opportunity to learn many new things. During this time I was lucky enough to have a great support system and for it I am thankful. Cheers to the future!

Marianne Alleyne

I have now been "back" as a member of the Entomology Department for about 2 years. Things are going well. My research on the physiological determinants of parasitoid host range has received an infusion of new ideas from a great undergraduate student, Jimmy Termini. And Dr. Lee Solter and I are joining forces to study how parasitoids and pathogens may deal with their hosts at the physiological level. Over the past 2 years my research has also veered a little bit to the ecological side. Students Susan Moser (oviposition behavior of ichneumonid parasitoids) and Nadine Schulz (effect of glucosinolates on the third trophic level) finished their Masters with me. Another line of research that received a lot of interest is my attempt to use MRI technology to study the development of endoparasitoids.

In addition to my research I have also really enjoyed teaching various classes. most notably the Insect Physiology course. It is a daunting task to follow in the footsteps of Dr. Fahrbach, but I hope to continue the excellence in teaching she brought to the course.

On the personal side, Andrew is still doing extremely well north of Green Street and our sons Harmen and Willem are thriving. This past summer the boys started their insect collection. Harmen may be the next generation of entomologist; he requested, and received, a dung-beetle birthday cake for his fifth birthday. So, we are putting all our hopes for a financially stable retirement on Willem; he wants to be a major league baseball player – he is pretty good for a 2 year old.

Sam Beshers

This summer I co-taught Introduction to Entomology (now IB 460, and soon to be reincarnated as IB 401) with Marianne Alleyne. This summer course continues to be enjoyable for instructors and students, with the abundance of insects outside giving abundant opportunities for students to get specimens for their insect collections and to do individual research projects.

In the lab I am working on the division of labor in leaf-cutting ants, doing both computer modeling and experiments, and I have recently become the proud "father" of three baby colonies of *Atta texana*, the northernmost member of its genus, which occurs in northern Louisiana and in Texas at least as far north as Austin. I look forward to sharing them with classes and other insect events.

My work with the Neuroscience Program continues to keep me interested and busy, but there is still time for the occasional evening of strumming and singing with the Entomology "guitar guys".

This fall, my wife Lynn and I were pleased to dispatch our son Max to Oberlin College for his freshman year, and our daughter Caroline to Urbana Middle School.

Miguel Corona

The honey bee biology possesses two exceptional biological phenomena that attract my attention since I was an undergraduate Biology student; both of them involve the queen honey bee, a beautiful and exceptional creature. The first of these phenomena is caste determination, a process in which two genetically identical individuals develop into queen or worker by differential nutrition. I started to study caste determination using molecular approaches during my PhD in the National University of Mexico. The other exceptional biological phenomena in the honey bee that have fascinated me are the outstanding longevity and reproductive differences between honey bee castes. Queens are both long-lived and fertile, while workers are short-lived and normally sterile. Since queens escape the typical tradeoff between longevity and fertility observed in most living organism, they are ideally suited to explore the mechanism by which evolution can produce both long-lived and reproductive active individuals. During my post-doctoral stay in the Robinson lab, the main aim of my work has been the identification of such mechanisms. I hope that the results of my research help someday to the understanding of how we could age better.

Chris Dietrich

The Dietrich lab continues work on a variety of projects focusing mainly on leafhopper and treehopper systematics, diversity, and conservation. Former Master's student Jesse Albertson's first monograph on the "pronotally challenged" treehopper subfamily Nicomiinae, treating the phylogeny and classification of seven genera and 22 species (16 new) was published, and her second monograph revising the species of its largest genus (comprising 69 species, 59 new) is in press. Post-doc Roman Rakitov and graduate students Daniela Takiya and Sindhu Krishnankutty are nearing completion of their studies of the phylogeny of sharpshooters and the evolution of oviposition behavior in this large and economically important lineage. Ph.D. student Jamie Zahniser is building a large DNA sequence dataset for deltocephaline leafhoppers (the largest leafhopper subfamily with over 6,500 known species) to complement the large morphological dataset he compiled for his Master's thesis. Post-doc Dmitry Dmitriev has nearly finished a virtual online revision of the leafhopper tribe Erythroneurini, which comprises more than 700 North American species.Illustrated

Chris Dietrich (cont..)
interactive keys to species and autogenerated descriptions, distribution maps, and tables of host plants are accessible via Dmitry's website: http://ctap.inhs.uiuc.edu/dmitriev/.
Physical location: 282 Natural Resources Building, 607 E. Peabody Drive

Catherine Eastman
(Associate Professional Scientist, Illinois Natural History Survey)

Conducts research involving vegetable pest management, with emphasis on alternatives to pesticide use. Currently she is co-coordinator of a multi-disciplinary research and education project with Survey and University of Illinois scientists to evaluate farming-system approaches to transitioning land for organic production.

Gail Kampmeier

On the home front, Dan and I celebrated our 30th wedding anniversary this year—it hardly seems possible that time should have passed so quickly, yet when I look at all the adventures we have crammed in to those 30 years, it becomes more credible.

On the work front, it has been a time of opportunities and changes. Mike Irwin, with whom I have worked for over 25 years, retired in 2005. I am co-organizing a Section C Symposium for the 2006 Entomological Society of America meetings, "All Movement Great & Small: Honoring the Career of Michael E. Irwin," which will focus on Mike's activities in plant virus epidemiology, insect movement and dispersal, and international IPM programs. Former students, colleagues, postdocs, and friends will participate. With my activities representing Section C (Biology, Ecology, & Behavior) on the ESA Governing board and Executive Committee, this promises to be a very busy meeting. Other activities may be viewed at http://www.inhs.uiuc.edu~gkamp/ — I am still trying to master the art of saying "no," but find saying "yes" has usually been much more interesting in the long run!

Jim Nardi

My current scientific activities focus on three areas of biological research: (a) insect immunology, (b) insect-microbial interactions, (c) soil biology.

(a) For years I studied cell-cell interactions involved in morphogenesis of insect tissues; I was able to establish which cell surface proteins mediated these morphogenetic interactions. I discovered that the same proteins that function during development also function during the cell interactions associated with insect immune responses. That is, in response to nonself, circulating, nonadherent insect hemocytes suddenly transform to activated, adherent cells. Addressing the cellular and molecular basis of cell-mediated immune responses of insects has important implications for both agriculture and medicine.

(b) Microbial communities that inhabit hindguts of insects and other arthropods are highly structured in time and space, provide myriad services for their hosts, and contain many new species with some exceptional biochemical attributes.

(c) A recent issue of *Science* (June 2004) was entitled *Soils – The Final Frontier* and emphasized how much is still a mystery about this world beneath our feet. This year I finished writing and illustrating a book on soil biology (*Life in the Soil: A Guide for Naturalists and Gardeners*) that will be published by the University of Chicago Press in spring 2007.

Moushumi Sen Sarma

I have a Ph.D. from the Indian Institute of Science, Bagalore, India. I am a post-doctoral research associate with Gene Robinson. I joined the lab to work on my "dream" project that aims to analyze the molecular basis of the honey bee dance language. We intend to use interspecies differences in the dance language in the genus *Apis* and the latest molecular techniquest to address our question. We hope to link the behavior to coordinated changes in expression of specific genes in candidate regions of the honey bee brain.

Leellen (Lee) Solter

Our field and laboratory studies on three species of gypsy moth microsporidia led to a recent approval of our North American Plant Protection Organization proposal to release these host-specific pathogens against the gypsy moth in Northern Illinois. Release is planned for May 2007. Work on gypsy moth in my lab continues with Marianne Alleyne; we are now beginning a pilot project to determine the immune response of the gypsy moth to a variety of naturally occurring pathogens such as DNA and RNA viruses, and microsporidia that attack different tissues. In addition to the work on

Leellen Solter (cont..)
gypsy moth, a new and virulent microsporidium isolated in the black vine weevil, a nursery pest, has garnered some attention. We are currently describing this pathogen and conducting laboratory testing on its efficacy against the weevils. A recent research orientation has been investigations on several microsporidian pathogens of beneficial insect species. With Sydney Cameron and Christina North, a pilot project is underway to determine the possible role of pathogens in the decline of several species of North American bumble bees. I am currently working with a new organization, *Association for Butterflies: Conservation, Research, Farming and Gardening,* on problems with microsporidia in monarch colonies. This collaboration has led to participation in designing an on-line course on lepidopteran diseases for interested insect farmers and the public. A different collaborative group is describing a microsporidium isolated from lubber grasshoppers. We have identified this pathogen as a new species in the genus *Encephalitozoon*- a genus that has heretofore been described only from vertebrates, including humans. Yet a different project focuses on pathogens of coleopteran predators that have been imported for control of the hemlock woolly adelgid.

In addition to research efforts, I have served for 18 months as interim director of the Center for Ecological Entomology at the Illinois Natural History Survey and will continue as research leader of Ecological Entomology under a new Survey organization. I taught the Entomology Department's Insect Pathology course in the spring of 2006, enjoying a great group of graduate students.

On a personal note, Phil and I continue our perpetual old-house remodel, which will probably slow this year while Philip is on sabbatical leave. Our son Ravi, now 20, is a junior at University of Redlands. He is an economics major but is obtaining his biology education during the summers with work on bird nesting, at INHS, tick counts at the Vet College, and honey bee behavior in Gene Robinson's lab. He is also satisfying his wanderlust with some travels… a visit with Hugh Robertson and family in South Africa and a semester abroad in Cambridge, England.

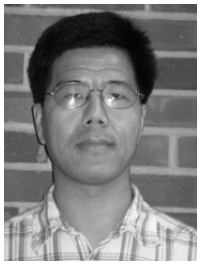
Kevin Steffey

During 2005, I decompressed as Past President of the Entomological Society of America, shifting much more of my attention back to my personal and extension/research lives. My research and extension programs have focused, as always, on management of insect pests of corn and soybean, primarily western corn rootworms and soybean aphids. With support from the Illinois Soybean Association and the North Central Soybean Research Program, I have been able to direct some Illinois research and cooperate on some Midwest-wide efforts regarding management of soybean aphids. With support from numerous sources, we have continued our investigations regarding the variant western corn rootworm that lays eggs in soybean. Joe Spencer (INHS), Mike Gray (Crop Sciences), and I were recently awarded a USDA NRI grant to investigate the potential for using trap crops to manage the variant. My involvement in graduate student instruction also recently increased. In 2006, I became the Coordinator for the Department of Crop Science's Off-Campus Graduate Studies Program, with the intention of significantly elevating our involvement in distance education technologies. Most importantly, however, my wife Ria and I were blessed to welcome our son, Lucas Patrick, into the world on April 16, 2006. He has become the happy focus of our lives.

Kevin Wanner

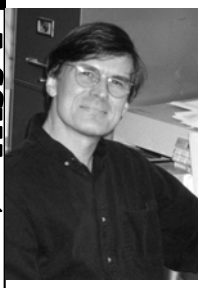
Post Doctoral Research Associate, Robertson Lab

I am working with Dr. Hugh Robertson to annotate and functionally characterize insect chemoreceptors (odorant and gustatory receptors, Ors and Grs). This includes profiling Or and Gr gene expression patterns using micro arrays and quantitative real-time PCR to identify interesting candidate genes. We have identified candidate queen pheromone receptors expressed in male honey bee antennae and female-specific Or genes expressed in silkmoth antennae that may be involved in host plant selection behavior. We are currently working with collaborators to characterize the ligands for these receptors.



Zhimou Wen

My name is Zhimou Wen. I am working with Drs. Mary Schuler (Department of Cell and Developmental Biology) and May Berenbaum. My research interests can be defined as understanding the mechanisms of insect interactions with host-plants, microorganisms and insecticides at both organism and molecular level from broad perspectives. Specifically, I am interested in the regulation and roles of insect P450s in insect tolerance/resistance to insecticides and toxins from plants and microorganisms.



Arthur Zangerl

A long-held desire to visit New Zealand was satisfied not once but twice in the last couple of years. First as a collateral trip associated with the International Congress of Entomology in Brisbane and then last winter as a research destination for… what else but parsnip webworms and wild parsnips! New Zealand parsnips have evaded their arch enemy for over 130 years in the wilds of NZ. Well, not quite. The plants occupy the same kinds of places as they do here—one of the sites is adjacent to a hazardous waste processing plant. At any rate, the plants have been reunited with webworms only since 2004 and the impact is impressive. Our question now is whether chemical evolution will take place and how fast. My two children, Lisa and Daniel are, respectively, finishing and starting college. As I write, Lisa (Art and Design major) is exhibiting a bogus museum display of fabricated fossil insects elaborating on the notion of disinformation in modern society (I think).

Amro Zayed

"It was the bee-zee-est of times!". It started in Jan '06 with me breaking the all-time record of PCR's performed by a married Canadian graduate student in a single semester without eliciting divorce, followed by ~ 60 days of writing up my PhD thesis - titled "Bee Conservation Genetics" (@ York University, Toronto, Canada). I handed in my thesis in July, went snorkeling in the Red Sea (I found Nemo; he bit my nose), then returned to Toronto to work on my defence exam, which by sheer luck was scheduled on the same day as my birthday - 26 Sept. A day after my graduation, I drove a U-Haul with all my earthly belongings down to Champaign to start my postdoctoral fellowship with Dr. Charlie Whitfield. Everybody here has been really friendly and helpful, and I am extremely happy to have such esteemed colleagues. Now, if I can only master the Fahrenheit system!

ESA Mixers 2004 - 2005

John Tooker (L)
Christina Grozinger (R)

Matt Ginzel (L)
Hugh Roberstson (R)

Steve Franko (L)
Claire Rutledge (R)

Matt O'Neal (L), Pete Reagel, (C)
Jonathan Lundgren (R)

Paul Ode (L)
Mark Carroll (R)

Gail Kampmeier (L),
Michael McGuire
Carol Anelli, Nathan
Schiff, Randy Cohen (R)

May Berenbaum

Honey The Bee's Gift to Man, *Awake*, August 8, 2005

TV host on a mission save bugs from sprays and shoe heels, *Russ Bynum Associated Press*, July 23, 2005

Pity daddy longlegs: It is wrongly accused, *Akron Beacon Journal*, February 12, 2005

Truly Bugged Resort to an Anti-Cicada Arsenal, *The Washington Post Metro*, June 5, 2004

Chicago Humanities Festival, Six-Legged Chemists, November 13, 2006

> "'It still amazes me that people want to hear about bugs,' said Berenbaum, head of the Department of Entomology at the University of Illinois at Urbana-Champaign, when she stepped before a packed audience. But with the charming and funny Berenbaum at the podium, it was pure entertainment to hear how insects, 'who can't really rely on their keen intellects,' make a go of life here on Earth because 'they believe in better living through chemistry.' Which is to say: They sting, stink and burn in order to stay alive.
>
> Even when she was relaying material a bit too esoterically entomological for the layman, Berenbaum managed to blend colloquial language and comic timing worthy of Woody Allen during his stand-up days to get her message across: Her spiel about the downside of Spanish Fly as an aphrodisian absolutely killed." Emily Nunn, Chicago Trigune

Sydney Cameron

Orchid Bees Really Suck, *Science, AAAS*, December 12, 2003

Jodie Ellis (alumnae)

Occupied territory, *Purdue Agricultures*, Spring 2005

Fred Delcomyn

Robot belly-dancer shakes her stuff, *new@nature.com*, January 20, 2004

Gene Robinson

Insects, viruses could hold key for better human teamwork in disasters, *Medical News Today*, March 2005

In disaster aid, scientists look to bugs to help rescuers keep in touch, *Columbia New Service*, March 2005

New UI lab creating a buzz, *The News-Gazette*, September 2005

U. of I.'s $1 million beehive, *Chicago Sun-Times*, November 2005

Gilbert Waldbauer

Bugs, even the 'bad' ones, can be educationally beneficial, *Inside Illinois*, March 2005

Charlie Whitfield

New UI lab creating a buzz, *The News-Gazette*, September 2005

U. of I.'s $1 million beehive, *Chicago Sun-Times*, November 2005

James Whitfield

Poisonous Partnership, *Science News*, February 2005

Andrew Suarez

Argentine Ants at the Global Picnic, *The New York Times*, January 2005

Opportunity and habitat drive species invasion, *PNAS*, November 2005

Space Invaders, *The News-Gazette*, November 2005

The Artful Lodger, *Inside Illinois*, December 2005

Understanding ant invaders, *John Cook University*, August 2006

Rapid-fire jaws propel ants to safety, *UIUC News Bureau*, August 2006


The Washington Post
METRO
Truly Bugged Resort to an Anti-Cicada Arsenal
Inside Illinois
The Artful Lodger
Give a visiting ant a nice place to stay and it might stick around

The story also appeared on or in:

ABC News
Arizona Republic (Phoenix)
BBC
Biloxi Sun Herald (Mississippi)
Bradenton Herald (Florida)
CBS News
Cleveland Plain Dealer
CNN
CTV (Canada)
Discovery Channel
Forbes
Fort Worth Star-Telegram (Texas)
Fox News
Globe and Mail (Canada)
Houston Chronicle
Independent Online (South Africa)
Indianapolis Star
Innovations Report (Germany)
Lexington Herald-Leader (Kentucky)
Long Beach Press-Telegram (California)
Los Angeles Times
Monterey County Herald (California)
MSNBC
Nature (England)
Newsday (Melville, N.Y.)
Newark Star Ledger (New Jersey)
Pioneer Press (St. Paul, Minn.)
San Francisco Chronicle
San Jose Mercury News (California)
Science
Seattle Post-Intelligencer
The Daily Telegraph (England)
The Kansas City Star (Missouri)
The Scotsman (Edinburgh)
The State (Columbia, S.C.)
The Washington Post
USA Today
Winston-Salem Journal (N. Carolina)
Worcester Telegram (Massachusetts)
WTOP-AM (820) (Washington, D.C.)

May Berenbaum and Gene Robinson


DallasNews.com
Decline of pollinators could affect food supply
Report: Pollinators' drop dooms crops

ENTOMOLOGY, AGRICULTURE AND THE ENVIRONMENT
*Editor's note: U. of I. entomologists May Berenbaum and Gene Robinson were widely quoted about a National Research Council report released Wednesday, Oct. 18th citing a decline in honey bees - the insects that pollinate most fruits and vegetables. Berenbaum and Robinson were among 15 researchers who produced the report. A sampling of citations:

The Washington Post (Oct. 19) -- American honey bees, which pollinate more than 90 domestic commercial crops, have declined by 30 percent in the last 20 years. U.S. farmers had to import honeybees last year for the first time since 1922, underscoring the extent of the problem, says Gene Robinson, a U. of I. professor of entomology. "The honeybee industry is at a critical juncture," Robinson said. "The time for action is now."
Also:
Arizona Republic (Phoenix)
Newsday (Melville, N.Y.)
San Francisco Chronicle
The Pioneer Press (St. Paul, Minn.)


The Tribune
Birds and bees causing harm to fruits, vegetables

The Denver Post (from Cox News Service, Oct. 19) -- Falling populations of honeybees and other pollinators represent a largely ignored crisis that threatens billions of dollars in farm output, the National Academy of Sciences warned Wednesday. "Despite its apparent lack of marquee appeal, a decline in pollinator populations is one form of global change that actually has credible potential to alter the shape and structure of terrestrial ecosystems," says May Berenbaum, the head of the entomology department at Illinois.
Also:
Atlanta Journal-Constitution
Austin American-Statesman (Texas)


REUTERS
Bees, other pollinators may be declining

The Boston Globe (Oct. 19) -- The decline of pollinators "is one form of global change that actually has credible potential to alter the shape and structure of terrestrial ecosystems," says May Berenbaum, the head of the department of entomology at Illinois. Gene Robinson, a a U. of I. entomology professor, said in a telephone interview that people could plant flowers and thereby create nearby habitats for wild bees. "Because these are tiny creatures, even small efforts on the parts of individual landowners can make a big difference," he said.
Also:
Dallas Morning News
International Herald Tribune (Paris)

*The Seattle Times (from The Washington Post, Oct. 27) -- Birds, bees, bats and other species that pollinate North American plant life are losing population, according to a study released by the National Research Council. Gene Robinson, an entomologist at Illinois and one of the 15 researchers who produced the report, said U.S. farmers had to import honeybees last year for the first time since 1922.

The Tribune (from Medill News Service; Greeley, Colo., Oct. 19) -- One day after the U.S. Census Bureau's population clock surged past 300 million, the National Research Council released a report suggesting that the number of American pollinators is dropping. In layman's terms, without bees, there would be no fruits and vegetables. "These are the little creatures that guarantee the food supply," says U. of I. entomology professor Gene Robinson.

Reuters (England, Oct. 19) -- "Despite its apparent lack of marquee appeal, a decline in pollinator populations is one form of global change that actually has credible potential to alter the shape and structure of terrestrial ecosystems," says U. of I. entomology professor May Berenbaum.
Also:
Independent Online (South Africa)
Scientific American

Gene Robinson, Charlie Whitfield, Andrew Suarez, Susanta Behura, Stewart Berlocher, Hugh Robertson

Science magazine (Oct. 27) -- Four years in the making, the 236-million-base genome of the European honey bee, *Apis mellifera*, proved tough to decipher. But the hard work paid off this week as 170 researchers, including many from the U. of I., rolled out their analysis of this fifth insect sequenced to date. With the aid of the genome data, Gene Robinson, the G. William Arends Professor of Integrative Biology in the Department of Entomology at Illinois, has begun to tease apart the genetic and environmental components of the bee social structure and its related behaviors. Now, working with Charles Whitfield, a geneticist at Illinois, Robinson has used microarrays to determine which of 5,500 genes are active in young bees and which are affected by age-related changes in juvenile hormone, a key mediator of behavioral maturation. Two other studies, one reported in the same PNAS (Proceedings of the National Academy of Sciences) issue and another in Science, begin to address what turns the bee's behavioral genes on and off. U of I. computer science professor Saurabh Sinha has picked out some of the regulatory regions that control some 3,219 genes in the bee's brain, including ones important for the development of foraging behavior. And Ying Wang in Robinson's lab and their colleagues report that unlike other insects studied, the honey bee has a vertebrate-like set of enzymes needed to methylate genes, implying that methylation may be important in silencing genes in bees as well as in vertebrates, including humans.

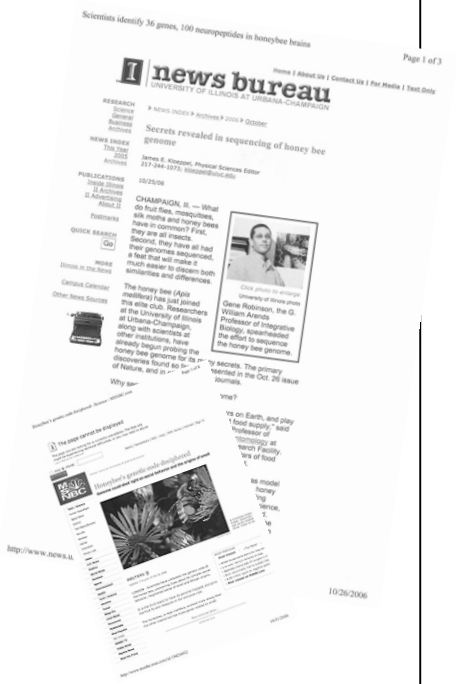
*Science magazine (Oct. 27) -- Among the U. of I. researchers cited in "Thrice Out of Africa: Ancient and Recent Expansions of the Honey Bee" are Charles Whitfield, Andrew Suarez, Susanta Behura and Stewart Berlocher.

*Science magazine (Oct. 27) -- Among the U. of I. researchers cited in an article on how the honey bee provides an opportunity to study the roles of methylation in social contexts are Gene Robinson, Ying Wang, Xu Ling, Craig Mizzen and Peter Jones.

*Science magazine (Oct. 27) -- Among the U. of I. researchers cited in "From the Genome to the Proteome: Uncovering Peptides in the *Apis* Brain" are Timothy Richmond, Michael Ewing, Gene Robinson and Jonathan Sweedler.

*St. Louis Post-Dispatch (Oct. 26) -- Researchers at Illinois helped decipher the genetic code of honey bees, and what they found could help scientists learn more about how our own genes influence behavior, aging, fertility and some diseases. About 50 reports of the analysis of the data are appearing in Nature, Science, Genome Research, the Proceedings of the National Academy of Sciences and other scientific journals, said Gene Robinson, the G. William Arends Professor of Integrative Biology in the department of entomology at Illinois. Jonathan Sweedler, director of the Biotechnology Center at Illinois; entomology professor Charles Whitfield and Peter Jones, a professor of cell and structural biology, also are cited.

*The New York Times (from Reuters, Oct. 26) -- Scientists have deciphered the genetic code of the honey bee, uncovering clues about its complex social behavior, heightened sense of smell and African origins.
Also:
Hindustan Times (India, Oct. 26)
The Oregonian (Portland, Oct. 26)


Scientists identify 36 genes, 100 neuropeptides in honeybee brains

news bureau
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Secrets revealed in sequencing of honey bee genome

CHAMPAIGN, Ill. — What do fruit flies, mosquitoes, silk moths and honey bees have in common? First, they are all insects. Second, they have all had their genomes sequenced, a feat that will make it much easier to discern both similarities and differences.

The honey bee (*Apis mellifera*) has just joined this elite club. Researchers at the University of Illinois at Urbana-Champaign, along with scientists at other institutions, have already begun probing the honey bee genome for its secrets. The primary discoveries found so far are described in the Oct. 26 issue of Nature, and in other journals.

Gene Robinson, the G. William Arends Professor of Integrative Biology, spearheaded the effort to sequence the honey bee genome.

Honeybee's genetic code deciphered

10/26/2006

*Voice of America (Oct. 26) -- U. of I. entomologist Gene Robinson interviewed. The link includes a second link, which offers access to the audio interview.

*New Zealand Herald (Oct. 27) -- Honey bees evolved millions of years later alongside flowering plants in a symbiotic relationship, says Hugh Robertson, a professor of entomology at Illinois.
Also:
The Independent (London, Oct. 26)

*Medical News Today (England, Oct. 27) -- "The honey bee (A*pis mellifera*) has been called a model system for social behavior," said Saurabh Sinha, a U. of I. professor of computer science who has led a study of the honey bee genome for clues for social cues - a form of bee pressure that can cause bees to change jobs in response to needs of the hive.

2005

Spring

Andy Deans, UIUC, Thesis Defense, "*Exploring the evolution and taxonomy of Evaniidae, a charismatic and enigmatic family of insects*

Brian Wiegmann, North Carolina State University, *Flies in the Tree of Life: Mining the fossil, anatomical and molecular record*

Bruce Webb, University of Kentucky, *Evolution of symbiotic viral genomes: insights from comparative genomics*

Christina Grozinger, North Carolina State University, *Genomic responses to pheromones in the honey bee brain*

Susan Mopper, Louisiana State Uiversity, *Phenology: How time structures space in insect populations*

Chad Tillberg, UIUC, *Food web deviants: spatial and temporal dietary variation in ants*

Anne-Katrin Eggert, Illinois State University, *Reproductive plasticity in burying beetles*

Robert Reed, Duke University, *Evolution of gene regulation in butterfly wing pattern development*

Reddy Palli, University of Kentucky, *Studies on juvenile hormone & ecdysone action & their applications in agriculture & medicine*

Helen Hull-Sanders, University of Wisconsin-Milwaukee, *Inbreeding and invasiveness: investigating new paradigms for plant defense theory*

Meredith Blackwell, Louisiana State University, *Insect-associated fungi: An inordinate fondness for yeasts*

Catherine Loudon, University of Kansas, *Mechanical properties of insect antennae*

Laura Fielden-Rechav, Truman State University, *Engery and water balance in ticks (Ixodidae)*

Martin Hauser, UIUC, Thesis Defense, *The basal lineages of stiletto flies (Diptera, Therevidae).*

Fall

DeWayne Shoemaker, University of Wisconsin, *Effects of Wolbachia on host mtDNA evolution.*

Gene Kritsky, College of Mount St. Joseph, *Two thousand years of innovative apiculture*

Bryony Bonning, Iowa State University, *Of baculoviruses, basement membranes and dead bugs*

S. Raghu, UIUC, *Sex, flies and a revelation— Understanding the functional significance of phenyl propanoids to dacine fruit flies*

Axel Brockmann, UIUC, *Sex pheromone communication in honey bees- From anatomy to behavior*

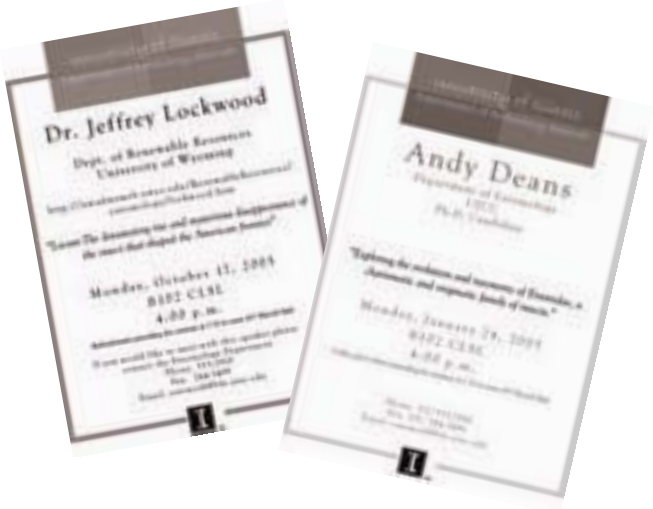
Jon Miller, Northern Illinois University, *Eicosanoids mediate insect cellular immune reactions to bacterial infections*

Jeffrey Lockwood, University of Wyoming, *Locust: The devastating rise and mysterious disappearance of the insect that shaped the American frontier*

Won Young Choi, UIUC, Thesis Defense, *The systematics of the Diolcagastroid complex (Microgastrinae: Braconidae: Hymenoptera)*

Catherine Hill, Purdue University, *Overview of tick genomics*

James Nieh, University of California, *Competition, espionage, and the evolution of stingless bee communication*



2006

Spring

Jorge Zavala, UIUC, *The phenotypic consequences of trypsin proteinase inhibitor (TPI) expression in Nicotiana attenuata: A molecular and ecological analysis*

Susan Paskewitz, University of Wisconsin, Madison, *Mosquitoes and malaria: host proteins affecting parasite survival*

Noah Whiteman, University of Missouri, St. Louis, *Evolutionary epidemiology of endemic Galapagos birds and their ecto-parasites*

Bethia King, Northern Illinois University, *Choosing a suitable mate in the parasitoid wasps: Spalangia endius*

Que Lan, University of Wisconsin, Madison, *Cholesterol metabolism in insects as a target pathway for novel insecticides*

James Fordyce, University of Tennessee, Knoxville, *Why dine with your kin? Aggregative feeding of the pipevine swallowtail*

Jurgen Gadau, Arizona State University, *The genetic basis/architecture of speciation and adaptation*

Michael Goodisman, Georgia Institute of Technology, *Genomic analysis of development in social insects*

Moushumi Sen Sarma, UIUC, *Towards an interspecies comparison of the honey bee dance language: from behavior to molecules*

Cameron Currie, University of Wisconsin, Madison, *Fungus-growing ants*

Dave Marshall, University of Connecticut, *Ice age climate changes and the timing and geography of cicada speciation*

Bryan Danforth, Cornell University, *Phylogeny of the bees based on 5 genes plus morphology reveals and unexpected pattern of early diversification*

Daniela Takiya, UIUC, Thesis Defense, *Sharpshooter systematics: targeting classification and behavior through phylogenetics*

Warren Abrahamson, Bucknell University, *Sequential radiation through host-race formation: herbivore differentiation leads to differentiation of a natural enemy*

Fall

Joe Spagna, UIUC, *How to get a robot out of a tree: Phylogenetics as inspiration for biomechanical and physical models.*

Douglas Zeppelini, Universidade Federal da Paraíba, *Collembola, Hexapoda or Crustacea: morphological and molecular evidences.*

Susan Halbert, Florida Department of Food and Agricultural, *Excotic plant suckers: three stories*

Jocelyn Millar, University of California, Riverside *Sirens of the Sands: Aggressive chemical mimicry of a host's sex pheromone by a phoretic nest parasite*

Kevin Wanner, UIUC, *Odarant receptor genes from silkworms and honey Bees*

Jim Whitfield, UIUC, *Wasps, polydnaviruses, and phylogenetics: A mixed up tale.*

Richard O. Musser, Western Illinois University, *Molecular response of plants to insect herbivory.*

Jeff Holland, Purdue University, *Habitat connectivity and native longhorned beetles.*

Mark Willis, Case Western Reserve University, *Odor-guided orientation in insects and mobile robots.*

Emerson Lacey, UIUC, Thesis Defense, *Chemical ecology of cerambycine beetles.*

Hugh Robertson, UIUC, *100 genes that honey bees share with humans, but were lost from Drosophila flies.*

Emilie Bess

I moved to Urbana in July 2005 from St Louis, Missouri, where I earned an MS in plant systematics at UM-St. Louis. At UIUC, I'm working with Dr. Kevin Johnson on a study of the species radiation of bark lice (Psocoptera) in the genus *Ptycta* in Hawaii. To learn the morphology of these tiny insects, I'm lucky to be working with two other bark louse experts, as well: Dr. Ed Mockford at Illinois State University, and Dr. Kazunori Yoshizawa at Hokkaido University in Sapporo, Japan. This summer, I made a collecting trip to Hawaii and spent time in Japan working with Dr. Yoshizawa and enjoying the spectacular weather, lush landscapes, and shockingly fresh seafood of Sapporo!

Over the past year, classes and teaching have kept me busy, but I've found some time to spend with friends and enjoy life in Illinois. My partner and I bought a little house in Urbana and adopted a happy-go-lucky young dog. We've had a good time settling in, starting a garden, and teaching the dog some new tricks. I'm looking forward to traveling to Argentina and Hawaii in the coming year for meetings and research.

Prithwiraj Das

I arrived at Illinois on August 18th, and the next day I visited the University of Illinois at Urbana Champaign, my dream place. Honestly speaking, I'm so glad to be here, that, for the next two days I was admiring it. Being a new graduate student in the Department, I'm extremely lucky to share my feelings about my visit to the University, and to USA. I'm thankful to the Department for providing me an opportunity to write for this edition. Initially, I landed in New York, and the city was my first experience at USA. My first trip to New York will be an unforgettable paragraph.

After graduating from the University of Pune, India, I was selected to work in a project in National Chemical Laboratory, Pune. Based on my interests in chemical ecology, that was a great opportunity to learn techniques under the guidance of Dr. A. Sen, and to get my hands-on experiments. The project was to study the feeding and oviposition behavior of *Spodoptera litura* and *Helicoverpa armigera*. During the project, I learned EAG to record insect responses to plant volatiles, and studied insect behavior of feeding and oviposition. Also, I'm exposed (very little) to spike analysis recorded from medial and lateral sensilla, in the larve of Lepidoptera.

I'm in Prof Berenbaum's lab as a PhD student, and am undergoing courses. Precisely, here I'm enjoying my academics a lot, and am looking forward to do research on my interests.

Elizabeth Graham

When I completed my B.S. from U of I in 2000 I thought I would never return to central Illinois. However after six years my desire to live amongst the corn and soybean fields became so great that I left the hills of the upper peninsula of Michigan (where I completed my M.S. in Forestry) and returned to the flatness of Champaign-Urbana to work on a PhD. I joined the Hanks lab in January of 2005 and have been studying volatiles released by stressed trees and the response of cerambycid beetles to these chemicals. Besides the joys of being an entomology graduate student I have also been the EGSA Outreach Coordinator, which has taken me and half the insectary to numerous classrooms and events in the area.

Most my time here has been spent either wielding my chainsaw in the field, yelling at beetles in the lab, or teaching undergrads to not use their cell phones in class. Otherwise you can find me in my new orange car, listening to Springsteen, working in the garden, watching my new t.v., drinking a Guinness or cooking dinner for my fellow graduate students.

Patrick Halbig

I am working on mosquito ecology projects both here in Illinois and in Kenya. I am currently looking at factors that influence oviposition preference for *Anopheles gambiae*. I recently finished a study looking at the effect of agricultural fertilizers on mosquito larval survival and development. I have also collected entomological data in Mwea, Kenya and Cook County, Illinois for various epidemiological projects.

Terry Harrison

Terry Harrison is a Ph.D. candidate in the lab of Dr. May Berenbaum. His research interests include biosystematics of microlepidoptera, and conservation biology. Presently, these interests are combined in a study of microlepidoptera of hill prairies in Illinois.

Heather Hines

In the last two years I have finished and published my Masters' work, which focused on the phylogenetic relationships and historical biogeography of the largest bumble bee (*Bombus*) subgenus *Pyrobombus*. Recently I completed sequencing for a phylogeny of the bumble bees of the world. A paper presenting the phylogeny based on four genes is currently in press in the Biological Journal of the Linnean Society. To strengthen support values for looking at trait evolution in *Bombus,* I have added a fifth gene to this dataset and added a few more taxa to bring the total species representation to 215 of the ~250 spp. I am currently working on a paper where I use this updated phylogeny to examine divergence times, biogeography, and diversification patterns in the bumble bees. Relevant to the phylogenetic work, in August I spent some time in Sweden with bumble bee taxonomists Pierre Rasmont and Paul Williams, along with my advisor Sydney Cameron, and Swedish bee biologist and conservationist Bjorn Cederberg, to discuss how the bumble bee subgeneric classification can be simplified given our phylogenetic data.

Last summer I spent some time in the field studying a nest of one of the two primarily tropical lowland bumble bee species, *Bombus pullatus*, in Costa Rica. This nest shared a peculiar nest architecture with the other tropical lowland bumble bee, *Bombus transversalis*, involving a conical mound of cut-up vegetation on the ground surface constructed by the bees.

Continuing in the Cameron lab, in addition to the phylogenetic work, I am focusing my PhD dissertation of the evolution of color pattern in bumble bees. This involves looking at the developmental constraints and trends in color pattern change by mapping color patterns onto species-level and population-level phylogenies. After this is done I plan on determining pigments involved in *Bombus* coloration to explore candidate genes contributing to frequent color changes and geographic convergence in color pattern.

Outside of research, I enjoy experiencing new cultures and habitats through travel (in addition to trips mentioned above, I have visited Alaska, New Orleans, Boston, Maine, Kansas, southern and central Mexico, and road tripped across Florida in the last two years). Around Champaign-Urbana I enjoy watching movies and spending time in nature.

Reed Johnson

I received a Bachelor's degree in biology from Wabash College and a Master's in biology from Wake Forest University. My Master's thesis research looked at the chemical defenses of a wasp-mimicking arctiid moth.

For my Ph.D. research, which I am working on with May Berenbaum, I have changed research insects to a real hymenopteran, the honey bee. I am interested in the honey bee's detoxification of natural toxins found in nectar and pollen as well as detoxification of insecticides, particularly through the action of cytochrome P450s.

I try to spend a few weeks in Montana each year visiting my parents between hiking and camping. Around Champaign I try to bike as much as I can and I enjoy baking things for lab potlucks and various get-togethers. Lately I have started roasting my own coffee, which is much easier than I expected.

John Kane

I am currently finishing up my Master's degree in the medical entomology lab of Dr. Robert Novak. My workday involves a hectic mix of insectary maintenance, mosquito bloodfeeding, scouting and trapping, specimen identification, burning larvae under ultraviolet radiation, and teaching the odd lab section. Outside of research and studies I make time for long bike rides around town, wining and dining with friends, and maintaining a rather nice vegetable garden in Meadowbrook park.

Sara Kantarovich

I am now in my second year of graduate school and loving it. Currently I'm working with a group of ants that have an amazing cuticular structure on the petiole. It's uncharted territory and I am trying to unravel its mysterious function. Soon I will be working on nest-mate recognition using Argentine ants and hopefully will find myself in Argentina for field work.

Lauren Kent

Although historically I've been studying the expression of gustatory receptor genes in *Anopheles gambiae*, I recently switched to studying the same subfamily of genes in *Aedes aegypti*. Somehow, even with my advisor away on a nine-month sabbatical, I managed to manually annotate most of the *Aedes* Grs in time for publication (we hope!) along with the mosquito's genome paper in the spring.

I am originally from Connecticut, but came to the Midwest to attend Washington University in St. Louis, where I received my B.A. in biology. I really miss the hills and beaches of the East Coast, but as what might be the only redeeming feature of the lack of landscape out here, I've found that watching storms on a flat horizon can be rather breathtaking. Were I given free time, I'd likely fill it with drawing, hiking, tennis, and falling asleep outside on a sunny day. I've also been involved in the movement to retire the university's Native American mascot, "Chief Illiniwek".

Emily Kluger

I'm starting my 3rd year as a master's student in the Hanks lab. Since the last newsletter, I've adjusted a bit more to life in the Midwest; however, I greatly appreciated a 'break' from winter in 2005 to attend an OTS course in Costa Rica! Too bad the Entomology Department's core courses aren't taught in the tropics, as well. Nevertheless, the last two years have been filled with numerous visits to tallgrass prairies, chigger-bites, and starch gels. My research focuses on a prairie-endemic weevil that causes significant damage to native plants in the genus *Silphium*. I am examining the effects of host plant diversity on weevil activity and seasonal damage to plants at 12 prairies in eastern Illinois. Because this ecosystem has been severely fragmented, I am also studying genetic variation between weevil populations with the help of Stewart Berlocher. Research aside, I enjoy hiking, running, playing soccer, and traveling (with the help of Chase-Visa).

Lisa Knolhoff

I received my B.S. in biology from Truman State University in 2003, and it was there that I developed my interest in spineless creatures. I studied how dog ticks are able to survive relatively long periods of time while submerged underwater. Undergraduate research was a very enjoyable experience for me, and it led me to joining the entomology department here. I now study rotation resistance in the western corn rootworm, a common insect pest here in Illinois. I received my M.S. last year after describing the behavioral adaptation of this insect to crop rotation. Currently, I am working on a western corn rootworm microarray project in the Robertson lab.

Sindhu Krishnankutty

I am originally from southern India. This is my third year in the department. I joined Chris Dietrich's lab as a Masters student during Fall 2004. My M.S. research was on taxonomic and phylogenetic analyses of leafhopper Genus *Cuerna* (Hemiptera: Cicadellidae) under the guidance of Drs. Roman Rakitov and Chris Dietrich. A total of 30 species were recognized and for the first time phylogeny of the genus was estimated using molecular and morphological data. Apart from this, a web based interactive key was developed facilitating identification of the species via internet. The theses on my Masters will be submitted during December 2006. Presently I am pursuing PhD in the same lab. For my PhD, I am interested in studying leafhoppers from Western Ghats , southern India- one of the biodiversity hotspots. In my personal life, I got married to Madhu Siddappaji, also an entomologist now doing Ph.D. work at Kansas. During free time I enjoy music, quiet nights at home, watching T.V, and cooking new dishes.

Emerson Lacey

As I write this blurb, I am preparing my PhD exit seminar and anticipating a flurry of writing as I finish requirements for a degree. My research, conducted under the tutelage of Larry Hanks, focuses on the aggregation pheromones produced by male beetles in the subfamily Cerambycinae. This work has elaborated on a system that not only holds promise for management of pestiferous species of longhorned beetles but also could be an important tool in studies of ecology and conservation for many species.

2005 and 2006 have been a busy years. I married my beautiful wife Andrea (the sister of a former Ent. 301 student), spent extended periods of time doing research in California and Idaho, visited (for fun) Costa Rica, saw American crocodiles in the wild in two different countries, and raised the total number of cerambycid species that I have collected in Illinois to well over 100. As I look towards the future (and perhaps a job, as it is the logical end result of years of schooling, isn't it?), I realize that wandering into the Entomology office so many years ago (while looking for the biochem office and wondering what to do with my life) and thinking "bugs, huh?" was amongst the most important and rewarding decisions of my life.

Doris Lagos

I am a native of Peru, and I graduated from University Agrarian La Molina-Lima. I came to Champaign to work as an intern with John Shaw at the Illinois Natural History Survey (Center for Ecological Entomology). In 2001, I met Dr. David Voegtlin who introduced me to the aphid world. It's been a privilege working with Dr. Voegtlin because of his amazing knowledge of aphids systematics, which surprises me more and more every day. We do research in soybean aphids, *Aphis glycines,* such as looking for its preference of winter hosts, and identifying aphids which are caught in suction traps during the summer from ten midwestern states. But my main research is about the taxonomy of the genus *Aphis*. I think is a great privilege to graduate from UIUC because of the high system of education, and of course the great people who share their knowledge, customs, and more. When, I am not in my lab, I enjoy my life with my son, David Alejandro.

Katrina Lustofin

I'm currently in that most unpleasant stage of the doctorate program-writing and rewriting! My dissertation deals with comparative developmental toxicology, using *Drosophila melanoguster* and chick embryos as model organisms. To relieve stress and get away from my computer, I am working towards a black belt in tae kwon do, which I hope to earn around the same time as my Ph.D. While I am looking forward to graduating and moving to somewhere with actual topography, I have to admit I have become much fonder of Urbana and the university than I ever imagined possible.

Cindy McDonnell

I am a PhD candidate in the labs of May Berenbaum and Mary Schuler. I also received my Master's degree in Entomology at Illinois in their labs. I study the transcriptional regulation of cytochrome P450 genes in insects by xenobiotics (i.e., insecticides and plant allelochemicals). Currently I use the molecular response of *Drosophila melanogaster* to the insecticide methoprene as a model of insect gene regulation. For my master's thesis I examined how response elements act in the promoters of cytochrome P450 genes from two related species, the black swallowtail and tiger swallowtail. I have switched to *D.melanogaster* in order to follow up on the proteins that may interact with promoters from insect cytochrome P450 genes.

Looking back at my first newsletter bio back in 2000, I had no idea what Champaign held for me. Since the last one of these newsletters, I have bought a house, acquired some awesome cats but have only played a little bit of tennis.

Katelyn Michelini

Hey to all! So, this is my first semester here at the University of Illinois as a graduate student. It's been an interesting first few weeks, trying to adjust to my new responsibilities and teaching, but I feel like I'm getting into the swing of things. I completed my undergraduate degree in Integrative Biology here at the University of Illinois. I graduated with high distinction for completing a senior research project on *Drosophila melanogaster* and *Wolbachia*. The long-winded title of my thesis is: *Wolbachia* in *D. melanogaster*: Decrease in Infection Prevalence and Possible Explanations: Cytoplasmic Incompatibility, Fitness Benefits, and Transmission Rates. I will be working with Dr. Kim Hughes on publishing my paper this fall semester, which is a very exciting endeavor. I have yet to decide what organism I would like to focus my graduate research on or who I would like my advisor to be; however, I have no worries that I will find the perfect project to work on. I am excited about working with the faculty and graduate students while I complete my education!

Rob Mitchell

I am a 2nd-year Master's student studying the vector relationship between striped cucumber beetles and bacterial wilt of cucurbits. My primary research interest lies in approaching questions in applied entomology through a framework of modern molecular and computational techniques. In this regard, cucumber beetles and their prokaryotic associates present a useful (and interesting!) system in which practical ecological information can be discerned through molecular methods. Interest-wise, I am enamoured with insects, aquatic life, and nature in general. I also enjoy fiddling with electronics and both playing and creating video games. Curiously, I hate the taste of cucumbers, squashes, and all other members of the Cucurbitaceae.

Ephantus Muturi

I am Ephantus J. Muturi pursuing graduate studies at the Department of Entomology, University of Illinois at Urbana-Champaign. My main area of study is the ecology of vector mosquitoes in African rice agro-ecosystems. This is my second year of study at the department and I lack suitable words to express my feelings towards the great experiences I have acquired so far. Despite the high quality academic standards provided by the Department of Entomology, the social aspect of life has not been compromised. The biking, and camping trips, insect fear festivals etc not only bring students together but also help them to interact socially. In this respect, the system has molded me to be an all-round person who interacts well with people and copes with the various challenges of life with ease. I have made new friends from all over the world, a chance that would not have occurred to me elsewhere. I'm proud to be associated with the department.

Nicholas Naeger

In 2005 I received a duel degree in Molecular Genetics and Entomology from The Ohio State University. I have worked with honey bees for five years now, having specific interests in learning and memory, and behavioral genetics. My current project, working with Dr. Gene Robinson, is an effort to elucidate the molecular basis of gravity perception and gravitaxis. Honey bees must be able to correctly orient to gravity in order to communicate the location of food sources during the waggle dance.

On top of insects, I also have interests in botany and mycology, and I share my home with many plants and the cutest dog in the world. I brew my own mead (honey wine), and I will continue to play soccer until the day my knees finally give out.

Christina North

I am studying the decline and pathology of bumble bees with Sydney Cameron and Lee Solter. In particular, I'm trying to determine where in the western United States *Bombus franklini* and *Bombus occidentalis* currently exist, because they have either disappeared or declined drastically in much of their former ranges. Another species may also be in decline, *Bombus pennsylvanicus*, whose range should extend, at its northern edge, into Illinois.

To begin to address this issue of decline in the three species, I'm conducting a pathogen survey in Illinois and the western United States. I'm looking, specifically, for *Nosema bombi*, which is a microsporidian pathogen of *Bombus* spp. One of the major questions I'd like to answer is whether the pathogen is more prevalent or virulent in the three potentially threatened species, as compared to non-threatened species.

Bridget O'Neill

I'm halfway through my fourth year here in May Berenbaum's lab wondering where the time has gone. I completed my master's degree this past spring titled "The Effects of Soybean Foliage Grown under Elevated CO_2 on Longevity and Fecundity of the Japanese Beetle, *Popillia japonica* (Newman)." I am continuing my Ph.D. research out at the SoyFACE plots down in Savoy, proceeding to unlock the mysteries of global climate change and how herbivorous insects of multiple feeding guilds will be affected. I am continuing my research with Japanese beetles, that favorite insect of Illinois gardeners, and am starting several experiments with the newly introduced soybean aphid and the native painted lady. While collaborating with several members of the DeLucia lab in Plant Biology and with researchers in the newly formed Institute of Genomic Biology, I have slowly begun to learn plant chemical profiling and microarray analysis. In my precious spare time I enjoy searching for random festivals, restaurants and museums in the Midwest, supporting all things New England, and photography.

Dominic Philpott

I grew up in England and the U.S., but having spent most of my life in Champaign, Illinois, I consider myself a "townie" here on the U of I campus. I made my way to the States at age 7, when my dad took a position at U of I as a professor of Mechanical Engineering. When it came time for me to head off to college, I chose to part ways with Champaign for a while, and go south. I spent two years of my undergraduate experience at Southern Illinois University in Carbondale, and one year as an SIU student abroad in France. My travel adventures behind me, I returned to UIUC in the summer of 2003, and completed my undergraduate work at U of I in the spring of 2005, receiving a B.S. in Integrative Biology. I immediately started research in Larry Hanks' lab, taking only one day off between my undergraduate and graduate work to buy a house. My research has taken many turns since I began, but has been consistently focused upon gaining a better understanding of several aspects of pine and pine needle scale insects and

Dominic Philpott (cont..)
their parasitoids. When I'm not in the Hanks lab peering down the eye-piece of a microscope, or out at a Christmas tree farm taking clippings from scale-infested trees, I can usually be found with friends or family, or at my house working on some kind of D.Y.I. project.

Maminirina Randrianandrasana

My name is Maminirina Randrianandrasana. People call me Mami. I am coming from Madagascar, an island off the southeastern coast of Africa, usually known to be a sanctuary of nature because of its unique plants and animals. I graduated from the Department of Entomology at the University of Antananarivo in Madagascar, where my thesis research focused on the impacts of wastewater from textile factories on aquatic insects in irrigated rice fields. I wanted to resume my studies in entomology, and my dream came true when a Fulbright scholarship allowed me to join the Department of Entomology at UIUC in spring 2005.

My advisor, Dr. Steve Taylor (INHS), helped me find a topic for my MS thesis. I am collecting data on the feeding habits of *Isoperla nana* (Plecoptera) naiads in Jordan Creek (Vermilion County, IL), using both stable isotope analyses and gut contents analysis. Despite the culture and climate shock at the beginning - such as breaking ice to collect samples in the stream in winter - I completely enjoy the UIUC atmosphere. I learn many things everyday, and am looking forward to applying the experiences I gain here to further develop entomology in my own country.

Claus Rasmussen

Three years has passed now since my wife Iris and I arrived from Peru –which will make it seven years since I left my native Denmark. We since had an American daughter in 2004 now trying the art of being tri-lingual. I have the pleasure of continuing my work on the systematics of tropical stingless bees (Apidae) together with my advisor Sydney Cameron. This work has taken me to both Brazil and Malaysia, as well as to meetings around the county. I have also finally been able to visit Denmark again and always look forward to catch an unknown bee or try a new cuisine.

Ann Ray

In October 2005, I completed my M.S. examining the taxonomic distribution of gland pores associated with the production of volatile pheromones in the longhorned beetle subfamily Cerambycinae. I am continuing in Larry Hanks' Lab for my Ph.D. and will be combining studies of morphological and chemical traits with behavior and natural history to examine the evolution of chemical communication in longhorned beetles. To obtain beetles for this project I have been doing quite a bit of traveling. I spent most of this past May in California working with Larry during his sabbatical at UC Riverside. I recently traveled to Arizona and Sonora, Mexico and in October I am visiting the Chamela Biological Station in Jalisco, Mexico. Luckily, I love to travel and I love to collect beetles.

In other news, for the past two years, I have been a volunteer with the Beckman Institute's Bugscope project, an educational outreach program allowing K-12 students to examine "bugs" using online access to the scanning electron microscope. This has been a tremendously rewarding activity, and it is a fantastic opportunity for kids to learn about insects. More info is available at http://bugscope.beckman.uiuc.edu/ (shameless plug there!)

When I am not working or traveling or Bugscoping, I enjoy bellydancing, gardening, knitting, running, camping, cooking, cursing my iPod, and getting more hobbies.

Peter Reagel

I received my B.S. from Illinois in 1996, and completed my M.S. in 2001 in the lab of Larry Hanks. For my M.S. I studied the mating system of the red milkweed beetle, *Tetraopes tetrophthalmus* (Forster) (Coleoptera: Cerambycidae). Both plant quality and the presence of female beetles appear to influence the accumulation of mated pairs of beetles on milkweed stems. I found no evidence that male beetles were attracted to female beetles by long-range pheromones; rather, they accumulated by spending more time on milkweed stems on which they contacted female beetles.

I began working on conservation biological control of armored scale insects, but have gone back to working with longhorn beetles. I am interested the reproductive biology of the parasitoids of cerambycids, in particular host-finding behavior of these parasitoids. I also like hiking and camping, and drink many cups of tea and coffee.

Matthew Richardson

I am not new to the university, but this is my first year in the newsletter, so I guess a general introduction is in order. I am from Reading, PA and underwent a morph from a Fighting Blue Hen (B.A., B.S., University of Delaware) to a Fighting Illini (M.S., Ph.D. - eventually). I research community ecology and after completing my M.S. on widely ranging snakes and small mammals in Illinois prairies in the Department of Natural Resources and Environmental Sciences, I decided insects were easier to follow around. Larry Hanks was gracious enough to accept me into his eclectic lab and I am in the Program in Ecology and Evolutionary Biology. My doctoral research focuses on tritrophic interactions in goldenrod fields. Contrary to popular belief, goldenrod IS a marvelous ornamental plant and does NOT cause your fall allergies. For all the entomologists who are reading this and want to know the arthropods I work with, my main focus is on aphids (*Uroleucon* spp.) and anything and everything that eats aphids (such as coccinellids, neuropterans, parasitoid wasps, and spiders - much to Larry's dismay).

When not at work I can be found in the bustling metropolis of Le Roy ("in the foothills of Mt. Level") where my wife, Amy, and I live because Le Roy is halfway between Urbana and Normal (where Amy is a graduate student at Illinois State University).

Josephine Rodriguez

Since the last Entomology Department Newsletter…I have participated in the Applied Phylogenetics Workshop in Bodega Bay, CA and the HYM Course (Parasitic and Aculeate Wasps) at the Southwestern Research Station in Portal, AZ…all of which makes me realize how wonderful microgastrine braconids are! A lot of my time is spent on a collaboration with Jim Whitfield (my advisor), Paul Hebert (University of Guelph), and Dan Janzen (University of Pennsylvania) combining DNA "barcodes", extensive host data, and wasp morphology/taxonomy to uncover previously unknown host specificity and cryptic species complexes with microgastrine wasps. I am continuing my focus on *Apanteles* (the largest microgastrine genus) and am sequencing additional genes to look at phylogenetic patterns in ecology and diversification. I will be at the Guanacaste Conservation Area in Costa Rica this January, to collect/rear caterpillars (especially microleps), sort through malaise trap material, and maybe I'll get lucky and see *Apanteles* alive and in field. You can bet I'll be taking lots of pictures…and if you are curious, I have pictures from my June 2006 Ecuador trip (with Jim Whitfield and Chris Grinter) at http://www.life.uiuc.edu/whitfield/Ecuador_Website/

Scott Shreve

I am a new master's student in the Entomology department, returning to school after taking three years off since a B.S. in zoology from Miami University in Ohio. I am interested in phylogenetics and evolution. To correct my current advisor-less situation, I am doing a rotation through four labs this semester. I have enjoyed interacting with several different faculty members and labs and have learned a great deal about my own interests. I don't know that I have made my decision any easier, but I do have more information. Apart from re-learning how to be a student, I enjoy spending time with my wife Amy, reading, and hiking.

Dani Takiya

I am a Ph.D. candidate advised by leafhopper expert Dr. Chris Dietrich at the Illinois Natural History Survey. I ended up in Illinois because I am interested in the systematics of sharpshooters, i.e., the leafhopper subfamily Cicadellinae. My work consists of describing new species, developing taxonomic keys to identify them, and clarifying their phylogenetic relationships using morphological and DNA-sequence characters. Even though people are just familiar with a few important agricultural pests, sharpshooters are very diverse – there are about 1,500 described species – and occur all over the world, which makes it a very fun job to travel around to collect them. Recently, though, I haven't been to many places, as I am trying hard to finish my dissertation. Indeed this will be my last Newsletter post as a graduate student. Life in Illinois has been a challenge, as the weather, food, topology, and the dancing haven't been the best. On the other hand, here I learned as much as I could about insects, found great facilities and resources for my research, and met many loving people who will continue on with me even after I return to my native country, Brazil.

Rodrigo Velarde

I hope to defend my Ph.D. dissertation during the course of this semester. I should say that the main attractive for me to come to C-U was the Department of Entomology. I was born in Cochabamba, Bolivia, next to the Andes; therefore the contrast in landscape with central Illinois was at first shocking. However, I have learned to discover and appreciate the community, landscape and the peculiarities of Illinois. In academic terms, I have continued my work on the characterization of the nuclear hormone receptors (NHRs) of the honey bee under the guidance of Dr. Gene Robinson and Dr.Susan Fahrbach. I hope my Ph.D. work is just the end of the beginning of honey bee NHR research in the context of adult brain plasticity. I also have collaborated with other interesting projects in the laboratories of Dr. Hugh Robertson and Dr. May Berenbaum. It is sad to leave the Department, and I take the opportunity to thank the faculty for their enthusiasm, support, and generosity.

Adam Wallner

I am a fourth year graduate student at the University of Illinois at Urbana-Champaign in the Department of Entomology. My research focuses on the use of leafhoppers and related groups to measure the relative health of Illinois hill prairies. Data from this study may be important in making novel conservation and management decisions, and may increase our understanding of the dynamics of hyperdiverse groups of organisms in a highly fragmented landscape.

James Zahniser

In the past year, I have been adding data to my projects on the phylogeny, biogeography, and evolution of host plant use in a large subfamily of leafhoppers (Cicadellidae). Last summer, I had the pleasure of presenting my preliminary results at the 12th International Auchenorrhyncha Congress held in Berkeley, CA. That was a great experience because I had the opportunity to meet lots of famous auchenorrhynchologists (say it 3 times quickly!). Shortly after the meeting, I went to Panama to collect leafhoppers with colleagues. I also got to see the Panama Canal (a marvel of engineering) and I bought several beautiful molas (artwork of the Kuna Indians). Earlier this past summer, I traveled to the eastern US to visit museums and colleagues in New York, Delaware, and Washington, D.C. Although I didn't find any of the fossil leafhoppers I was hoping to find, I did come across several interesting new species of leafhoppers to describe, and they should keep me busy in the year to come.

John Zukowski

I grew up in MN but I don't sound like I'm from Fargo (which is in North Dakota anyway.) I became interested in entomology while an undergrad at UW-Madison. I worked for 2 years after graduating before deciding to pursue further education. I then took time off to travel to Western Europe for a month prior to making the move to UIUC. I'm interested in environmental toxicology and pesticide application, biocontrol and IPM. I am specifically interested in the application of ryanodine receptor pesticides on urban pests such as cockroaches. I enjoy soccer, basketball, music, video gaming, Oreos and milk, and most anything chocolate. I really like spiders and really don't like sharks! I have a tarantula and 2 dogs. My heroes include the men and women of the armed forces, Michael Jordan, Stephen Hawking, Lance Armstrong, Wyatt Earp, and Dr John "Doc" Halliday.

Top left: EGSA Campout 2005
Bottom left: Halloween 2005 Andrea & Emerson Lacey

Top right: New Student/Alumni picnic 2005 Justin Fuller and Matthew Richardson

Bottom right: Halloween 2005 Jamie Zahniser, Cindy McDonnell and Dan Harvey

Master of Science 2005

Lisa Knolhoff. Behavioral Differences between Rotation-Resistant and Wild-Type Western Corn Rootworm

Jennifer McGovern. Metabolic Effects of Furanocoumarins on Two Lepidopteran Species

Ann Ray. Predicted Taxonomic Patterns in Pheromone Production by Cerambycid Beetles

Nadine Schulz. Universit¨at Hohenheim Institute for Phytomedicine, Glucosinolate governed Tritrophic Interactions of Broccoli, *Myzus persicae* (Sulzer), and *Aphidius colemani* (Viereck)

Nick Tzovolos. Baseline Suvey of Invertebrates at Indian Ridge Marsh, Hegewisch Marsh and Indian Creek, Chicago, Illinois

May Berenbaum and Martin Hauser

Doctor of Philosophy 2005

Andrew Deans. Exploring the Evolution and Taxonomy of Evaniidae (Hymenoptera), a Charismatic and Enigmatic Family of Insects

Jeffery Gilardi. Genetic Divergence Among Subspecies of *Basilarchia arthemis*

Won Young Choi. Systematics of the Diolcogastroid Complex (Microgastrinae: Braconidae: Hymenoptera) from the New World

Alejandro Valerio. A Systematic Revision of the Genus *Hypomicrogaster* Ashmead (Hymenoptera: Braconidae): A Phylogenetic Approach

Martin Hauser. Systematics and Evolution of the Basal Lineages of Therevidae

Harland Patch. Chemoreceptors from the Hawk Moth *Manduca sexta* L.

Master of Science 2006

Bridget O'Neill. Effects of Soybean Foliage Grown Under Elevated CO2 on Longevity and Fecundity of the Japanese Beetle, *Popillia Japonica* (Newman)

EGSA Mammoth Cave Camp-out 2006

What graduate students eat while camping

Left to right:
Annie Ray, Rob Mitchell, Dave Caplan , Charmaine Armitage, Clif Morlan,Reed Johnson

Inside Mammoth Cave

EGSA Halloween 2005 & 2006

2005
Annie Ray with John Kane Princess Buttercup & Dread Pirate Roberts

2005
Matthew Richardson: Cereal Killer

2006
Elizabeth Graham: Axl Rose
Annie Ray: Slash

2006
Kevin Holsten: Darth Vader
Daniela Takiya: Princess Leia Organa
John Kane: Luke Skywalker

President James Zahniser

The Entomological Graduate Students Association was busy this year. Our major effort, as always, is to help our fearless Department Head in preparing for the Insect Fear Film Festival, usually held in late February. This year's theme for the 23rd annual festival was praying mantises, and the turnout was fabulous. Our young and able graduate students helped to organize and set up the insect art contest, set up displays for the live insect zoo, made and sold IFFF t-shirts, promoted the festival with newspaper ads, live radio and tv spots, and posting fliers, and we even got to eat some pizza in the basement of Foellinger Audtorium in reward of our efforts. However, the EGSA is not only about the IFFF. We also participated in the National Science Olympiad, a program designed to encourage interest in science among high school and grade school students. Numerous other outreach efforts, typically involving visits to local elementary or grade schools, were graciously provided by several graduate students. This coming year, we hope to have another successful IFFF, we will continue our outreach efforts, and will hopefully sell some more t-shirts at the booth we are hosting at the Entomological Society of America national meeting in Indianapolis, IN.

As graduate students, we have a reputation to uphold. Although the activities listed above demonstrate that we work hard, let it also be know that we play hard too. Last year, we organized and partially funded two camping trips: one to the Shawnee National Forest in southern Illinois in the fall and one to Mammoth Caves, KY in the spring. Without going into too many details, fun was had by all. These camping trips, and doubtlessly the frequent visits to local establishments, have helped to retain the friendship and unity that is characteristic of our department. Here's hoping that the following year will bring more of the same. Cheers!

Outreach: Elizabeth Graham

Outreach has been busy for the entomology department this year. The EGSA elected me as their Outreach Coordinator in September of 2005 and since then we have visited numerous classrooms, participated in festivals, and even helped a few desperate 8th graders with their insect collections. The programs have been so successful I usually leave the event with the next program scheduled. For instance, a visit to the Oakwood Public Library in March went over so well I was visiting classrooms at Oakwood Elementary School the next week. The highlights of these programs are the display cases, insects and other critters we bring along to shock and amaze the students. Thanks to IFFF we had a variety of exotic insects to impress the classroom. The lubber grasshoppers were a great model to explain insect body parts and the fact that they were so large and slow meant they could easily be handled by even the most timid student. The varieties of mantids were always a favorite in classrooms, especially when we also brought flies to give the class a first-hand demonstration of predation. The African twig mantis is a great example of Batesian mimicry and a stumper for the students to find mixed amongst the sticks. Jim Nardi's tobacco hornworms are always great for the classroom because all the life stages are available, giving the students a first-hand look at complete metamorphosis. The 5th instar caterpillars are a hit with the students to hold, although this did not work out too well for one particular caterpillar when we are visiting a preschool classroom. A four year old girl nervously tried holding the caterpillar, but got scared and quickly dropped it. Unfortunately at the same moment the girl next to her kneeled down, right on the caterpillar. Rather than traumatize the kids I lied and told them he went to the "bathroom," put him away, and cleaned up the mess. Needless to say that caterpillar took a trip to the freezer when I got back to the lab. Fortunately that was the only insect fatality we had during an outreach program; however, the incident still continues to haunt me….

For my second term as outreach coordinator I plan to continue visiting classrooms, introducing students to the exciting world of entomology and possibly inspiring future entomologists. I also plan to work with other departments at their outreach events, increasing inter-departmental relations and promoting the Entomology Department. Special thanks go out to Jim Nardi for his caterpillars and all of the EGSA members who have helped with outreach, especially Peter Reagel whose spiders are always a crowd-pleaser. Lastly thanks to all the critters who continue to shock, amaze, fascinate, horrify, disgust, and get violently crushed by students everywhere.

IFFF22—Forensic Entomology (2005)

FFF22 was unusual in that, in terms of recognition by the entertainment industry, the films and the actors in them have won more than all films in all previous festivals put together. There was an Oscar winner, an Emmy winner, Screen Actors Guild award winners and People's Choice award winners on the program; generally the kind of recognition won by the films we show is along the lines of the award the live action short "Smush," from our 1996 festival, won at the Spike and Mike's Sick and Twisted Film Festival the year before. The theme for IFFF22, ripped right from the headlines, was forensic entomology—the use of insects in a legal context, generally to contribute to solving crimes. Among the many useful services insects contribute to the efficient functioning of the planet is waste recycling—in particular, they are among the principal consumers of dead things. This is not to say people are grateful or in fact even pay much attention but in point of fact insects accomplish this feat so predictably and reliably and in such a species-specific manner that the identity of a particular insect in a corpse can be used to estimate the post-mortem interval—how long a body has been in move-in condition (i.e., dead). This is not exactly a new pursuit—as entomologist/forensic investigator Gil Grissom explains in "Sex Lies and Larvae," our first feature, the first written account of the use of forensic entomology dates back to "The Righting of Wrongs," a Chinese text from 1235.

The one thing that makes forensic entomology less routine than, say, fingerprinting or DNA analysis is that not anyone can do it—identifying and staging the necrophagous fauna, many members of which are legless, headless, eyeless, and otherwise featureless, require specialized training. Thus it has come to be that entomologists can in real life actually be heroic. Fans of the festival have seen entomologists blow up caves, sewers, houses, subway systems, and even the Gulf of Mexico, but in real life rarely are we called upon to do anything more heroic than identify scurfy scale on crabapple trees. The few brave souls who are practicing forensic entomologists routinely visit crime scenes, testify in court, and help to put criminals behind bars. Thanks to forensic entomology, people who "study bugs" aren't reflexively dismissed by the general public as poorly socialized misfits who never outgrew what should properly be regarded as childish pursuits. Thus, this year, for the first time, the festival presented an Image Award, both to the fictional forensic entomologist and the actor who portrays him—together, they have done more to bring entomology to millions of people on a regular basis.

"CSI" or "Crime Scene Investigation," premiered on CBS on a Friday night, October 6, at 9:00 E/P PM CBS. Basically, the program showcased the fictional exploits of the dedicated team of crime scene investigators working the night shift at the Las Vegas crime lab It managed a #8 Nielsen rating for the week. In January 2001, the show moved to its Thursday timeslot and ended the season #2 in the Nielsens; by 2003 it was #1, where it's been ever since. It's been so successful that its inspiration, the Las Vegas Field Service Section, FSS, changed its name to CSI in honor of the show.

The show has changed the life of William Petersen, who portrays Gil Grissom. According to his backstory, Gil Grissom was trained as an entomologist. He uses his skills at crime scenes in the lab—but what's so gratifying is that Gil Grissom revels in arthropods. He keeps an African red baboon spider and a stable of racing cockroaches as pets and makes some entomological reference in practically every episode. Yet, despite being an entomologist, his character is the steadfast anchor of this ensemble cast, and Petersen himself is executive producer of the whole series.

Thus, with pride we presented him, in absentia, with our first and possibly only IFFF image award. Just because he wasn't here doesn't mean he doesn't appreciate the honor. Here's what he said in a handwritten note:

> "Thank you so much for this lovely honor. It is very gratifying to think that I have had some small role in providing a good image to and for entomologists and entomology in general. This "Image Award" to me far surpasses any acting award I've received and is much more remarkable considering how I never finished college or got higher than a "D" in any science class I ever took.
>
> I care a great deal for "Gil Grissom" and who he is and what he does. I am truly thrilled that the real people of entomology have found "Grissom" to be one of their own.
>
> But more important of all…I've learned to love bugs! Thank you so much…I will treasure this honor. Peace, William Petersen.
>
> PS Long live the Insect Fear Film Festival
>
> PPS If you come across a really fast cockroach, please let me know. I'll buy him.
>
> Bye for now."

On the off chance that he does eventually come to campus, I encourage everyone to go out and find the Seabiscuit among cockroaches for him.

"Sex, Lives and Larvae," originally titled "Insects" aired December 6, 2005, the tenth show of the first season.

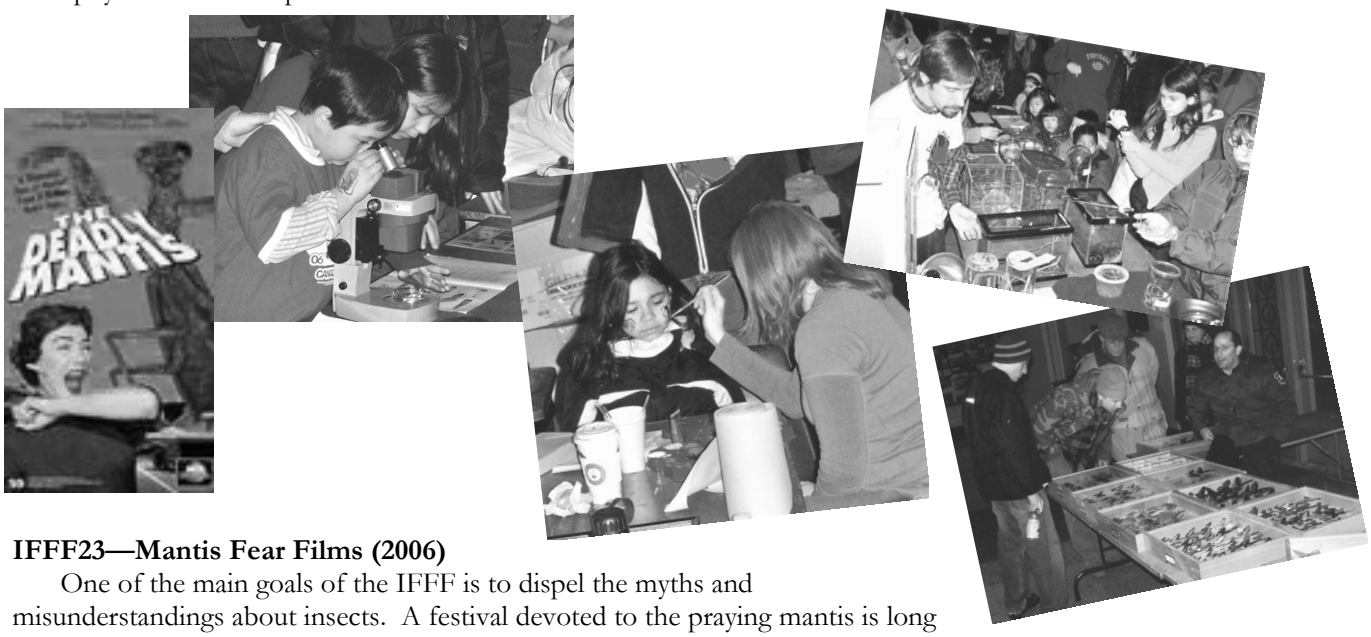
IFFF 22 (cont..)

The show opens with a maggot-infested body and the maggots (along with paper wasps, silphids, and other insects) are key to estimating the post-mortem interval. Berman had consulted for a year before the show aired with a real forensic entomologist, Dr. Jason Byrd, now the director of operations for the office of the medical examiner District 7 and 24, Daytona Beach, FL. (Jason thinks they sent out a blanket request to every registered forensic entomologist and, in his words, he was "the only moron who responded'. They asked intelligent questions, and in time the set designer flew out to Florida and picked through items on Jason's desk in order to set up Grissom's office—that's Jason's copy of the 1957 Yearbook of Agriculture you see on the show.)

Entomologically, there's not too much to fault—I think it takes way longer than five days for *Piophila casei* to show up in a corpse, though. There's a computer printout with family names, a time scale, and series of measurements; I can't imagine too many stag beetles have been found in corpses. Or lightning bugs, for that matter. And "lightning bug" is misspelled (but, oddly, Lampyridae is not).

Our second film is a cult favorite, from the opus of Dario Argento, an Italian director of considerable repute. "Phenomena" (1985) recounts the story of Jennifer Corvino, who can communicate telepathically with insects, who teams up with Dr. John McGregor, an entomologist who specializes in cadaveric fauna, to solve a series of mysterious murders. Lots of maggots, including sarcophagids, but there are a few giant mealworms in there, too. As for not-so-special effects, the vast swarms of flies summoned to assist Jennifer when she's bullied by her schoolmates are actually coffee grounds filmed as they're poured into water, then superimposed on the film.

Forensic-themed shorts included an episode of "The Tick," about an arachnid superhero who solves crimes, and a clip from a 1987 film called "Flicks" a compilation film with parodies of cartoons, newsreels and feature film. One of the feature parodies is a take-off on old detective films. The twist is that the detective is a giant alien cockroach named Philip Alien, Space Detective. So, in a case of turnabout is fair play, in this movie clip the entomologist assists the insect in solving a crime—in this case, a missing person (or giant alien bug). Philip Alien heads to Earth and eventually goes to Hollywood to find George Blick, in the process befriending female entomologist Liz and having a very improbable inter-phylum relationship.



IFFF23—Mantis Fear Films (2006)

One of the main goals of the IFFF is to dispel the myths and misunderstandings about insects. A festival devoted to the praying mantis is long overdue given that mantids have been misunderstood for a few thousand years. First, there's the name thing—it's "praying mantis," in reference to the prayer-like posture in which the first pair of legs are held. not "preying mantis" in reference to their predaceous habits. Life for this insect isn't about rapturous arms but raptorial legs—designed for snagging and securing prey, which can range, depending on the species, from tiny whiteflies up to hummingbirds and small lizards. Although 2.4 million Google hits get the spelling right, 88,000 hits get it wrong (not all are mistakes—the Preying Mantis Women's Brigade was founded in Santa Cruz California to protest images of acts of violence against women on album covers; one of their early actions was to destroy 20 copies of the Virgin Killeralbum by the Scorpions).

The elongated prothorax of the mantis equips it with the ability to swivel its head around and look its prey (or predators) in the eye--something perennially downcast cockroaches can't do. This virtually unique attribute among insects is responsible in part for some of the historical misperceptions. The word 'mantis" is from the Greek for "prophet" or "soothsayer," a reference to the belief that mantids could tell the future. Given that most species live a few months at most, one wonders how far into the future they could help you out with. But the most famous bit of

IFFF23—Mantis Fear Films (cont..)

misinformation didn't gain traction until the 19th century. James Smith wrote a popular travel book called "Sketch of a Tour on the Continent," in 1807 and described putting a male and female mantid together in a bottle and watching the female devour "the head and upper part of the body of her companion. But the most wonderful circumstance is, that a subsequent union took place; the life and vigor of the male being unimpaired by the loss of his head…" Probably no phrase was better designed to attract attention. While it's true that consuming offspring is fairly widespread in the animal kingdom, the sexual cannibalism thing is a source of particular fascination. Mantids are by no means the only arthropods that engage in the practice but they hold a special place in the pantheon of sexual cannibals. People who don't know that spiders are not insects can tell you in gory detail about the mating practices of mantids.

The only problem with this venerable fact of life is that it's not clear it's a fact at all. Of more than 1800 species of mantids, sexual cannibalism has been reported to occur in just a tiny handful. Moreover, the vast majority of those reports are from laboratory studies, conducted under highly artificial conditions. The paper that absolutely guaranteed "textbook example" status for mantid mating habits was published in 1935 by physiologist Kenneth Roeder in 1935, who is widely credited with suggesting that sexual cannibalism is required among mantids because inhibitory impulses from the subesophageal ganglion prevent the mantis from completing his conjugal duties; removal of the head remove these inhibitions and allow consummation to take place. Roeder didn't really go so far as to suggest that decapitation was a necessity; he was well aware that, in nature, many mantids mate multiple times, and he was the first to admit that the conditions under which he made his observations were, to say the least, unnatural. But people like to believe the worst about insects--which is why the tortuous hypothesis of adaptive mantid cannibalism remains entrenched in the scientific literature. Roeder (1936) himself reported that the genitalia of decapitated *female* mantids also come to life--but no one ever suggested that any female needs to lose her head before she engages in sexual intercourse.

Sexual cannibalism rears its ugly head (or lack thereof) even in our first film, "The Deadly Mantis" (1957), clearly inspired by Universal Studio's "Them"*(*1954*)*, the studio's biggest moneymaker of that year. "Them" had a well-known cast, a suspenseful plot, and state-of-the-ait special effects. All of these niceties were dispensed with when Universal released "The Deadly Mantis". It was directed by Nathan Hertz who was so embarrassed that he directed subsequent films under a different name. In brief, an atomic explosion at the South Pole causes an iceberg to break apart at the North Pole; the now thawing iceberg releases a giant prehistoric mantis, which destroys a local tracking station and ultimately follows an errant Gulfstream south to Washington and from there to Baltimore to Newark to the Holland Tunnel. Suspense enters in mostly at the beginning of the film, when you may wonder if you've wandered into the wrong theater, since the film starts with at least 10 minutes of stock footage and a detailed description of the US Military's distant early warning security system. It's not the last stock footage you'll see- the Eskimo evacuation scenes are from a 1933 film called "SOS Iceberg". Ned Jackson, the expert on Oligocene Carnivory called in as a consultant, is the one who provides the inevitable tidbit that "the female is larger than the male and invariably destroys her mate when he fulfills his function in life."As for effects, they weren't so special—the giant mantis lacks antennae and emits a highly maladaptive roar before it strikes.

The second feature, from the small screen, was an episode, "Teacher's Pet," from the first season of *Buffy the Vampire Slayer* (March 25 1997), a show chronicling the adventures of a teenaged girl born to defeat vampires and other supernatural adversaries at Sunnydale High School. The episode describes what happens when Dr. Gregory the biology teacher suddenly disappears and the gorgeous substitute teacher attracts the attention of Xander and the other students. It turns out she's sort of a were-mantis and enjoys eating virgin boys, whom she captures and keeps in cages in anticipation of a snack. Musetta Vander, who plays Miss French, went on to appear in a variety of science fiction television shows and films, including the 2005 IFF "Mansquito." During her first lesson, the teacher picks up a mounted mantis and informs the class that the fascinating creature is "forced to live alone…because they're cannibals! It's the way nature designed them: noble, solitary and prolific."

Shorts included Episode 7 of the second season of Space Ghost Coast to Coast, a Cartoon Network show from 1994-2004 that reworks a Hanna Barbera series from the 1960s. On the original show, Zorak is a giant alien mantis who was Space Ghost's arch nemesis, relying on a matter intensifier to wreak havoc. In the revivified series, Space Ghost is a talk show host and Zorak is his captive bandleader/sidekick. In this episode, Zorak is reluctant to return to his home planet for mating, for fear of losing his head. Also shown was *The Mantis Parable* (2005), a digitally animated 8 minute film by Josh Staub, creative art director for Cyan, the company behind two wildly popular video games, Myst and Riven. Staub served as Director, Composer, Art Director, and Visual Effects Composer on the film, which received top honors at 9 festivals around North America; the last time we showed a prize-winning short was never. We invited him to attend our festival but he declined because he was too busy (a problem we often have when we invite filmmakers). Also shown was a four-minute paper cut animation called "Mantis Stalks Cicada" from 1988 by Hu Jinqing—a reference to an ancient Chinese proverb (Liu Yu-His, 9th century); `While the mantis stalks the cicada, the yellow bird behind stalks the mantis.'"

John Anderson

In December 2005, I organized and participated in a Section D Symposium at the Annual Meeting of the Entomological Society of America entitled "Natural History of West Nile Virus in the United States". In April 2006, I participated in a symposium entitled "West Nile Virus: Current Status" at the European Society for Vector Ecology in Serres, Greece. My current research continues on the ecology of West Nile virus and mosquitoes. I am particularly focused on the importance of vertical and horizontal transmission of the virus in *Culex pipiens*. Vertical followed by horizontal transmission enables this virus to survive our winters in northeastern United States and to amplify in the spring.

Christine Armer

After my very happy 3 years spent on my Master's at UIUC, I moved to Oregon State University for my PhD. I finished my dissertation in 2003, studying Colorado potato beetle biological control with entomopathogenic nematodes, examining chemicals in the beetle affecting nematode development and reproduction. I moved to UC Davis for a 2-year post-doc on the glassy-winged sharpshooter, a polyphagous leafhopper that transmits the deadly Pierce's disease to grape plants. I looked at why the insect moves between plants, due to generalist predators and/or plant chemistry. Still have to publish that one. Along about the start of 2005, I developed Crohn's Disease, an autoimmune disease that attacks the gut (as well as causing peripheral ailments, such as rheumatoid arthritis). Two months after being diagnosed, my lower intestine ruptured, and I had it removed. It was a very fast and abnormal progression of the disease, which normally hits younger people and festers annoyingly, causing cramps, bleeding and diarrhea, but not total collapse of the colon. It took about a year to fully recover from the operation and associated arthritis and ailments, but I'm pretty much back to as normal as I'll ever be. I got towards the end of my post-doc, so finished that with a flourish (again, yet to publish), and moved to Oregon to live with my husband for the first time in 9 years (we did weekend visitations during my PhD and post-doc work). About a year ago, we moved to a "new" 95-year-old farmhouse with 1/3 acre of land in the middle of the city, and have been loving it here. Our neighborhood is full of characters, two named Merlin within a two-block radius (What're the odds? Dr. Ghent would love to calculate that one!), one who drives a full size backhoe to move his firewood. I've been spending time with our sweet doggie Molly, our 4 chickens, my guinea pig and have been working on home repairs, knitting, quilting, stained glass, and catching up on fiction that I've not gotten to in the last 10 years. I've also been volunteering at a nursery for donated plants (thinned from overgrowth, rescued from gardens that don't want them, or from lovely large gardens that are being destroyed to put in tacky apartment buildings, the bane of my existence here), with the proceeds going to spaying/neutering pets. We're thinking of having a kid (speaking of spaying/neutering?!?), but haven't gotten around to it yet. So there's life!

Murray Blum

In the past year I completed a review of plant and animal sex pheromones for the United Nations. I'm also having fun writing a book on where the natural product race has taken us. I'm busy coordinating a project on semiochemicals involving researchers in eight countries. I am the Leader of the rambles in the State Botanical Garden pertaining to insects and unpalatable plants. Much fun! I am also teaching an adult education course on perfumes, behavior, and sexual stimulation.

William Campbell

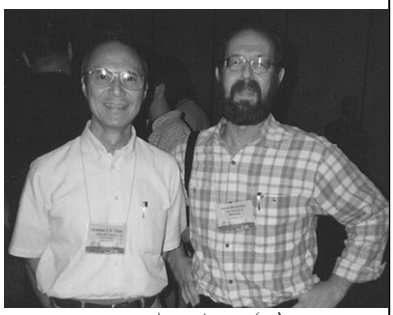
We are working to develop new human and animal health products. We hope to have a new, non-traditional, head lice product registered in the US in the next two years.

Eddie and Li-Chun Chio

We believe that we have waited long enough to send our first short story to the U of I Entomology Newsletter since Li-Chun and I obtained our PhD degrees from the University of Illinois (Insecticide Toxicology) almost 30 years ago.

Li-Chun currently is working on biomarker research at Eil Lilly and Company in Indianapolis, Indiana. After she finished a postdoc project at the Illinois Natural History Survey, Li-Chun stayed home for 10 years to take care of two kids and Eddie. She restarted her career at the Indiana State-Medical division working on antimicrobial research for a few years before joining Lilly in 1998.

Right after graduation from the U of I, Eddie joined Lilly as an Entomologist in 1977, and then had been assigned different responsibilities at Lilly including bioassay development, business development in China, marketing and sales, manufacturing and quality control in the past 29 years at Lilly. Eddie's current title is Engineering Consultant responsible for the analytical instrument qualification in the Pharmaceutical Products Development Division.



Andy Chen (L)
Leonard Munstermann (R)

Eddie and Li-Chun Chio (cont..)

The highlight of Eddie's Entomology career was using a novel dereplication approach to screen for useful natural products that let to the discovery of Spinosad in 1984. Eddie is holding several key patents for Spinosad. Spinosad is an environmental friendly insecticide from fermentation, currently marketed by DowAgro Science. Its unique mode of action is responsible for controlling many chemical-resistant pests while preserving beneficial insects. The annual sale of Spinosad has been estimated to be over $200 M. Because its excellent selectivity and outstanding environmental safety profile, Spinosad won the prestigious EPA Presidential Green Chemistry Challenge Award in 1999 for DowElanco, a JV between Dow and Lilly. On behave of Lilly; Eddie went to Washington DC to accept this Award on June 29, 1999. It took Eddie 15 years (from 1984 to 1999) to materialize his dream. So, for all young Entomologists, please remember that research takes time, don't give up!

Eddie and Li-Chun have 2 grown children. Lora is a project manager at a communication company in New York City, while Eugene is a residency (ENT surgeon) at the Ohio State University hospital.

The Chios live in McCordsville, Indiana, a small town at the NE corner of Indianapolis. You are welcome to stop by when you are in the neighborhood.

Eddie and Li-Chun Chio
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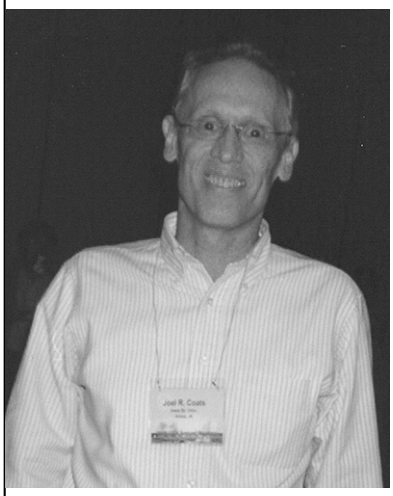


Joel Coats

I have enjoyed the past couple of years at Iowa State as a research/teaching professor after completing a five-year term as Department Chair. I now have eight graduate students in my research group. Over the past 28 years, 32 grad students have completed graduate degrees with me as their major professor. My research still focuses on natural products as insect repellents and insecticides, and on environmental fate and effects of agricultural chemicals, including those expressed in transgenic corn (B.t. proteins and a veterinary vaccine) and those used as veterinary antibiotics. This year I was very pleased when I received the International Award for Research in Agrochemicals at the American Chemical Society meeting in Atlanta; it included a one-day symposium in my honor, and the whole family came for the ceremony and the dinner. Life is good.

Randy Cohen

Beyond the smog, earthquakes and housing prices, life goes on in southern California. I am in my 17th year at CSUN, and have made that penultimate step towards retirement by gliding gently into administration by serving as Associate Chair for the past few years. My wife, Susan, continues to provide a benefit to the medical community by serving as a roving microbiologist. The kids continue to age.

Rachel is entering her senior year at UCLA and is beginning to apply to graduate schools. She is undecided about what she wants (like all undergraduates her direction changes with each class she takes)….probably vertebrate behavior (birds, reptiles, etc.). Sorry, May, but she's interested only in the behavior of four legged animals with backbones.

Sarah decided to go to CSUN instead of UC Irvine. She wants to be a high school art teacher and will probably get a better and broader education here at CSUN. In addition, I got her a job as a student assistant in the Biology department office where she must learn to interact with adults and angry students. Just in the past few weeks of work, you can see the maturation..

Josh, is a junior in high school and is now expensive: he just passed his driver's test for his license yesterday. Ugh.

Eddie Cupp

Greetings from Auburn - hope you are doing well and things in the Department are progressing to your satisfaction. I'm sending this email to let you know that Mary and I have decided to retire from Auburn University, effective June 1. We will move to Owensboro, KY (Mary's hometown) and initially spend some time taking it easy, reading, and traveling. We also plan on maintaining our professional interests but not at the current pace.

Things have worked well for us so the timing was right to step down. We had several grants renewed and were able to use those funds to place the 3 persons who have worked with us for so long into multi-year appointments. I did agree to remain a consultant to the Carter Center and the Mectizan Expert Committee for 2 more years since the work being done by both groups is vital to the control of river blindness and excellent progress is being made in Latin America. However, my overall time commitment will not be significant so I can enjoy lots of free time.

Bill Delaplane, Ph.D. 1958

The mainstream has passed me by. I chose staying in the commercial phase of entomology. My own serious experience in academia was at Ohio State University, Columbus. I was contacted and offered a full professorship as the first ever full-time Pest Control Extension Specialist. I was 49. It all appealed to my ego, and I had reliable people in charge of Illini Pest Control, so I accepted. After being offered my third contract, which would have given me tenure had I accepted, I resigned. I'm now an old codger of 91. My mind is as bad as it ever was. My body, mobility, has deteriorated. I now need a cane. My best to all of you actively flying the banner of entomology, keep it furling!

Jodi Ellis

Hello all!

Life is good as a Hoosier here at Purdue where I continue fighting invasive insects as the Exotic Insects Education Coordinator. I began this position in June 2002 to work with the magnificent and benevolent Dr. Cliff Sadof on public education about gypsy moth. Since then, my role has expanded considerably and now includes issues concerning many other forest pests, notably emerald ash borer. I not only engage in public education but serve as an interface between Purdue and local, state, and federal agencies regarding regulatory policies and their implementation. I seem to have found my niche as I not only get to use my entomological background but also have lots of opportunities to ham it up with the press. Recently I have begun working with The Nature Conservancy in Washington D.C. on a national program to raise public awareness and improve policy regarding solid wood packing material used in international trade. I love Washington and really enjoy interacting with some of the "Big Players" but am always happy to return to the cornfields. Daughter Ashley is a graduate student in (you guessed it) Entomology and will graduate in '07. Husband Steven continues to work in Champaign, living half the time there and half the time in Lafayette. Dogs Waddie and Geoffrey are devout members of the Lafayette Dog Park. I have taken up gardening for real and you can often find me on my days off up to my ears in garden soil and mulch. This is ironic as I swore after grad school I would never plant another Shasta daisy or Moonbeam coreopsis again. Of course, they are now featured prominently in my front yard. Hello to all of my Hanks Lab brothers and sisters and to Dr. Hanks – those were good times!

David Evans

David Evans, Ph.D (1978) has just completed his two-year term as College Council Chair of the Pennsylvania College of Technology's Internal Governance System. The Council Chair elected by a full-time employees and is the leader of Governance. The experience was very rewarding, we accomplished much, but it was exhausting!

Dr. Evans also was selected this spring to present one of only three My Last Words Lectures. This lecture series was aimed at graduating students and was intended to guide folks onto more fulfilling life. David's lecture, entitled "The most dangerous places," was the best attended in the series. Evans discussed his experiences in some very dicey places and he encouraged the audience to gain the widest possible education as nobody really knows where one's career may lead them.

Harland Fowler

My professional career was mainly with the U.S. Government. I served as a Lieutenant Colonel in the Medical Service Corps of the U.S. Army for 26 years. Following a medical retirement due to heart disease I served with headquarters Environmental Protection Agency in Washington, D.C. for six years. The first two years I was the Associate Director of the Pesticide Registration Division. Then for the next four years I was the Executive Director of the Federal Insecticide Fungicide Rodenticide Act (FIFRA) Science Advisory Panel. Dr. Robert Metcalf , former department head at Illinois, served as a member of this panel. The SAP reviewed rule-making by EPA on pesticides. During my military service I was awarded the Bronze Star Medal for my service in Vietnam and the Legion of Merit Medal for my service with the U.S. Army Research and Development Command and the Office of the Surgeon General. My last duty assignment with the Army was as the Executive Director of the Armed Forces Pest Management Board, Walter Reed Medical Center, Washington, D.C.

Gene Kritsky (L)
Dave Denlinger (R)

Ashley Bennett (L)
Christina Grozinger (R)

Jeffery Heilveil

After finishing my dissertation in September of 2004, I moved to North Dakota State University, in Fargo, where I have been working on a conservation genetics project involving the state-endangered White Sands pupfish, *Cyprinodon tularosa*. The project has involved looking at both neutral and adaptive variation in an attempt to better inform the conservation plan for the species. On March 31st, Amy and I welcomed our daughter Victoria Pauline Heilveil into the world. Shortly thereafter, I was offered an Assistant Professorship in Ecology at Fayetteville State University, a constituent institution of the University of North Carolina. Amy and I are looking forward to the move this fall.

Jim Kandatzke-PhD 1977

I am currently in Nashville, TN with the Eastern Region of the Bureau of Indian Affairs, Department of Interior. I am the branch manager of the 8 member Natural Resources and Environment Branch providing technical assistance to the 26 Tribes located east of the Mississippi River. Besides my management duties, I am the hydropower coordinator representing the Bureau of Indian Affairs on all hydropower re-licensing actions directly impacting Indian lands held in trust by the Federal government and technical ecological and re-licensing assistance to the affected Tribes. I have been married for 16 years to my second wife, Brenda and have 4 grandchildren.

John Paul Kramer, Ph.D. Illinois 1958

I continue to enjoy showing English Spot and Netherland Dwarf rabbits as well as Abyssinian cavies. My research centers on coat color genetics in the Sable Point Dwarf rabbit. I also judge several 4H rabbit and cavy shows throughout the year. Not an insect in sight.

Phillip Lewis

Jenny and I have been here a little over 4 years now, though the locals still consider us wash-ashores. I'm hoping that is the New England way of saying stay a little longer, we're starting to like you! Andrew turned 2 on July 4th and he very much enjoyed the local parade, especially anything that went by that was large and had wheels. I'm still working on control efforts for US populations of the Asian longhorned beetle and emerald ash borer. Considering they just found the latter near Chicago, I may be traveling back to campus sooner than I had thought!

Michael McGuire

In 2004 I was the Research Leader and Location Coordinator for a small ARS unit in Shafter, CA; about 10 miles outside of Bakersfield. We conducted research on cotton and the experience of working with a very politically connected stakeholder group was quite an education. In May 2006, I moved to a full-time administration position as Assistant Area Director for the Northern Plains Area of ARS. We administer a wide range of scientific programs at 15 locations across an eight-state region. My wife, Vonne, and I have relocated to Fort Collins and are looking forward to living in Colorado.

Thomas Moore

Our daughter Mindy retired last summer as an Ann Arbor City firefighter. Our daughter Debbie continues as an occupational therapist in New York City. My wife, Ellie, and I are both retired and we spend much of the spring through fall season at our summer home on northern Lake Huron, Manitoulin Island, Ontario, where our phone number is 705-283-1259. The same email address reaches us at both Ann Arbor and Manitoulin Island. We both volunteer at the Misery Bay Nature Reserve Interpretive Centre on Manitoulin Island, initially started by a gift of land from Ellie's parents. Ellie is fiinishing her second year as chair of the board of Kempf House Museum, an historical museum in the City of Ann Arbor, and I volunteer there also.

Daniela Takiya (L)
Polly Phillips (C)
Al Sanborn (R)

Mohammad Naeem

I completed my Ph.D. studies in September, 1990 and came back to join my duty as Asst. Professor in the Dept. of Entomology NWFP Agri. University Peshawar, Pakistan.

I was appointed as Associate Professor in 1992 and Professor in the year, 1998. In the year 2000-2004 I had to work as Chairman of the Dept. The Univ. administration being happy with my performance as professor and chairman of the Dept. assigned me to work as Controller of Examinations in addition to my duties and responsibilities as Professor of Entomology. The duty as controller of examination is a bit tough as one has to sit and work till late night. I don't get much time to spend with my family and kids, but one thing that keeps me energized working till late night in my office is that this late hour sitting reminds me the good time that I spent in the Dept. of Entomology UIUC working upstairs till midnight in the Dr. Waldbauer lab. I still remember every bit of the good time and all the kind hearted and knowledgeable faculty members, the nice support staff of the Dept. in particular and the caring people of Illinois in general. Although Jackie may have forgotten me, I still remember her and the trouble shooting guide (Dotty).

I am ever proud to have been a student of the Dept. Entomology UIUC.

Peter Price

Peter Price is alive and well. I retired in 2002 from Northern Arizona University, but have continued with research on the population dynamics of tenthredinid sawflies, and I am coauthoring with Bob Denno a new book: "Insect Ecology: Concepts and Applications". Three papers in 2005 describe recent work on sawflies (J. Anim. Ecol 74: 397-408, J. Anim. Ecol. 74: 917-925, and Oecologia 144: 278-288). I have been chair of Section C in the Entomological Society of America for 2006, hoping to stimulate more symposia in basic ecology and behavior without much success. We traveled as a family to the Galapagos in April 2006, which is a trip to be remembered and recommended. I have time to run every other day now, and completed a 10K in under 60 minutes at 7,000 feet this year - thin air offers less resistance I am told. Good wishes to all, and I hope to see you at the Ent. Soc. meetings in Indianapolis in December.

William F. Rapp

In the spring of 2005 I spent several weeks in Louisiana collecting spiders. Since returning home I have been determining the specimens and writing a report. Since April 1 I have been in a rehabilitation home recovering from a broken ankle.

Nalini Ratnasiri

I retired from the post of Senior Professor of Zoology of the Open University of Sri Lanka in April 2005, after 23 years of service, and was awarded Emeritus Professor status. I was conferred the Degree of Doctor of Letters (DLitt) (Honoris causa) by the Open University of Sri Lanka at the General Convocation held in October 2005. Currently, I hold the post of Chairperson and Member of the National Science and Technology Commission of Sri Lanka.I also serve as the Editor-in-Chief of the Journal of the National Science Foundation of Sri Lanka, and as Chairperson and Member of the National Steering Committee on Small Grants Programme of Global Environmental Facility.

Craig Reid

Happy New Year 2005:

It's been a while, but just wanted to let you know that you are in our thoughts and remember fondly our days back at the U of I. How about the lads and the basketball team this year. At least we should be going to the NCAA again. :0)

Silvia and I hope that you and yours had a happy Hanukkah, a glorious boxing day and a smashing New Year. 2005, my goodness, seemed to arrive from nowhere yet?

We had rain in LA recently and it was glorious. I felt like I was back in Taiwan during my times as a stuntman. Perhaps a city wide cleansing to ring in the New Year. Although the tidal waves in South Asia is a disturbing event.

I just finished a book proposal on a book entitled "Hong Kong Hollywood" for McFarland Publishing (just a proposal, no acceptance or word back to actually do it), where it'll be the first English book to discuss the real and reel histories of martial arts, the history of the Hong Kong stuntmen's industry and interview the top 35 Hong Kong stars of all time to get their take on their experiences (positive or negative) in Hollywood. (Jackie, Woo, Jet, Li, Bruce Lee (his brother will talk to me...etc.)

I'm also gearing up to write a book on the memoirs of Bruce Lee's family with his older sister and younger brother. So finding a publisher (or book agent) interested in my first book would be fantastic for further steps forward. It should be a challenging year.

Reed Johnson (L)
Mark Carroll (C)
Xianchun Li (R)

Craig Reid (cont..)

I'd love to hear what you're up to, undoubtedly doing some cool stuff, busy at the department. So what's on tap for the insect fear film festival this year. I'm actually writing an article on martial arts animals for National Wildlife Magazine, focusing on the praying mantis. Do you remember I talked about that stuff for one of your seminar classes and had Steve Possei as my attacking opponent?

Season's Greetings 2006:

Yikes, another year coming to an end, I was just getting used to writing 2005 on my checks and letters.

With all the weather related tragedies going on in the world, I'm surprised none of the "famous" psychics of the world picked it up, must be to interested in Hollywood couples or what the Royal Family in England are up to. (Yes, a hint of sarcasm there.)

As is usual, been busy as a beaver this year, that's "dam" busy. Tons of writing articles, an appearance on Japanese TV in regard to the life of Bruce Lee, and in an effort to improve my screenwriting, I entered UCLA's intensive screenwriting program. It was well worth it.

Although it was weird being back in school, so to speak, I finally see what's missing in my scripts. Thus far, my efforts have landed me a rewrite of a no-budget film (although thankfully, I did get paid for the rewrite), an uncredited rewrite on a film called END GAME (stars Angie Harmon, Cuba Gooding, James Woods) directed by our friend Andy Cheng (thus the favor of the uncredited rewrite) and an invitation to a special monthly screenwriter's group at Universal Studios.

Silvia's research is going along well, although her lab runs out of money in March and she must look for a new job, her research findings are phenomenal, and we hope that it will help her in her job seeking efforts. Obviously to keep up my screenwriting momentum, Sil hopes to find something in or around LA, if not...well, we'll cross that bridge when we get to it. Sil just had her 50th birthday, man where has the time really gone, she still doesn't look a day over 30. And can you believe it, next April will be our 25th Wedding Anniversary, we still feel (and yes act) like kids...sometimes. :0)

Health is pretty good, I'm now teaching 7 people chi, it takes time that I don't have, but I make it anyway because people's lives and health are at stake. I also stick to my principles and don't ever charge money for lessons, no matter how dire our financial situations become, because money can't buy everything, and chi is one of those things. A few years ago, lady once offered Silvia and I half a million dollars to open a chi clinic of some kind, but we'd have to charge money, we said, "No thank you."

Chi-healing is still freaky. That friend I may have mentioned in an early e-mail, the one who suffered the same spinal cord injury as Christopher Reeve, she's improving immensely. This past half year, she has lost 20 pounds as a result of exercise. Can you believe that, a lady who supposedly is paralyzed from the neck down, can exercise her arms, legs, butt and tummy enough to lose weight. It boggles our minds. Also teaching chi and helping another friend who lost a lung, and had colon and brain cancer. For a man in his late 60s, you'd never know what the man has endured. His spirit is high, health improving and he's back to working full time.

As they might say in Italy, "Mama mia."

Enough about our lives, we'd love to hear how things are going with you all in Sunny Illinois. Yep it's sunny here, almost 80 degrees.

Silvia and I would like to wish you and yours Season's Greetings and a Happy New Year, and look forward for a fantastic 2006. It's always about moving forward.

Hilary Reno

I'm currently an Instructor in Medicine and Chief Resident in Internal Medicine at Washington University in St. Louis. I'll also be one of the editors of the 32nd edition of the Washington Manual of Medical Therapeutics due in 2007. I'll return to finish my fellowship in infectious disease at Wash U next year and will continue to explore my interests in clinical research including projects on STDs. I still hope to start some clinical research in vector-borne disease as well. My husband Shaun is now an assistant professor of English at St. Louis Community College. Most importantly, we welcomed our beautiful son, Ian Joseph Reno, on March 23, 2006.

Carol Anelli (L)
Susan Fisher (R)

ESA Mixer
Salt Lake City
2004

Dr. George Rotramel

I continue to apply my experience with pests and pesticides in the built environment as an entomological consultant to the hospitality industry, museums, and institutions. Bed bugs in hotels and resorts are occupying more and more of my time. I also do what I can do to reduce exposure to pesticides in the built environment. Late last year, I contacted State Representative Barbara Flynn Currie and proposed a bill to outlaw sales of restricted use pesticides to the general public via the internet. Dozens of sites, including EBay, offer RUPs to all comers. Representative Currie and her environmental liaison, Jack Unzicker (another UIUC Entomology grad) took up the cause, drafted a bill and got it passed. Public Act 094-0758 banning Internet sales of restricted use pesticides to the general public takes effect on January 7, 2007. The next step is to "clone" this bill in other states. Please feel free to send a copy of PA 094-0758 to your state representative if you live outside Illinois. And email george@rotrameltechnicalservices.com if you need help or additional information.

Sherri Sandberg

I am still teaching at Davis High School, a course called Chemistry in the Community, a college prep chemistry class with an environmental education thread throughout the class. Last summer my family, husband Mike, children Linnea, 12, and Sylvan, 8, traveled to Costa Rica for two weeks. We started our visit at La Leha (OTS research station). Right outside the door of our room was a live rhinoceros beetle, nearly the size of my hand. I had only seen pinned specimens before. A great beginning to a wonderful trip filled with incredible wildlife (including the sighting of 7 sloths and watching the male and female quetzals trade nest-watching duties inside a true cavity).

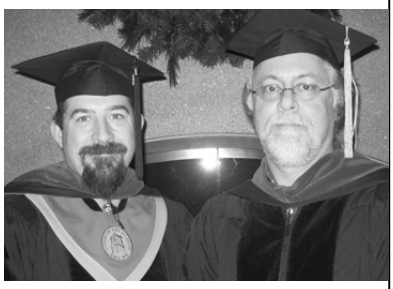
James W. Sanford

I'm still alive and well, living with the Cajuns here in Louisiana. I haven't been in entomological pursuits since 1979, when I changed professions and began working as a Health Physicist, mainly involved in regulating the use of radioactive materials at the state and federal levels. I am now semi-retired, working part-time in the funeral service business. I have many fond memories of my time spent at the U of I. I extend my best wishes to all the past and present scholars of the Entomology Department.

Steve Sheppard

Walter is a 17 year old senior and looking for colleges for the fall of 2006. Amazing. He is a good trombone player and looking to stay with it in college band. At present his leaning for college is creative writing and an English degree with a minor in biology. I think the latter is a gesture toward his parents—but in any case it should give him a reasonable exposure to various field and he can gravitate wherever he wishes.

Hey, I will attach a photo of my first WSU Ph.D. student from the 2006 graduation. His name is Jamie Strange and he is now doing a postdoc at Cornell. Small world. Jamie did his research on behavior ecology of a honey bee ecotype (Les Landes—heater bee) in southern France and genetic assessment of ecotype on a non-ecotype bees in DCA's from the area using mtDNA and msat data.



Jamie Strange (L)
Steve Sheppard (R)

James Slater

A short reply to your request for information on alumni activities. You may find information in your files of my activities from 1947 to 1953. At that time I joined the faculty of the University of Connecticut and retired from there in 1988, but retained a lab and office in the Department of Ecology and Evolutionary Biology until September of 2005 when we moved to a retirement community in Rockford, IL. I have worked most of my life on the systematics of Heteroptera and have published about 300 papers and 3 or 4 books. I have also published books on colonial gravestones and related matters. I have been the department head during the 1970's and also head of the section of systematic and environmental biology at the University of Connecticut during and prior to the formation of the present department. I have collected in most of the West Indies and Central America, South Africa and Australia. I spent a year in the 1960's at the British Musuem and have participated in department evaluations at Cornell, Texas A & M and the California Academy of Sciences.

Ellen Green & Nathan Schiff

Nathan continues to work for the Forest Service on siricid wasps and their associated fungi. It has been an exciting year due to the invasion of *Sirex noctilio* in the Northeast. His latest side project is to figure out how to feed ivory-billed woodpeckers, should we ever find one.

Ellen continues to work for Kimberly-Clark Corporation as a researcher in Neenah, WI. For the last year, she has provided business support and served as a global liaison between the US and South America, Central America, Caribbean, Mexico, Australia and New Zealand for the Huggies Baby Wipe

Ellen Green & Nathan Schiff (cont..)

business. She has enjoyed traveling to meet her regional contacts and to eat.

On the home front, we have spent many happy hours in our garden. We are especially proud of our growing collection of heirloom tomatoes, peppers and garlic. Our latest summertime trek was to South Haven, MI where we definitively proved that Nathan cannot eat his weight in blueberries in a single day, hard as he tried.

Danny Skirvin

For the last four years I have been in Veterinary School and that took all of my time. I graduated in May 2006 and just started work as a veterinarian in a private practice just north of Phoenix, AZ. My girlfriend, Celeste, is a new veterinarian as well and we bought a house together in Peoria, AZ (I just can't get away from Central Illinois)!!

John Tooker

Enjoying life in picturesque central PA, I am a postdoc in the Department of Entomology at Penn State and am working with Consuelo De Moraes. We are studying how plants defend themselves against insect herbivores and gall-inducing insects in particular . This research has pushed us into the world of phytohormones and we are trying to understand how different hormones initiate and balance the defensive responses of plants. During free time, my wife Megan and I spend most of our energy enjoying (and running after) our young son Quinn.

Keith Solomon

I am still at the same location and continue my teaching and research. Two highlights for this year were (1) to participate in the ACS special Symposium in honor of Dr. Joel Coats (fellow Metcalf student) in Atlanta in March and (2) to receive the SETAC Europe Environmental Education Award at the May meeting in The Hague.

We are enjoying grand-parenting with our daughter, Fiona's two children, Kaili (4) and Cameron (2).

Ray Vorhees

Hi to all at Morrill Hall & the Horsfall Mafia. I'm a blacksheep---haven't done any entomology since 1975; at CMSU I am director of the Medical Technology program and teaching the History of Biology (appropriate for an old codger) and embryology and comparative anatomy of vertebrates (sorry!). Best wishes to all from Ray.

Charles Vossbrinck

Research goes well. I am working on several projects here at "the station". Funding for West Nile virus surveillance and detection is good and I am doing some projects looking at the "evolution" of the virus in Connecticut. We have started a new project doing DNA sequencing of aquatic invasive plants for identification purposes. Isolating DNA from a wide variety of plants is more difficult than doing that for insects and is a fairly big change of gears for me. Lately I

Fall 2005

New Student/Alumni Picnic

Fall 2006 Honoring Mike Irwin

Daniela Takiya (L)
Josh Guffin (C)
Martin Hauser (R)
Juma Muturi (standing R)

Sam Beshers (L)
Lesley Deem (Back R)
Holger Braun (C)
Hugh Robertson (R)

Rodrigo Velarde (L)
Axel Brockmann (C)
Gil Waldbauer (R)

Bonnie & Mike Irwin
May Berenbaum (R)

The Entertainment
Gene Robinson (L)
Stewart Berlocher (Back L)
May Berenbaum (Back R)
Jim Whitfield (Front R)

Bill Delaplane (L)
Josephine Rodriguez (R)

Charles Vossbrinck (cont..)
have been getting back into insect physiology doing metabolic measurements of various insects. I hope to have some interesting results before the next Newsletter. Finally the phylogeny of the Microsporidia still goes well although not as fast as one would hope.

The family is doing well. Two summers ago we got to Urbana for a family celebration and had a wonderful pizza dinner with the Berlochers. In addition we had an enlightening visit with Jim Nardi seeing the wonderful things he is doing in research and writing. Bettina quit her job at Yale and teaches Biology 101 part time at Quinnipiac University a few short miles from our house. I teach there also two evenings a week. Alice is a senior at St. Mary's College of Maryland majoring in Biology and has not revealed any plans for the future to me. Kate spent 8 months in Switzerland as an aupair (nanny) with good success and has just started at Southern Connecticut State University. She seems to like it. Madeline is a senior in high school and is getting ready to apply to colleges. She has a job at Dunkin' Doughnuts and with school and track is doing too much, in my view, and not getting enough sleep. Henry is always Henry. He has hit his teen years and looks in the mirror for facial hair but so far just a small mustache. We have numerous wonderful pets including Shadow who we brought from Illinois, another dog, Trent, 4 cats, Selina, Una, Pumpkin and Phoebe, and 5 birds. All is well but not yet organized.

Phillip Watson

Phil is continuing at Ferris State University (FSU) for his 26th year. He is coordinator in the Forensic Biology program, teaches entomology and ecology and is involved with several universities in Vietnam to which he travels several times a year. His wife of 28 years Maureen (U of I grad also) is in her 22nd year as a librarian at FSU and accompanies Phil on many of his trips and he on hers. Our last trip together (May-June-06) was to Vietnam, Cambodia and Korea. Our children are in college, one is a junior and one is a grad student at the U of Michigan. Phil maintains a web page at www.ferris.edu/htmls/academics/course.offerings/physbo/biology/watson/watson'shomepage.htm for those who are interested in learning more.

Thomas H. Wilson, Ph.D.

I created the Judson College Tropical Studies Program in 2005. The field study is in Costa Rica and is in association with Duke University's Organization of Tropical Studies in La Selva. Our work in Costa Rica will focus on birds and invertebrates. I am the environmental advisor for Perry Lake Park. We have a 100 ft. tall birding tower in the wonderful hardwood floodplain forest. You will enjoy visiting the park's website: www.perrylake.org.

Obituaries:

John Bouseman

URBANA – Funeral services for John Keith Bouseman, 69, of Urbana will be at 10:30 a.m. Wednesday at Renner-Wikoff Chapel, 1900 S. Philo Road, U. The Rev. Donna Hacker Smith will officiate. Visitation will be from 5:30 to 8 p.m. Tuesday at the funeral home. Mr. Bouseman died at 7:45 a.m. Saturday (May 13, 2006) at home.

He was born Aug. 11, 1936, in Clinton, Iowa, a son of Thomas Elmer and Catherine Van Buer Bouseman. He married Tammie Moore on Oct. 15, 1977, in Urbana. She survives.

Survivors also include four sons, David Bouseman of Atlanta, Thomas Bouseman of Belleville, Paul Bouseman of Evansville, Ind., and William Bouseman of Urbana; two daughters, Karen Vallowe of McLeansboro and Lynn Voges of Sparta, a sister, Ann Zimmerman of Sedona, Ariz.; and seven grandchildren.

He was preceded in death by his parents.

Mr. Bouseman was an entomologist for Illinois Natural History Survey. He was a member of the University of Illinois Society Book Collectors Club 44, Entomological Society of America, Lepidopterists Society and Indiana Academy of Science. He was a co-author of Field Guide to Silk Moths of Illinois and Field Guide to Butterflies of Illinois. Mr. Bouseman enjoyed music and traveled to Asia, Europe, Africa and South America.

Memorials may be made to Natural History Survey Library Fund, 1816 S. Oak St., Champaign, IL 61820

Births:

Jerffey Heilveil: Victoria Pauline Heilveil, March 31, 2006
Jennifer McGovern: Aedan Padraic (boy) September 12, 2005
Hilary Reno: Ian Joseph Reno, March 23, 2006
Rebecca Petersen Brown: Kurt Gregory Brown, October 31, 2006

Rebecca Brown

Thank You!!

May R. Berenbaum

Angel Berrios-Ortiz

Hang & Li-Chun L. Chio

Robert W. & Linda D. Clegern

Joel R. Coats

Tobias F. Dirks Jr.

Gary J. Dolce

Karen E. Yamada

John L. & Margaret A. Eaton

Bettina Francis

Robert F. Harwood

Emerson W. & Martha L. Lacey

Charles A. & June R.P. Ross

James G. Sternburg

Your support is Appreciated!

PLEASE return this form with any pictures, news releases, or other information that you would like included in future newsletters to: Department of Entomology, University of Illinois, 320 Morrill Hall, 505 South Goodwin Ave., Urbana, IL 61801

Name: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____

e-mail: _____

UI Degree: _____ Year: _____ Advisor: _____

Current Position: _____

Institution/Employer: _____

Business Address: _____

City, State, Zip:_____

Business Phone: _____ Fax: _____

Current Professional Activities: _____

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Awards/Honors: _____

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Other Activities: _____

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