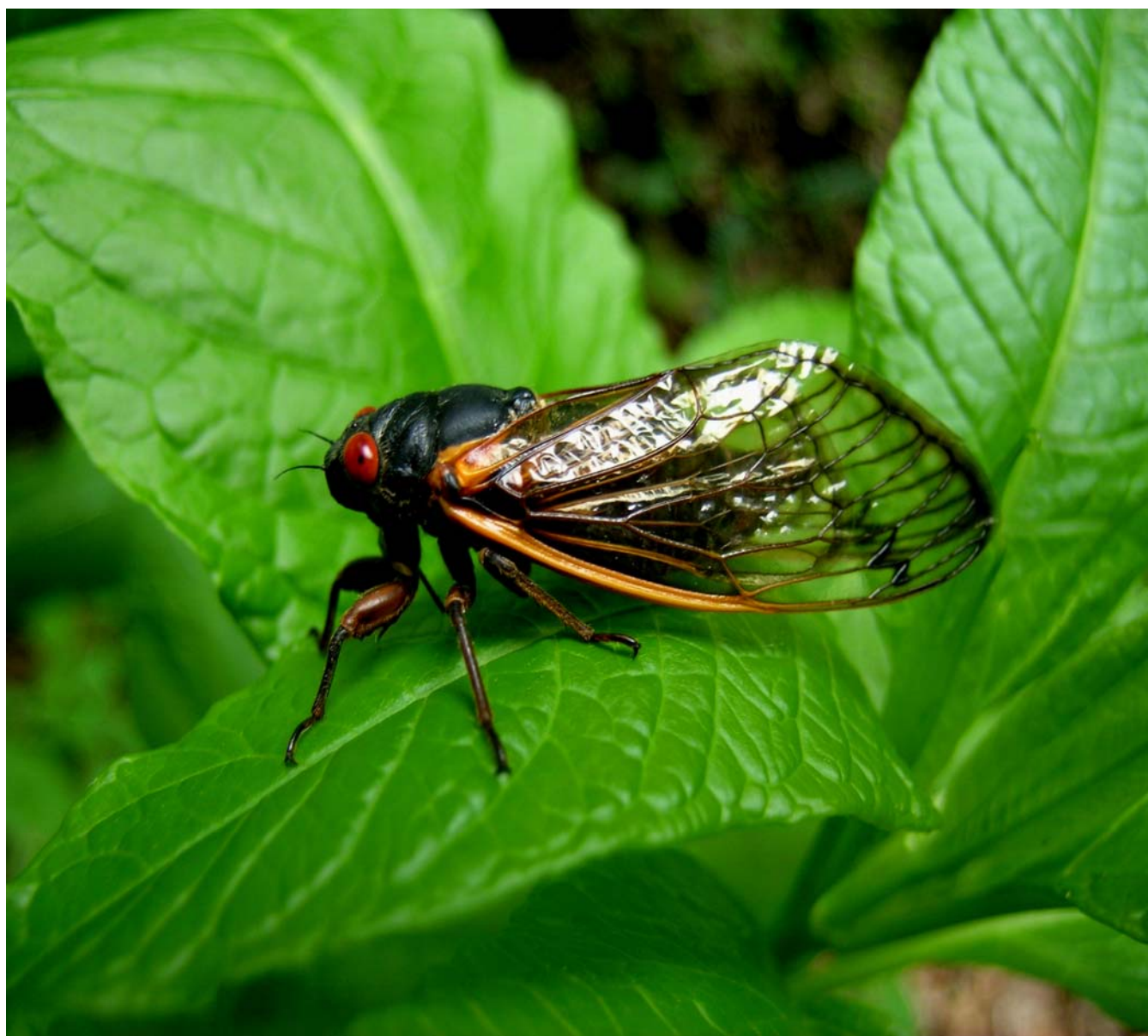


2003 — 2004

Entomology Newsletter



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

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Message from the Head

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Department of Entomology



Academic year 2003-2004 was an eventful one (as they all seem to be). The biggest news involves the faculty—after facing a historic low a few years ago, with 8 FTEs (University-speak for fulltime teaching equivalents), we're now facing a historic high. Assistant Professor Andy Suarez joined us from University of California at Berkeley in the fall (or, I should say, rejoined us, given that he graduated from UIUC with a master's degree back in 1994), and has already improved our quality of life, among other things offering a seminar with Carla Cáceres in invasion biology and bringing the second-largest ant species in the world (*Dinoponera australis*) to the Insect Fear Film Festival. In the spring, after a nationwide search, Charlie Whitfield, a postdoctoral associate in Gene Robinson's lab, accepted our offer of a position in insect sociogenomics (for the record, probably the first hire nationwide with that particular job description); he joined us as a faculty member at the beginning of fall semester 2004. And the Kearns, Metcalf and Flint Chair in Toxicology was offered to Dr. Michael Adams. While he is deciding, in our tradition of recruiting from UC-Riverside, I note that wildfires have been raging out of control year-round in Riverside County, contributing to the already poor air quality there. We've benefited from two retention offers as well; our alumna Marianne Alleyne, current postdoctoral associate in Rob Wiedenmann's lab, received an offer for a position as a research assistant professor in connection with a retention offer for her husband, and Sam Beshers, for years an unofficial associate of our department, now has an official 25% research position in the Department, part of a retention package for his wife.

On the debit side, though, Susan Fahrbach, who joined the faculty here in 1990, left for an endowed chair at Wake Forest University. She'll be much missed and I don't envy her successor in insect physiology, trying to match her stratospherically high course ratings.

So, all told, by August 2005 we could be 12.75 FTE in size, the biggest we've been in at least 24 years. In fact, we may lose our status as the second-smallest department in LAS, a distinction I'll happily surrender.

We've also expanded our network across the campus and continued to build strength and diversity in our graduate program through out affiliate appointments. Brenda Molano-Flores, from the Illinois Natural History Survey, is a new affiliate and is already advising a graduate student (Adam Wallner). Steve Taylor, also from the Illinois Natural History Survey, is a welcome addition as well.

Not inappropriately, a larger faculty requires a larger staff and I'm ecstatically happy to report that, after academic year 2003's devastating budget cuts, which reduced our secretarial staff by 30%, we regained a secretarial line—Leta Nugent, who was a secretary in our office a few years ago, has rejoined our office staff. And we've also hired Alissa Eisenstein as a course support hourly—she's creating a database of teaching specimens and will be straightening out our historic teaching collection (probably the first to do so since Sewall Wright was a graduate student here).

As for teaching, 2003-2004 was a transition year, in which the entomology rubric was co-listed with the IB rubric for the last time; and for those who have not yet learned the new IB rubrics, don't bother because they were supplanted by other new rubrics in fall 2004, due to a campus-wide expansion of course numbers from 100-400 to 100-700. Along with new course numbers are new Banner account numbers to tax our brains—it's not enough I guess, to have to remember insect Latin binomials to succeed these days. I'd like to meet the committee, by the way, who decided that 27 digits was the ideal size to designate an account number.



Message from the Head

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Department of Entomology

2003-2004 was also our last year with an official entomology option—two undergraduates graduated in May (Lori Kae Schwab and Ulises Atilano). Ulises (Joe) is attending UIC to obtain a master's degree in public health; Lori Kae is pursuing a master's degree in NRES. May 2004 also happened to be the month in which the undergraduate Independent Program of Study in Entomology was approved; we have one student, Lynn Fennema, who is pursuing her degree under this rubric. The IPS will allow us to continue to accommodate the handful of undergraduates (the few, the brave) who are passionate about insects.

Construction has proceeded apace, in concert with recruitments and retentions. A new bee research facility is under construction out by the new fish ponds on South Lincoln. And a new insectary in the Morrill Hall basement is being built in connection with efforts to centralize Animal Care campus-wide (no, insects aren't covered under animal care regulations—it's just that SIB owns the space and made it available with the proviso that we could move our animal care operation from the fifth floor to the basement).

Some entomologists may also be moving into brand-new digs at the IGB, the Institute for Genomic Biology—two of five themes involve Entomology faculty; Genomics of Neural and Behavioral Plasticity, with Gene Robinson at the helm and Hugh, Andy, Sydney, and May involved, and Genomic Ecology of Global Change, headed by Don Ort and with May involved. Each theme is assigned 10,000 square feet of space; while no one will be abandoning Morrill space altogether, there should be some consolidation such that space opens up for new faculty.

Although I receive an overwhelming amount of email (which as many of you may have noticed isn't always processed in a timely manner) in amongst the advertisements for laser printer toner cartridges and antidepressants was a note that caught my eye. It was a greeting from the University archivist, who wanted to alert departments about the campus facility. According to the University archivist, "The Entomology Department deals with the study of insect control, classes of insects, the life of insects and immunization problems. In 1899, a complete four-year course in entomology was proposed. By 1900, entomology was a separate department under the College of Science. In 1913, through reorganization of the colleges, it became part of the College of Liberal Arts and Sciences. In 1959, it was included in the School of Life Sciences, established within the College of Liberal Arts and Sciences." This information caught my attention because it isn't entirely consistent with what I've heard of our department's history—in particular, the fact that Stephen A. Forbes wasn't appointed first head of the Department of Entomology until 1909. I suppose it's conceivable that the department existed without a head for 9 years (after all, cockroaches can live for a substantial amount of time without one). In any case, one way or another a centennial celebration seems both imminent and appropriate. Planning will begin in earnest and we're hoping to bring back many of you for a celebration.



Photo courtesy of
Won Young Choi



Photo courtesy of
Won Young Choi



The Charles A. Ross and June R.P. Ross Fund in honor of Herbert Holdsworth Ross and Jean Alexander Ross remembers Herbert Holdsworth Ross and Jean Alexander Ross for their many accomplishments in education and research, he in entomology and she in zoology.

Herbert Holdsworth Ross, born near Leeds, England in 1908, spent most of his childhood in British Columbia where he became interested in the natural world, especially insects, which he collected and identified. He graduated from the University of British Columbia in 1927 and earned a master's degree and a Ph.D., both in entomology, from the University of Illinois at Urbana-Champaign in 1929 and 1933, respectively. Dr. Ross had a long and distinguished career at the U of I, including 42 years with the Illinois Natural History Survey and 23 years as professor of entomology. He began his career with the survey as assistant entomologist in 1927 and advanced to systematic entomologist, section head of faunistic surveys and insect identification, principal scientist, assistant chief, and acting chief. He retired from UIUC in 1969 and accepted an appointment as professor of entomology at the University of Georgia, retiring in 1975.

Dr. Ross was one of the most productive entomologists in North America. He published about 220 scientific publications, including six books and chapters in seven others. Among his works was the widely used *Textbook of Entomology*, which underwent several editions. He was widely recognized in many diverse fields, such as evolutionary theory, community ecology, biogeography and systematic entomology for which he received numerous awards during his career. Dr. Ross was a leader of several professional organizations, including president of the Entomological Society of America, Society for the Study of Evolution, and Society of Systematic Zoology. A Guggenheim Fellow, a fellow of both the Entomological Society and the Royal Entomological Society of London, and a member of 14 other scientific societies, Dr. Ross also served on the editorial board of several scientific publications.

Jean Alexander Ross was not only Herbert Holdsworth Ross' devoted wife of 46 years but also shared his deep love of biological science and was his valued colleague. A native of Oklahoma City, she earned a bachelor's degree in zoology in 1928 at Oklahoma City University. Interested in the then new field of ecology, she attended Kansas State University, where she earned a master's degree in zoology in 1930. She then came to the University of Illinois where her doctoral work focused on temperature changes in fish in varied ecological settings.

Jean Alexander and Herbert Holdsworth Ross met on the UIUC campus, married in February 1932, and had a son, Charles Alexander Ross, in 1933. In 1941, she returned to the UIUC department of Zoology and for the next 14 years worked with Dr. Harley J. VanCleave in his studies of acanthocephala intestinal parasites. Mrs. Ross published papers on zoology laboratory techniques and co-authored several of Dr. VanCleave's Acanthocephala papers. Upon Dr. VanCleave's death, Mrs. Ross distributed his extensive acanthocephalan collection as a valuable research resource specialists in the field. She also played a prominent role in the development and writing of her husband's *Textbook of Entomology*. As a result of their frequent discussions, the Rosses broadened the scope of the book to include a variety of topics. An accomplished artist, she drew many of the original illustrations in the *Textbook of Entomology* and re-drew and clarified many other drawings in the book.

Dr. Ross died in 1978 and Mrs. Ross died in 1984. Their son, Dr. Charles A. Ross, a geologist, and his wife, Dr. June R.P. Ross, a biological scientist, followed in their footsteps as dedicated researchers, educators and humanitarians. Charles and June met and married while at Yale University and both are at Western Washington University; he is a research associate in the Department of Geology and she is a professor emeritus in biology.

Dr. Charles A. Ross attended the U IUC and graduated from the University of Colorado in 1954, earning a bachelor's degree in geology. He was a geologist with Carter Oil Company (now part of Exxon) and the Army Corps of Engineers before beginning his graduate studies at Yale University, where he received his master's and doctoral degrees in geology in 1958 and 1959, respectively. Dr. Ross left Yale to accept a position as assistant and then associate geologist at the Illinois State Geological Survey on the UIUC campus. In 1964 Dr. Ross joined the faculty at Western Washington University at Bellingham as professor and later chair of the Department of Geology. In 1982 he left Western Washington University to join Gulf Oil Exploration and Production Company as a staff geologist, and became director of the company's Stratigraphic Sciences Group. From 1985 to 1992 he was a biostratigrapher for Chevron U.S.A. In 1992 Charles returned to Western Washington University, where he continues as an active researcher, member of several professional societies, and reviewer and prolific writer in scientific journals. He has been author, co-author, editor or co-editor of 210 publications, including nine books and monographs. The recipient of numerous awards and honors, Dr. Ross has been an officer for the Society for Sedimentary Geology (SEPM) and the Cushman Foundation for Foraminifera Research, is a fellow and member of the Geological Society of America, a member of the American Association for Advancement of Science, and several other professional societies.

Dr. June R.P. Ross received three degrees a B.Sc. in 1953, a Ph.D. in 1959, and a D.Sc. in 1974 all from the University of Sydney in Australia. After teaching at her alma mater, Dr. Ross accepted a position as a researcher at Yale University and then at the U IUC before joining the faculty at Western Washington University in 1965. In 1967 she became associate professor in biology, and she achieved the rank of professor in 1970. Dr. Ross was treasurer for the Paleontological Society from 1987 to 1994 and was president of the International Bryozoology Association from 1992 to 1995. She has been active in several other professional organizations, among them the Society for the Study of Evolution, American Association of University Women and International Union of Geological Sciences.

Since 1960 Dr. Ross has been a technical reviewer of grant proposals for the National Science Foundation and has garnered many awards for her teaching and research, including the Outstanding Educator of America Award in 1973, the Paul and Ruth Olschap Award for Outstanding Research at Western Washington University in 1986, and the Jim Wolfensohn Award of Excellence from the Sydney University Graduates Union of North America in 1995.

The Ross Memorial Fund, which is administered jointly by the University of Illinois Department of Entomology and the Illinois Natural History Survey, supports research in biological systematics, including taxonomy, phylogeny, biogeography, and related subjects. Those eligible for Ross awards are staff, faculty, and graduate students of the Illinois Natural History Survey and the University of Illinois at Urbana-Champaign. Recipients of the awards and their projects since 1988 include:

1988

Martin J. Jennings, graduate student, Department of Ecology, Ethology, and Evolution, "A phylogenetic analysis of the Longear Sunfish, *Lepomis megalotis*"

1989

Dr. Donald W. Webb and Dr. Michael Irwin, INHS, "An rRNA study of the lower brachycerous Diptera (Tabanomorpha and Asilomorpha)"

Sabine Huhndorf, graduate student, Department of Plant Biology, "The species of *Leptosphaeria* found on plants in the family Rosaceae"

1990

Patrick A. Ceas, graduate student, Department of Ecology, Ethology, and Evolution, "Systematics of the Orangethroat Darter complex"

Felipe Soto-Adames, graduate student, Department of Entomology, "Phylogeny of the families of Collembola (Arthropoda: Entognatha), based on partial sequences of the mitochondrial 12S rRNA gene and the nuclear G-6-PD gene"

1991

No awards given

1992

Michael E. Retzer, graduate student, Department of Ecology, Ethology, and Evolution, "Systematics of the stick catfish, *Fairlowella* (Pisces: Loricariidae)"

Dr. Donald W. Webb and Mitchell A. Harris, INHS, "The systematics and distribution of 'Summer Stoneflies' in the Rock and Upper Mississippi River drainages in Illinois"

1994

Felipe Soto-Adames, graduate student, Department of Entomology, "Phylogenetic position of Strepsiptera within the Insecta"

Patrick A. Ceas, graduate student, Department of Ecology, Ethology, and Evolution, "Systematics of the Orangethroat Darter complex"

1995

Gaven R. Lawson, graduate student, Department of Ecology, Ethology, and Evolution, "Comparative kinematics of the strike in pythons"

Mark H. Sabaj, graduate student, Department of Ecology, Ethology, and Evolution, "Investigation of the hybrid species status of the Cheat minnow, *Rhinichthys bowersi*"

1996

Dr. R. Edward DeWalt, INHS Center for Biodiversity, "Systematics of the *Leuctra ferrugineae* (Walker) species group (Plecoptera) of the eastern United States"

Byoungyoon Lee, graduate student, Department of Plant Biology, "An estimation of phylogenetic relationships within Umbelliferae tribe Caucalideae"

1997

Jeanne M. Serb, graduate student, Department of Ecology, Ethology, and Evolution, "Taxonomic identity and phylogeography of the Illinois mud turtle, *Kinosternon flavescens spooneri* Smith 1951"

1998

Tricia Hardway, graduate student, Department of Plant Biology, "Systematic study of North American *Cicuta* (Apiaceae)"

Colin Favret, INHS and graduate student, Department of Entomology, "The evolution of *Cinara* (Homoptera: Aphididae) on United States pinyon pines"

1999

Jennifer Anderson, graduate student, Department of Plant Biology, "Phylogenetic analysis of the aquatic fungal genus *Halosarpheia*"

Duane McKenna, graduate student, Department of Entomology, "Co-speciation of *Depressaria* and *Lomatium*"

2000

Fengjie Sun, graduate student, Department of Plant Biology, "A phylogenetic study of *Cymopterus* (Apiaceae) and related genera"

Barry Williams, graduate student, Department of Animal Biology, "Molecular systematics of the genus *Speyeria* (Lepidoptera: Nymphalidae)"

2001

Sean A. Collins, graduate student, Department of Entomology, "Genetic structure of the North American population of the European hornet *Vespa crabro*, an introduced social wasp"

Andrew R. Deans, graduate student, Department of Entomology, “Taxonomic and biological investigation of Costa Rican cockroach egg predators in the family Evaniidae (Hymenoptera)”

Adam M. Wallner, graduate student, Biology, “Biodiversity and feeding guild structure of *Cicadomorpha* (Insecta: Homoptera) in southeast Asian and neotropical rainforests”

2002

Matthew D. Ginzel, graduate student, Department of Entomology, “Evolution of contact chemoreception in longhorned beetles (Cerambycidae: Coleoptera).”

Christopher L. Mah, graduate student, Department of Geology, “Macroevolution of the Goniasteridae: Starfish phylogeny and fossils”

James N. Zahniser, graduate student, Department of Entomology, “Cladistic analysis of the leafhopper subfamily Deltocephalinae”

2003

Dr. Dmitry A. Dmitriev, a post-doctoral fellow at INHS, “A comparative morphological study of leafhopper nymphs (Homoptera: Cicadellidae)”

Heather M. Hines, graduate student, Department of Entomology, “Training in *Bombus* taxonomy to develop a comprehensive morphological phylogeny”

Chance W. Riggins, graduate student, Department of Plant Biology, “Systematics of *Artemisia* subgenus *Artemisia* (Asteraceae): origin and diversification of North American *Artemisia* from a Beringian perspective”

Alejandro A. Valerio, graduate student, Department of Entomology, “Enhancing our knowledge of wasps, parasitoids of caterpillars the natural history and distribution of *Hypomicrogaster*, in Central America”

2004

Noah M. Reynolds, graduate student, Program for Ecology and Evolutionary Biology, “Resolving evolutionary relationships within Gadidae using molecular phylogenetic analysis”

Daniela M. Takiya, graduate student, Department of Entomology, “On the taxonomy and phylogeny of sharpshooters (Insecta: Hemiptera: Cicadellidae: Cicadellinae)”

Josephine J. Rodriguez, graduate student, Department of Entomology, “A new morphological character system using the male genitalia for the Microgastrinae (Hymenoptera: Braconidae)”

Vernie G. Sagun, graduate student, Department of Plant Biology, “Pollen morphology and revision of *Acalypha* (Euphorbiaceae) in the Malesian region”

Building Feature

Insectary

Fred Delcomyn

Many of you will remember the insectary the department maintains on the fifth floor of Morrill Hall near the west stairwell. There is no question that this insectary has seen far better days, but the prospect of getting it fixed up, to say nothing of getting a new facility, seemed as dim as the prospect of finding a saturniid flying around outdoors in January. Well, maybe we'll be seeing an unseasonably warm January next year, because a new facility is indeed about to become reality.

The School of Integrative Biology had space assigned to it in the basement of Morrill Hall, space that was badly needed by the Animal Care facility. When all responsibility for animal care was transferred to the campus last year, SIB was approached about giving up its basement space. The long and short of the ensuing discussions was that SIB agreed to give up more than half of the space it held in the basement in return for approval for putting a new insectary in the rest of the SIB space there along with an adjacent room. To make the deal even more attractive, the office of the Vice Chancellor for Research has agreed in principle to help cover the cost of the renovation. The design of the new facility has not yet been finalized, but plans are moving along and Entomology can soon expect to have a first-rate containment facility for raising insects for its research use. When it is finished, come check it out when you come back to visit!

Department to Occupy New Bee Lab

Gene Robinson

The campus has authorized the construction of a new bee research facility for our department. This facility will support the research programs of Prof. Gene Robinson, director of the current bee research facility, and our newest faculty member, Prof. Charles Whitfield. The new bee lab will be located in the area of South Farms that is being developed as part of the Master Plan for research, recreation, and technology transfer. The new 4000 sq. ft. lab will be twice the size of the current facility and will boast state-of-the-art flight chambers to accommodate work on transgenic bees planned by both the Robinson and Whitfield labs. Ample space will also be available to enhance training and outreach activities that are already a key component of our bee program. The building is expected to be completed in February 2005. Please stop by to see it next time you visit—we promise you a sample of our own “Prairie Gold” honey!

A Virtual BeeSpace Also!

Gene Robinson

Bricks and mortar are fine, but everyone knows we live in a digital world. So we are thrilled to learn that NSF is awarding \$5M as part of its flagship “Frontiers in Biological Research” program to build BeeSpace, an online knowledge acquisition system. This project will combine bee biology, genomics, neuroscience, evolutionary biology, and informatics to address a key question in biology: What is the origin of particular behaviors, nature or nurture? This research will use genomic biology to liberate the study of behavior from the shackles of this dichotomy. We will develop a new paradigm that is based on the notion that the environment (“nurture”), which includes other individuals, impacts an inherited genome (“nature”) by orchestrating gene expression during the lifetime of the animal.

This project will analyze social behavior on an unprecedented whole-genome scale, using the Western honey bee as the model organism. Honey bees live in a complex society governed by an age-related division of labor, with each individual assuming many roles during her lifetime. Both genetic heredity and environmental conditions determine what role a bee performs, and when she performs it.

The biology research will generate a unique database of gene expressions for all social behavior, recording brain gene expression for hundreds of individuals, each with a specific societal role. These microarray experiments utilize the recently sequenced genome, supported by state-of-the-art statistics. Mapping expression of hundreds of genes in the bee brain will provide deeper insights into the neurobiology of social behavior.

The informatics research will develop an interactive environment to analyze all information sources relevant to bee social behavior. These include genome databases from honey bee and related organisms, linked to complete scientific literature relevant to behavior. New text-mining technology will integrate molecular description with information from physiology, behavior, neuroscience, and evolution.

The BeeSpace environment will enable users to navigate a uniform space of diverse databases and literature sources for hypothesis development and testing. The software system will go beyond a searchable database, using statistical literature analyses to discover functional relationships between genes and behavior. This research will enable all scientists who study bee genes to live on the frontier of integrative biology, where biotechnology enables routine expression analysis and bioinformatics enables functional analysis unconstrained by pre-existing categories.

Outreach for BeeSpace will provide integrated research and education experiences at the graduate and undergraduate levels, plus training courses and minority outreach at high school and middle school levels.

The project is made possible by the fact that the sequencing of the honey bee genome is almost complete. The honey bee genome project is being spearheaded by several members of the Department: Profs. Robertson, (Charles) Whitfield, and Robinson.

Bruce Schatz, Professor of Library and Information Science is the Principal Investigator and Informatics Lead for BeeSpace and Gene Robinson is the Biology Lead.





May Berenbaum: It seems like I've always engaged in alliterative research—coumarins, caterpillars, and coevolution, with a focus on, among other things, papilionids, P450s and parsnips—but lately the laboratory has undergone alphabetical upheaval. We've been adding letters at a remarkable pace. Terry Harrison (appropriately enough) opened up the letter H with his work on hill prairie microlepidopteran diversity; honey bees are now part of the lab's portfolio thanks to Reed Johnson's work annotating their cytochrome P450s as the genome becomes available; and Art Zangerl added Holland (in Europe, not the one in Michigan) to our list of localities for investigating the coevolutionary geographic mosaic between parsnip webworms and *Pastinaca* (as well as their principal European hosts, *Heracleum*, popularly and alliteratively appropriately known as hogweed). The letter J has been added into the mix, as a consequence of the remarkable work of Xianchun Li (now an assistant professor at University of Arizona) demonstrating that the polyphagous corn earworm upregulates its detoxificative P450s in response to the plant signaling substance jasmonic acid, produced in response to insect damage long before the plants can gear up their production of defense compounds (this work was published in *Nature*, my first appearance in the journal not counting the book review I wrote a few years ago when I despaired of ever having a paper accepted there). Jennifer McGovern (again, alphabetically appropriately) is examining the effects of jasmonic acid, among other potential inducers, on specialists such as the parsnip webworm. And Bridget O'Neill has zeroed in on the Japanese beetle (*Popillia japonica*) as the major herbivore in soybean field plots at the FACE (Free Air Carbon dioxide Enrichment) site and is examining the effects of carbon dioxide-induced changes in plant quality on longevity and reproduction. The great strides made by new postdoctoral associate Wenfu Mao has us on the brink of a new alliterative initiative; he has already characterized several furanocoumarin metabolites produced by the two-tailed swallowtail *Papilio multicaudatus* (putative ancestor to the polyphagous Section III species in the genus) and he's in the process of hunting down the P450s that may represent the ancestral form for the species in the section. Of course, the sole furanocoumarin-containing hostplant for the two-tailed swallowtail is the alliteratively (if not orthographically) appropriate *Ptelea*.

On the home front, our seminar-related family travel has been all over the map (as well as the alphabet, or, at least from A to B): from Alpine, Texas (for spring break 2003 at Sul Ross State University, where this Jewish vegetarian discovered that authentic Tex-Mex food has a lot of lard in it), to Brisbane, Australia (for the International Congress of Entomology in August 2004) (where this milkshake-aficionado discovered that, in Australian English, a milk-shake is simply milk shaken with flavoring, without any ice cream or frozen yogurt). The biggest family event in the past two years, though, happened at home Hannah's Bat Mitzvah on November 1, 2003. Her Torah portion was about Noah and the Ark and Hannah did her bit to save animals herself by volunteering at the Champaign County Humane Society; from February to November, she spent over 40 hours socializing cats and kittens, donated over 200 popsicle sticks (used as kitten tongue depressors), acquired by dedicated popsicle consumption, folded over 110 pounds of newspapers (used to line the cages), and raised over \$2000 in donations for the shelter (which doesn't include about \$100 worth of brand-new cat toys that doubled as table decorations at the luncheon). Family members who had never before set foot in central Illinois for the 23 years I've lived here actually came for the Bat Mitzvah. It was just terrific on all counts—but I expect most family members won't be making a return visit until Hannah's wedding, which, in view of the fact that she's only 14, is a long way off.



Stewart Berlocher: Things are even busier at the Berlochers' than we reported in the last newsletter. Paul is now six and Austin is 11, soon to be 18. Austin is very proud to have become a black belt (first degree) in Taekwondo, and is continuing on with Boy Scouts. Paul continues to imitate his big brother in many ways, but is going his own way more. He has become an enthusiastic naturalist (without any real pushing from me) we reared caterpillars on the dining room table all summer, and he has never met a bug he doesn't like.

Research is going really well. The apple host race of *Rhagoletis pomonella* is genetically distinct from the ancestral hawthorn race, period. No doubts any more. Together with several collaborators we have discovered that the host races respond to unique volatile blends from the host fruits, and we are mapping the genes involved. In a few years, we may "prove" that sympatric speciation really occurs!

There are more and more enchiladas in Champaign-Urbana all the time. Regards to all my former students out there, and don't be strangers.



Sydney Cameron: During the last two years we have progressed beyond expectation with the phylogeny of bumble bees (*Bombus*). Our field expeditions described in the last Newsletter brought in more material than expected for large-scale DNA sequencing of the genus. Heather Hines, my graduate student working on the project, is nearing completion of her Masters thesis centered on this project—her poster took First Place at ESA in the student competition for Section A (Systematics). Of the 250 species, nearly 200 species have been sequenced for four genes. Although still in the process of analysis, the phylogeny has resolved several controversial questions concerning bumble bee relationships and evolution. In particular, the large subgenus *Pyrobombus*, with 48 species, is conclusively monophyletic, and its closest relatives include some of the most important species used in the pollination industry. An

exciting evolutionary result is that the earliest diverging single extant lineage of bumble bees shares numerous unique features with the stingless bees. USDA has renewed the funding for this project, allowing us to collect some of the important missing taxa from Asia (Nepal and Mongolia). With collaborator Paul Williams of the Natural History Museum, London, we are also nearing completion of an annotated checklist of the bumble bees of Sichuan, China, based on our expedition to that region. This project has kindled strong scientific connections with a number of Chinese scientists, from Beijing to Chengdu, and lays the foundation for additional regional studies.

Claus Rasmussen, from Denmark, joined the lab last summer. Claus arrived after two years in the rain forests of Peru, where he amassed an impressive collection of stingless bees (Meliponini). This forms the foundation for his Ph.D. project to reconstruct with DNA sequences a phylogeny of the world's meliponine fauna. If NSF funding comes through, Claus will be off to Africa and Argentina to collect important species for that research.

Future directions in the lab will build upon the foundation of phylogenetic knowledge of these two major groups of social bees. One of these directions is to understand the evolution of diverse color patterns in bumble bees, which are thought to form Müllerian mimicry complexes. Mimicry, as defined by the hypotheses of Bates (1868) and Müller (1879) that edible and inedible (repulsive) species gain a selective advantage by sharing similar color patterns, has been an exciting evolutionary theme since the last century—Darwin considered it one of the more convincing arguments in favor of natural selection. We are currently coding the *Bombus* color patterns worldwide and will be mapping these onto the completed *Bombus* phylogeny, along with each species' geographic distribution, for a view of the pattern of convergence among the color forms. The apparent simplicity of the segmental nature of the color patterns suggests they may be under Hox gene regulation. Heather may investigate this from an evo-devo perspective for her PhD research.

Following the evo-devo theme of color pattern, Heather and I recently crashed an international meeting in San Juan, Puerto Rico, on wing-spot evolution and development in butterflies—we presented a talk on mimicry patterns in bees! We were received with benevolent tolerance and enjoyed a good deal of ragging.

Needless to say, we also enjoyed the sights, including Old San Juan with its 16th century sea wall and fort and the El Yunque rain forest (see accompanying photos taken by fellow traveler, Oliver Niehuis).

Charlie Whitfield (our newest faculty member) and I have begun a collaboration to study the role of homeotic genes (*Ubx* and *abd-A*) in hindleg development of the corbicula (pollen-carrying apparatus) in honey bees. This is exciting from an evolutionary perspective because queen honey bees and stingless bees have lost the corbicula, as have all socially parasitic species of bumble bees. Lastly, I have begun collaborative behavioral research on recruitment communication in tropical bumble bees. Completion of the bumble bee and stingless bee phylogenies will provide the framework for studying key taxa from these sister tribes, which may point the way to understanding the evolution of the dance of the honey bee.

This summer, Jim and I returned to Maine, where last summer we fell in love with the little fishing village of Stonington. Sun, sea, fantastic seafood, and Acadia National Park!



Fred Delcomyn: As usual, much of my attention is taken each year by activities associated with the School of Integrative Biology. We obviously want to have the best faculty we could possibly have in our departments, but sometimes that means that other universities will recognize their excellence as well and try to attract them away from us. During the past two years we have had both success and failure in retaining faculty in the Department of Entomology. First, Cornell tried very hard to lure away Gene Robinson. Then Penn State tried the same with May Berenbaum. Fortunately, the campus recognized the value of these colleagues as well as we did and was able to assist us in mounting a successful campaign to keep them with us. Unfortunately, we were not successful countering the tempting offer that Wake Forest University dangled in front of Susan Fahrbach, and she will have left us by the time you read this. Feeling some responsibility for a failed retention effort is certainly one of the less pleasant aspects of being an administrator.

On a happier note, research on hair plates near the joints of insect legs continues, pursued mostly by a cadre of talented undergraduates. Michelle Cecchini has shown that the hair plate on the trochanter in the rear legs is mostly a phasic sense organ, signaling how fast the femur flexes but not its angle when it is held in a static position. (Michelle's research earned her graduation with High Distinction in Biology General, as well as the Life Sciences Distinction Award for excellence in research.) Amy Piotrowski showed that if the hair plate is removed, the femur makes exaggerated flexion movements during walking. Chris Austin, who has entered the Biology Masters program, will characterize the relationship between joint angle, direction, and velocity of femur movement, and the response of the hair plate.

Since my recent research efforts have been at the interface between physiology and engineering, it seemed appropriate that I accept an invitation to write a review, entitled *Insect Walking and Robotics*, for the *Annual Review of Entomology* volume for 2004. My goal was to write an article that both biologists interested in robotics and engineers interested in animal models could turn to for a succinct summary of the field. I also wanted to provide some guidelines for what constitutes successful research in the hybrid field of biorobotics since the field has sorely lacked any standards as to what kind of work will actually advance it. We'll have to wait to see how successful I was in reaching these goals!

At home, we're having fun watching the prairie wildflowers bloom. It seems like every week or two we spot a new one, and with fewer than half the 25 flowering plants we sowed blooming yet, there's still plenty of interest ahead.



Bettina Francis: During the past two years, my lab has been involved in several very different projects. We are continuing our study of the effects of dietary supplements on DNA. Pat Trinachartvanit has tested five, and two of them actually altered the amount of DNA damage seen in bone marrow, suggesting that many supplements are far from inert. Pat put the final touches on her thesis, and returned to Thailand at the end of July to join the faculty of Mahidol University, but Lane Rayburn and I expect to test several more supplements in the next year. Katy Lustofin has been feeding mice, chicks and fruit flies with coniine, a piperidine alkaloid from poison hemlock. Her results show, yet again, that species differ in their response to toxic chemicals. We will probably expand this study to other secondary plant products, and perhaps find a way to use fruit flies. With colleagues at USEPA, I will be looking at gene expression in mouse embryos exposed to all-*trans*-retinoic acid. We have found a dosing regimen that prevents joint formation, and would like to see which of the half-dozen genes known to be involved in joint formation are involved. I am also continuing my effort to find out how the herbicide nitrofen causes multiple malformations in mice, and hope to have sequences of candidate genes by year's end. The undergraduates in my lab did a terrific job of collecting DNA for me! Last (but far from least), LAS awarded me the spring '04 semester to study a 2nd discipline Entomology and Evolutionary Biology. Although I am still very far from being an entomologist, I have a somewhat better understanding of insects, and of the evolutionary perspective. It's been a lot of fun, even though I had forgotten how much work it really is to take courses!



Larry Hanks: I am relieved to report that the Hanks lab has been fairly productive over the last two years. The first Ph.D. students to leave the lab have landed postdoc positions: John Tooker is now at Penn State on a postdoc with Consuelo De Moraes, and Matt Ginzel is at the University of Nevada on a postdoc with Gary Blomquist. Masters students Erin Grossman and Ashley Bennett have graduated and moved on, Erin working for an arboricultural company in Maryland, and Ashley to the Entomology Ph.D. program at Wisconsin. Emerson Lacey also completed his M.S. but is continuing on for a Ph.D.. He is this year's recipient of the Norm Dubois Scholarship Award from the Entomological Society of America for his research on long-range pheromones of longhorned beetles. Four new Master's students have joined the lab, Ann Ray, Susan Moser (co-advised with Rob Wiedenmann), Em Kluger, Sandi Yi, and a fifth will join us at the end of the year, Liz Graham. Meanwhile, Pete Reagel is plugging away at his Ph.D. research as the sex ratio in the lab gradually renders him obsolete.

The past two years have been crazy, with all these people beavering away. I crassly refer the reader to the lab web page (www.life.uiuc.edu/hanks/) to assess our productivity. We've not been sitting on our hands, and now with seven graduate students in the lab, there are even more hands not to sit on. I anticipate even longer newsletter blurbs in the future. A propos of nothing, I also got tenure in 2003.



Gene Robinson: I grew up in upstate New York and then remained in the region for 11 more years to earn B.S., M.S., and Ph.D. degrees at Cornell University. When I finished my Ph.D., I don't think I could imagine any circumstances under which I would not wish to return to Cornell some day for a faculty position. But this is precisely what I did this past year, declining an attractive offer from my alma mater. Why? Of course we all know that many factors personal and professional go into a decision of this type. But here's one major factor, which should be no surprise to most of you: our department provides an extremely stimulating and supportive environment for scientific investigation. It is easy to find great colleagues interested in research collaboration or just willing to answer a pressing question, both within the department and throughout campus.

Another factor is that I have become heavily involved in an exciting new endeavor on campus, the Institute for Genomic Biology. I am theme leader for the research theme entitled "Genomics of Neural and Behavioral Plasticity," one of seven interdisciplinary themes that will be housed in this \$75 million, 186,000 square-foot state-of-the-art facility expected to be complete in mid-2006. Other Entomology faculty members involved in this theme are May Berenbaum, Sydney Cameron, Hugh Robertson, Andy Suarez, and Charles Whitfield. May also is involved in another research theme with strong entomological content, "Genomic Ecology of Global Change." The Institute for Genomic Biology is a major development on campus and I am sure you will be hearing more about it over the next few years.

Some people *did* get new jobs this year, I state proudly. Two postdoctoral fellows in my lab, Christina Grozinger and Charles Whitfield, both accepted faculty positions. Christina, who used the new "gene chip" technology to study how a pheromone produced by the queen honey bee affects gene expression in the brain of the worker bee, is joining the Department of Entomology at North Carolina State University. Charles, who also used gene chips to study differences in brain gene expression in bees that perform different jobs in the beehive, is joining our department. In addition, former student David Schulz, currently a postdoc with Eve Marder at Brandeis University, accepted a faculty position at the University of Missouri. We wish them all the best of luck.

I am also pleased to report that two former postdocs recently earned tenure: Steve Trumbo at the University of Connecticut and Zachary Huang at Michigan State University. Speaking of transitions, our oldest son starts college this fall! Aaron, off to college? Steve and Zach tenured profs? Lucky I don't have to mark the celebration of any milestone birthdays, like turning 50. That won't happen for awhile...uh, until 2005...



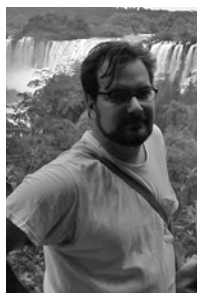
Hugh Robertson: The past two years have seen my laboratory move completely to working on insect and nematode chemoreceptors. The focus has been on our *Manduca sexta* candidate pheromone receptors (student Harland Patch) and the *Anopheles gambiae* gustatory receptors (student Lauren Kent). We continue to be involved in a diversity of other projects in collaboration with others, for example on a novel insect opsin called pteropsin with Susan Fahrback and bursicon with Willi Honegger at Vanderbilt, but the other major effort has been on the honey bee genome project in collaboration with Gene Robinson.

My 17-year-old stepson, Gabriel, having become a thespian at Urbana High School, is going to Japan as a Rotary exchange student for his senior year, which is quite an adventure in cultural adjustment. Our 6-year-old daughter, Erica, just finished kindergarten at Leal, and last winter mastered skating and skiing. We had a great month-long trip around Australia last summer, and took a trip to South Africa, Botswana, Zimbabwe, and Zambia this summer (2004).



James Sternburg (emeritus): Most of my effort since retirement (1988) have been directed toward producing field guides to the insect of Illinois. With co-author John Bouseman two have been published by the Illinois Natural History Survey on butterflies and on wild silk moths. With James Wiker, an authority on skippers, we have completed the manuscript for a field guide and hope to see it in press this fall or winter. We are in the process of preparing a guide to the Illinois sphinx moths, and perhaps others.

I have three adult children, all doing well, and four grandchildren. I continue to enjoy photography and gardening.



Andrew Suarez: Fire ants and Argentine ants have become important invaders in many parts of the United States. Widely recognized as agricultural and urban pests, these species are also a demonstrated conservation concern because they invade natural habitats. Introduced populations of these invasive ants have been fairly well studied, but surprisingly little information exists concerning their biology in South America, their place of origin. With funding from the National Science Foundation's International Collaborative Research Program, the Suarez laboratory is investigating the factors promoting ecological coexistence between fire ants and Argentine ants in their native Argentina. This work represents a novel contribution to invasion biology in that it examines biotic interactions between widespread and important invaders in areas where these taxa evolved together.



Chad Tillberg excavates a colony of the giant hunting ant, *Dinoponera australis*, in Iguassu National Park, Argentina



Gilbert Waldbauer: Almost any day of the week except when I'm off on a birding trip you can find me working on a book in my little office on the fourth floor of Morrill Hall. I write in pencil and someone else types the stuff into a computer. This, believe it or not, has its advantages. When I see my words on a neatly printed page, it looks almost as if someone else wrote them. That makes it easier for me to be critical of my own work. Dottie Nadarski typed most of my books and did an outstandingly wonderful job. Not long ago Dottie died of cancer. I miss her very much, as does everyone in the department. I have dedicated my forthcoming book to her.

That book, *Insights from Insects, What Bad Bugs Can Teach Us*, is essentially a series of essays using pest insects as vehicles for putting across biological concepts ranging from evolution and natural selection, as illustrated by house flies becoming resistant to DDT, to a 19th century example of integrated pest management, Charles Valentine Riley's rescue of the French wine industry from certain destruction by the grape phylloxera.

I now have on my desk the first few handwritten pages of the final chapter of my next book. It is about aquatic insects, but it has yet to find a title. It is not a compendium of the many species of aquatic insects, but rather a consideration of the various ways in which aquatic insects cope with the demands of life in the water: how they obtain oxygen, cope with drought, obtain food, and produce offspring. Underlying themes of the book are the ecological roles of these insects and their tremendous importance in aquatic ecosystems.



John Anderson, seminar speaker, Phyllis Cooper, Gilbert Waldbauer, and Terry Harrison at the alumni-new student potluck 2004
Photo courtesy of Josephine Rodriguez



Andy Suarez, Rob Weidenmann and Luann Weidenmann at alumni-new student potluck 2004
Photo courtesy of Josephine Rodriguez



Hugh Robertson, May Berenbaum and Hannah Leskosky at the alumni-new student potluck 2004
Photo courtesy of Josephine Rodriguez



Charlie Whitfield: The lab is off to a running start, after only a few weeks, thanks to my technician Kasie Heeres. We are busy running gels and piling up equipment while we await our new lab space. Here are some of the projects:

We are investigating several genes that show expression differences in the honey bee brain associated with behavior, identified during my postdoc with Gene Robinson. One of these is a novel member of the MAP kinase family, *ERK8*, which has a clear one-to-one relationship (orthology) with a very similar gene in humans, fruit flies and nematodes. Although this protein family is important in signal transduction and very well studied (>13,000 citations in PubMed), this particular member is of unknown function with only one publication so far. MAP kinases are generally activated by phosphorylation, and subsequently activate other proteins (including transcription factors) via phosphorylation. We have developed a specific antibody to the bee *ERK8*, which will allow us to address several questions. Is *ERK8* activated by phosphorylation? Is activation of *ERK8* associated with behavioral differences in the bee? Do environmental (including social) cues that influence behavior alter *ERK8* activation? What proteins does *ERK8* target for phosphorylation? If we can discover the function of *ERK8* in the honey bee, then we will ask whether it has a similar function in other animals such as humans. While Kasie works on the above project, I've been busy in the field setting up genetic crosses that should allow us to map and identify genes that cause heritable differences in bee behavior. The differences we will be examining are related to social organization in the bee hive—basically, who does what and when—and will involve such behaviors as nursing (care for young), hive construction, guarding the hive entrance, undertaking (removing corpses), and foraging. Many of these behaviors are known to be influenced by both environment and heritable differences. Identifying genes that cause heritable differences in complex behaviors is very difficult, with only a few examples identified in any animal, but is an important endeavor for understanding the relationship between genes and behavior. The bee provides a compelling model system to pursue this.

On a personal note, I bought a beautiful house in Urbana and am just settling in.



James Whitfield: Since the last Newsletter, the Whitfield lab has been in full swing! To the original three Ph.D. students in the lab, Won-Young Choi, Andy Deans, and Alejandro Valerio, we have added the liveliness of Josephine Rodriguez from California. She will head up what we hope will be the next wave of students, since Won-Young, Andy, and Alejandro might all finish their Ph.D.'s within a year (all passed their prelims with flying colors and are going great guns on their thesis now!). Postdoctoral associate Alice Michel-Salzat moved on to a postdoctoral position at the University of Paris on primate immunodeficiency viruses, and her place as...“polydnavirus postdoc” is now taken by Jonathan Banks, who came to us from New Zealand, where he worked previously on coevolution between penguins and their lice. Undergraduate Chris Grinter has added his efforts to the lab during most of the academic year when he is not off chasing Lepidoptera.

Despite the state's economic woes, it was a great year for us in terms of grant funding, and we've been bursting at the seams with projects on interactive identification keys to braconid wasps for the Web, molecular phylogenetics of microgastrine wasps, coevolution between braconid wasps and polydnaviruses, taxonomic revisions of several parasitoid wasp genera, surveying for parasitoids of Lepidoptera in Ecuador and Costa Rica, surveying the morphology of male genitalic structures in braconids, and studying all aspects of the systematics of evaniid wasps. On this last topic, Andy Deans was awarded a Dissertation Improvement Grant from the National Science Foundation, our first success on one of these.

2002-2004 also brought our first forays into using the NCSA supercomputers on campus for phylogenetic analysis, field trips to Australia, China, Europe, Arizona and the Pacific Northwest as well as more local ones, and the gradual resurrection of the Invertebrate Zoology undergraduate course (to be kicked off in Spring 2005). Also my first struggling attempts at playing the banjo, which Stewart Berlocher and Larry Hanks (not to mention Sydney!) have had to endure...



Larry Hanks (left) and Stewart Berlocher (right) having a jam session.



On left, eucalypt forest at Kelly Hill, Kangaroo Island; center, cliffs at Cape Borda; right, echidna, Flinders Chase National Park.

Wasp Hunting Down Under

While Champaign-Urbana shivered in midwinter ice and snow in January 2004, Andy Deans and I joined Lars Vilhelmsen from the Zoological Museum of the University of Copenhagen for a few weeks visiting Andy Austin and John Jennings at the University of Adelaide in South Australia. Ostensibly the trip was about sharing comparative morphological and molecular data for hymenopteran phylogenetic studies, and indeed we did some of this, presented talks and swapped specimens. The highlights of the trip, however, were the wonderful insect collecting trips organized by the Austin and Jennings labs, topped by a five-day excursion to the National Parks on Kangaroo Island off the south coast. One of the best locations in Australia to see native wildlife, Kangaroo Island features a wide variety of plant communities as well as spectacular coastlines overlooking the Southern Ocean. Seals, sea lions, penguins, echidnas, koalas, kangaroos, wallabies and a fantastic variety of colorful birds were all in evidence. Sadly, the platypus eluded us...

Thanks to Fraser Vickery of the Parks staff, we were able to sample insects from much of the island. Andy was after ensign wasps (Evaniiidae) and related groups, I was after braconid wasps, and Lars after miscellaneous rare groups of Hymenoptera for his comparative morphological studies. We all had excellent success in finding unusual species—indeed it turns out that our two weeks in South Australia more than doubled the known fauna of aulacid wasps, one of co-host John Jennings’ specialties! It was truly a unique opportunity to experience a world literally about as far way from UIUC as you can get.

Jim Whitfield



On left, Andy Deans, Lars Vilhelmsen and Jim Whitfield at Belair National Park; right, Andy Deans points out an ensign wasp at Flinders Chase.



Cindy McDonnell, Leslie Deem, and Bettina Francis at the alumni-new student potluck 2004
Photo courtesy of: Josephine Rodriguez

Faculty and Affiliates

May Berenbaum: Weizmann Women & Science Award, Robert MacArthur Award from Ecological Society of America
Susan Fahrback: Elected Fellow, American Academy for the Advancement of Science
Michael Gray: 2003 College of ACES Team Award
Mike Irwin: ACES Global Impact Award
Eli Levine: Entomological Society of America-North Central Branch Award of Excellence in IPM, 2003 College of ACES Team Award
Phil Nixon: NRES Academic Professional Award of Excellence
Bob Novak: Elected Fellow, American Association for the Advancement of Science
Hugh Robertson: 2003 College of ACES Team Award
Gene Robinson: Guggenheim Fellowship, Fellow of the American Academy of Arts and Sciences, Founder's Award Entomological Society of America, Entomological Society of America Recognition Award in Insect Biochemistry, Toxicology and Physiology
Kevin Steffey: American Distance Education Consortium for the "Bill Murphy Barrier Buster Award"
Dave Voegtlin: American Distance Education Consortium for the "Bill Murphy Barrier Buster Award"
Rick Weinzierl: Entomological Society of America-North Central Branch Award of Excellence in Extension
Robert Wiedenmann: Elected to the Invasive Species Advisory Committee

Incomplete List of Outstanding Teachers at UI (FA2002–SU2004)

May Berenbaum SP 03	Larry Hanks FA02, FA 03	Leellen (Lee) Solter SP 03
Sam Beshers SU04	Hugh Robertson SP04	Robert Wiedenman SP04

Incomplete List of Outstanding Teacher Assistants at UI (FA2002–SU2004)

Casey Funderburk FA 03	Terry Harrison SP 03	Jennifer Hopwood FA 03
John Kane FA 03	Susan Moser FA 03	Bridget O'Neill FA02, SP 03, SP04
Pete Reagel FA 03, SP04		

Graduate Student Awards

Andrew Deans: Society of Systematic Biologists Graduate Student Research Award
Heather Hines: Poster Display Presentations Winner Section A, Entomological Society of America Meeting Oct. 2003
Jonathan Lundgren: International Organization for Biological Control Outstanding Graduate Student Award, Luckmann Award Recipient
Cynthia McDonnell: Poster Display Presentation Winner Section B. Entomological Society of America Meeting Oct. 2003
Amy Toth: Oral Presentation Winner Cb1, Entomological Society of America Meeting Oct. 2003
Andy Deans and Amy Toth: National Science Foundation Dissertation Improvement Grants
Josephine Rodriguez: Herbert Holdsworth Ross Memorial Fund Award from the INHS for systematics research. April 2004

Undergraduate Student Awards

Freddy Escorcía: 2003 Outstanding Student Certificate of Merit

Alumni Awards

Sherri Sandberg: Outstanding Teacher of the Year for Davis High, Davis, California
Keith Solomon: Spring 2002 ACS International Award for Research in Agrochemicals



In April 2004, Dr. David Denlinger, UIUC Ph.D in Entomology 1971, was elected to the National Academy of Sciences. Abundantly deserving of this honor, Dr. Denlinger's credentials are impeccable and his contributions to the field of entomology legion. In view of his many contributions toward understanding diapause and photoperiodism, Dr. Denlinger can rightly be regarded as the premier environmental insect physiologist of this generation. Dr. Denlinger picked up the gauntlet, as it were, cast down by an earlier generation of physiologists in ascertaining the mechanisms and adaptive significance underlying photoperiodic responses, tolerance of temperature extremes, and synchronization of life cycles with environmental unsuitability, carrying these pursuits into the 21st century with new technology and approaches as

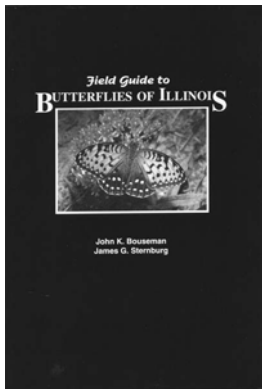
they became available. The fundamental significance of Dr. Denlinger's contributions in this regard is evidenced by the fact that they are published in top-flight journals, widely cited in scientific papers in a broad cross-section of entomological disciplines, described in textbooks (and have become, in many cases, the "textbook examples"), and even publicly recounted in the popular press. As a member of the National Academy of Sciences, it was my pleasure to communicate to the *Proceedings of the National Academy of Sciences* his paper demonstrating the upregulation of diapause-specific genes in *Sarcophaga crassipalpis*, resolving a longstanding controversy about the nature of genetic control of diapause. His research provides the foundation for contemporary understanding of how insect development is regulated during adverse environmental conditions and as well represents an elegant demonstration of the power of new genomic approaches for resolving previously intractable experimental challenges.

Dr. Denlinger's work is doubly remarkable in that, along with advancing basic knowledge, he has contributed to improving and even saving the lives of millions of people. The tsetse fly, vector of sleeping sickness in humans and nganaan cattle, has been a scourge in sub-Saharan Africa for centuries, defying all attempts at management and stifling economic development and perpetuating human misery. Denlinger's early work on tsetse interactions with symbiotic microbes provided a novel avenue for control and eventually contributed to efforts to sequence the symbiont genome. Studies elucidating the diapause cycle of the tsetse led to the use of juvenile hormone to disrupt the pregnancy cycle, an approach in field trials from Kenya to Zimbabwe. More recently, the discovery of a neurohormone produced by the uterus that promotes instantaneous abortion has tremendous potential as a management tool.

In addition to his scientific accomplishments, Dr. Denlinger has generously assumed a leadership role, serving as head of a prominent, active department (Ohio State University), acting as editor for one of the most prestigious and highly regarded journals in the field of insect physiology (*Journal of Insect Physiology*), and contributing to the Entomological Society of America at both the section level and the national level. Dr. Denlinger's overall excellence is attested to by the fact that entomological societies on both sides of the Atlantic Ocean (the Royal Society and the Netherlands Ministry of Agriculture and Fisheries, on the European side and the Entomological Society of America and the American Association for the Advancement of Science on the American side) have named him a fellow, at a relatively early stage of his career. He is also a recipient of the ESA's Founder's Memorial Award as well as the C.V. Riley Achievement award.

Dr. Denlinger's election to the National Academy of Sciences is recognition of the metamorphosis and development of the field itself. Among his mentors as a graduate student were Dr. Gottfried Frankel, an Academy member himself, and Dr. Judy Willis, a fellow of the American Association for the Advancement of Sciences. Both of these UIUC faculty members played critical roles in integrating and applying new methodologies, as they became available, to solve intractable problems within insect physiology and thus have allowed the knowledge base to continue to expand, to the benefit not only of fellow entomologists but to the public at large plagued by pest problems whose solutions require intimate knowledge of the physiology and ecology of the organisms. We're proud to have contributed to Dave's metamorphosis!

May Berenbaum



Field Guide to Silkmoths of Illinois

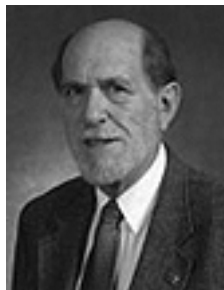
by John K. Bousemann and James G. Sternburg

The authors have been encouraged and heartened by the reception of their *Field Guide to Butterflies of Illinois*. Although very authoritative and comprehensive treatments existed for the butterflies of North America, we have found that an audience existed for regional manuals. Faunal works of limited and perhaps arbitrary scope reduce for the casual observer the “noise” generated by extraneous faunal elements in groups of confusingly similar species that can be difficult to determine.

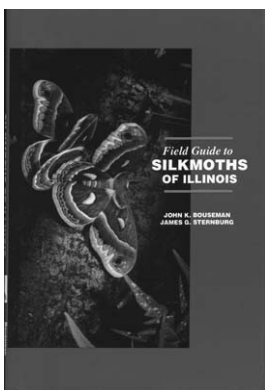
This book is about the often spectacularly large and beautiful moths known as the imperial moths or silkmoths. Both the adults and larvae of these insects have long attracted the attention of naturalists, scientists, artists, school-children, and people in general.

Recently there have been reports that these heretofore rather common insects are suffering catastrophic population declines. These losses in some parts of the country have been attributed to the depredations of a parasitic fly, *Compsilura concinnata*, which was imported and introduced into North America from Europe as a component of biological control programs targeted at the gypsy moth and other forest pest species. The authors are saddened by this calamitous development and further dismayed by the prospect of the possible extermination of these awesomely beautiful creatures by an introduced generalist parasitoid.

John K. Bousemann



James G. Sternburg



Field Guide to Butterflies of Illinois

by John K. Bousemann and James G. Sternburg

The purpose of this field guide is to enable the user to identify to species any butterfly found within the borders of the state of Illinois, and secondarily, through the judicious offering of references from the enormous literature about butterflies, to least the interested readers of this guide to sources that will enable them to learn more about these most charismatic insects.

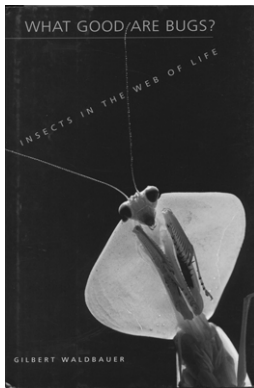
Because most of the species included in this field guide have geographic ranges that extend far beyond the borders of Illinois, the recognition of these butterflies can serve the user of the guide well beyond the borders of the state. The butterfly faunas of states adjacent to Illinois are similar and this guide will serve those states well. For example, while participating in expeditions to the Tian Shan of Kyrgyzstan (a country located in the southern part of the former Soviet Union, next to China) in 1998 and 1999, co-author John K. Bouseman saw the

Mourning Cloak flying along a glacial stream in the spruce zone above the south shore of Lake Issyk Kul and saw many individuals of the Painted Lady nectaring on dandelions and acaulescent thistles in the high alpine passes there. Co-author James G. Sternburg has seen checkered whites, Cloudless Sulphurs, Dog-Face Sulphurs, Little Yellows, and Buckeyes near Antigua, Guatemala. At Guantanamo Bay, Cuba, Sternburg saw Cloudless Sulphurs, Variegated Fritillaries, Queens and Monarch.

The genesis of this work arose about a decade ago in the course of discussions among the authors of this work and the late Ellis G. MacLeod. All three were professional entomologists who, as children, had developed an interest in butterflies and had never lost their passions for them. The authors regret that Ellis was unable to join them in the production of this work. It would be a better book if he had.

During the preparations for the actual writing of the guide, numerous field trips were made throughout the length and breadth of the state to search for species that were judged likely to occur but either were thought to be extirpated or had never been collected in the state. Among the results of these endeavors were the finding of the Pearly-eye for the first time in the state and the rediscovery of the Carolina Satyr after over a century of no records. The authors did not find the Northern Metalmark (although they still think it is here) nor did they rediscover the Diana Fritillary in Illinois. Also, they have yet to start a search for the Ozark Swallowtail in Illinois. All this suggests that much remains to be done. That is true. Good Hunting!

John K. Bouseman and James G. Sternburg



What Good Are Bugs? by Gilbert Waldbauer

We shriek about them, slap and spray them, and generally think of insects (when we think of them at all) as pests. Yet if all insects, or even a critical few, were to disappear if there were none to pollinate plants, serve as food for other animals, dispose of dead organisms, and perform other ecologically essential tasks virtually all the terrestrial ecosystems on earth, the webs of life, would unravel. This book, the first to catalogue ecologically important insects by their roles, gives us an enlightening look at how insects work in ecosystems what they do, how they live, and how they make life as we know it possible.

In *What Good Are Bugs?* Gilbert Waldbauer combines anecdotes from entomological history with insights into the intimate workings of the natural world, describing the intriguing and sometimes amazing behavior of these tiny creatures. He weaves a colorful, richly textured picture of beneficial insect life on earth, from ants sowing their “hanging gardens” on Amazonian shrubs and trees to the sacred scarab of ancient Egypt burying balls of cattle dung full of undigested seeds, from the cactus-eating caterpillar (aptly called *Cactoblastis*) controlling the spread of the prickly pear to the prodigious honey bee and the “sanitary officers of the field” the fly maggots, ants, beetles, and caterpillars that help decompose and recycle dung, carrion, and dead plants. As entertaining as it is informative, this charmingly illustrated volume captures the full sweep of insects’ integral place in the web of life.



Gilbert Waldbauer

Harvard University Press



Jackie Bowdry: To the department staff, I thank you. I am hoping that the upcoming year is productive and successful for the office staff, faculty, graduate students, and affiliates.



Alissa Eisenstein: I came to the department in March 2004 after 3 years at the Illinois Natural History Survey, where I did data back-checking of thousands of vials, some sorting in the insect collection. I also worked as a Geographic Information Specialist.

Here I have devoted some time to the rearing of hornworm caterpillars from egg to pupa and am currently organizing the Teaching Collection, making sure that vials and slides are properly stored and creating a FileMaker database that will eventually contain upwards of five thousand items.



Todd D. Fulton: I've worked in the Insectary for the past 16 years. Since the last newsletter I've left the Carle Clinic Department of Pediatrics and joined the Carle Clinic Occupational Medicine Department. After 14 years with Pediatrics I felt it was time to go, and the Occupational Medicine Department is just what I was looking for.

My wife is still with Health Alliance. My oldest son Chad and his wife have given me my first grandchild; she's a blessing. Chad is a Champaign County deputy. My other son Andrew is in the Marine Corps. He's currently stationed at Camp Lejeune in North Carolina. Rachel was accepted to the U of I and started fall of 2004. Kelly is entering 7th grade at Mahomet Junior High. I still enjoy the outdoors—hunting, fishing, and nature observation.



Leta Nugent: Hello again! Some of you may not know but shortly after the last newsletter I was offered a full-time permanent position with the College of ACES. I had accepted the position with ACES and was enjoying my job when the opportunity to return to the Department of Entomology developed. Obviously, I accepted the position and in March of 2004 I was back at my old desk! The main focus of this position is to help May and I am enjoying it very much. In what little spare time I do have, I try and get outdoors, whether it's rollerblading on a Saturday afternoon or taking a weekend getaway, camping or boating.



Stephanie Shockey: In 2002, I was on the hunt for a permanent place to work, extra help was getting old, so the hunt began. I interviewed at several different departments throughout the University but no one wanted an 8-month pregnant woman, until I had the opportunity to meet with Jackie Bowdry. I knew of the Department of Entomology from the Evolution Conference I helped organize in July 2002. I knew a lot of names but didn't know faces, but I do now.

I started working for the department in December 2003 and on January 22, 2003 I gave birth to Katelyn (my first child). I'm very thankful for the opportunity Jackie and May have given me. I have been working hard to organize the seminars, course work, and various other jobs.



Marianne Alleyne: A lot has happened since the last newsletter. I have accepted a position in the Department of Entomology at UIUC starting in January of 2005. I am really excited about the new opportunities this position will give me and that I do not have to move too far from my great colleagues at the Center for Ecological Entomology at the Illinois Natural History Survey. At Morrill Hall I will continue my work on physiological determinants of parasitoid host range. My personal life has changed A LOT too since the last newsletter. Andrew and I are now the proud parents of Harmen and Willem. Our family is very happy about being able to stay in C-U at this great university.



Sam Beshers: I am just wrapping up the summer version of Entom 301 (Introduction to Entomology); as I write this the class is busy writing clear, deep, thoughtful essays to answer the questions on the final exam. This is the sixth straight year the department has offered this class, and it continues to attract a small but strong group of students each summer. This year, for the first time, students presented their research project results with Powerpoint a step into the modern age. Projects focused on foraging behavior of leaf-cutting ants, color vision in honey bees, attraction of flies to meat of different ages and temperatures, foraging decisions in *Drosophila*, and a quixotic quest to demonstrate alarm responses in Japanese beetles.

My research continues on division of labor in leaf-cutting ants, helped by several students and paint marks that persist. Several years of shifting perspectives have given way to a series of experiments that actually give the expected results, which does wonders for my confidence.

I have recently become the Program Coordinator for the Neuroscience graduate program; I divide my time between entomology teaching and research and trying to facilitate and coordinate the budding careers of over 60 graduate students, while trying to catch up with developments in neuroscience. It's a very busy and exciting time, and I am enjoying the emerging synergies of neuroscience and entomology.

On a personal side, my son Max is a senior at Uni High, our daughter Caroline, who arrived in Urbana as an infant, is now nine years old, my wife Lynn is Associate Professor of Library Management, and the puppy mentioned in the last newsletter is now a dog "big enough to live in a barn," in the words of our neighbor with a Chihuahua.



Eva Castells: Since January 2003 I have had a Fulbright fellowship to study the coevolution between poison hemlock (*Conium maculatum*) and its associated specialist moth *Agonoapterix alstroemeriana*. Both plant and insect are native to Europe, but at present they can be found across the US, and although the plant has been quite successful in colonizing all types of new environments, the moth has become extremely successful in some areas (for instance in the Northwest) while in others, such as the Midwest, it remains very scarce. The wide range of intensity of plant-insect interactions is offering an excellent opportunity to study the possible coevolution of poison hemlock allelochemicals and the insect detoxification mechanisms.

Our son Gil is now 2 1/2, and I am watching desperately, amazed and happily how his English is already better than mine.

Raymond Cloyd: Since 2002 I have been involved in a number of interesting research projects related to ornamental integrated pest management in greenhouses, conservatories, and landscapes. These include ascertaining the ecology and behavior of fungus gnats, *Bradysia* spp., and their natural enemies in greenhouse production systems (a collaborative project with Dr. Edmond Zaborski, Illinois Natural History Survey); evaluating the compatibility of pesticides with biological control agents; determining the impact of pesticide mixtures on overall effectiveness in controlling particular insect and mite pests; evaluating the potential use of entomopathogenic (=beneficial) nematodes to manage western flower thrips, *Frankliniella occidentalis*; assessing the indirect effects of insect growth regulators (insecticides that are only active on the immature stage of insects) on the adult stages of insects; and evaluating the susceptibility of select cultivated rose varieties grown at the Chicago Botanic Garden to Japanese beetle, *Popillia japonica*, adult feeding. Additionally, myself, along with Dr. Phil Nixon and Dr. Nancy Pataky have written a book on *Integrated Pest Management for Gardeners* that will be available in fall 2004 from Timber Press.

Catherine Eastman: With collaborators at the Illinois Natural History Survey, University of Illinois, and University of Wisconsin, we are in our first year of a USDA CSREES-funded grant to examine the effects of the transition from conventional to organic production systems on soil fertility, weeds, insects and diseases. We are following a farming systems approach to transition and are comparing three transition schemes that differ in management intensity: an intensive vegetable production system with frequent tillage, a less intensive cash grain production system, and an unharvested grass-legume ley system. Within each of these intensity treatments we are varying the type of soil-building amendments as sub-treatments: cover crops alone, cover crops with added compost, or cover crops with added manure. An advisory board of organic growers is helping us to refine objectives, make appropriate farm management decisions, assess results, and improve effectiveness of outreach efforts. Our long-term goal with this work is to establish an organic systems program that is a partnership with researchers, Extension personnel, and growers to improve the knowledge base on issues concerning organic production and pest management.



Kasie Heeres: I graduated from the University of Maryland in 2002 and for the past 2 years I worked for the American Red Cross on research and development related to tick-borne infections. In July 2004 I got married and just relocated to Champaign where I am a lab tech in Dr. Charlie Whitfield's new lab. My husband is pursuing a Ph.D. in Biochemistry at UIUC.

Kevin Johnson: The past year has been particularly exciting for louse systematics. In summer 2003, I was involved in the publication of the first complete world checklist of chewing lice in over 50 years. This work was published through the Illinois Natural History Survey and includes a taxonomic review of all the species of chewing lice, a complete list of host associations, and a review of the biology and ecology of chewing lice.

Partially subsidized by NSF, we were able to offer this 501-page volume for only \$35.

In addition, a new postdoctoral research associate, Jason Weckstein, and graduate student Mathys Meyer have joined the lab and are working on the systematics of the Gonioididae sponsored by a NSF PEET grant. Dr. Kazunori Yoshizawa, one of the world experts on Psocoptera from the University of Hokkaido, has been taking a sabbatical at the Illinois Natural History Survey working with me on the phylogenetics of Psocoptera (bark lice and book lice) and Phthiraptera (parasitic lice). These two groups of insects are very closely related and we have recently published evidence that parasitism arose twice within these two groups of insects. This exciting result will have major implications for all entomological textbooks, requiring a major change in classification and in the number of insect orders.

Gail Kampmeier: I was promoted to Senior Research Biologist at the Illinois Natural History Survey (INHS). I continue to work on biodiversity informatics (<http://pherocera.inhs.uiuc.edu/>) for the therevid (Diptera) PEET project (<http://www.inhs.uiuc.edu/cee/therevid/>) funded by the National Science Foundation's Partnerships for Enhancing Expertise in Taxonomy, and I am part of the recently funded (1/04-12/08) FLYTREE (<http://www.inhs.uiuc.edu/cee/FLYTREE/>) collaborative NSF grant in assembling the tree of life for Diptera and the NSF Biodiversity Surveys and Inventory grant for Fiji (1/05-12/06). At the INHS, I chaired the WebTeam's redesign of the INHS website (<http://www.inhs.uiuc.edu/>), which placed 3rd in the UIUC WebMaster's Cool Website Awards in 2004. I now head the committee that deals with information technology at INHS, working to craft strategic and tactical plans for IT for the Survey. In January 2004, I was awarded the Chief's Award for exemplary contributions and service to the INHS. I have also been very active in the Entomological Society of America, serving on the program committees for the meetings of the North Central Branch and national meeting in Cincinnati in 2003 with the implementation of PowerPoint presentations; chairing the national Strategic Planning Committee and organizing annual leadership meetings; I was also elected to Section C leadership, but resigned my position as chair of Section C to take a seat on the Governing Board representing Section C. On a personal note, I live happily with my husband, Dan, in the house we designed and helped build in Savoy, IL.

James Nardi: I have switched the focus of my research on involvement of cell adhesion molecules and cell interaction in insect development to studies of cell interactions during the immune response of insects. In addition to studying the interactions among cells of developing insect tissues, I have been exploring the symbiotic interactions between microbes and hind gut cells of various arthropods. A collaborative effort with the Immunological Resource Center and the Medical Entomology Laboratory has culminated in the development of a specific immunological assay for analysis of vertebrate blood meals from insect vectors.

Leellen (Lee) Solter: Our studies of the host specificity of gypsy moth microsporidia will be conducted for one more year in field trials in Slovakia (where the gypsy moth and the microsporidia are indigenous) to determine effects on nontarget lepidopteran species. This year, we have added field studies on transmission of the microsporidia and also of persistence in the gypsy moth host population; we managed to conduct the first-ever aerial spray of microsporidia on 4 hectares of heavily infested oak plantation during the spring of 2004. We are

still conducting studies in the laboratory to describe microsporidian species that parasitize gypsy moths and to explore genetic changes that occur in isolated host populations, as well as determine whether isolates of three species compete for the host. These research projects include collaborations between the Illinois Natural History Survey insect pathology lab, the U.S. Forest Service, and scientists from Austria, Bulgaria, Germany and Slovakia. I look forward to a long-term (up to 3 year) visit by Dr. Carlos Lange from Argentina, who joined the lab in August to work on microsporidia of alfalfa weevils. We will conduct taxonomic and ecological studies on this pathogen, which has only been found in Illinois alfalfa weevil populations since 1990. On a personal note, Philip and I are perpetually involved in remodeling our 'old white house'...the kitchen has taken most of our spare time for almost a year. Our son Ravi, now 18, will attend the University of Redlands as a freshman this fall.

Zhimou Wen: I am Zhimou Wen, a postdoctoral research associate working with Drs. Mary Schuler (Department of Cell and Structural Biology) and May Berenbaum on deciphering insect-plant, insect-insecticide interactions at the molecular level. Specifically I am studying the roles of insect P450s in insect tolerance/resistance to plant toxins and insecticides. Before I came to the University in March 2002, I had worked as a research scientist in a private company for one year and briefly as postdoctoral scientist in Dr. John Casida's Toxicology Laboratory in the University of California, Berkeley. I earned my Ph.D. degree in entomology working with Dr. Jeffrey Scott at Cornell University in 2000.

Robert N. Wiedenmann: I am still the Director of the Center for Ecological Entomology (formerly Economic Entomology) at the Illinois Natural History Survey. In my lab at the Survey, we conduct basic and applied research on biological control of insects and weed pests, and on the biology of parasitic and predaceous insects. Over the past eight years, we have worked on biological control of purple loosestrife, an invasive wetland weed, using the chrysomelids, *Galerucella californiensis* and *G. pusilla*. The project is showing signs of success at many wetland sites throughout the state. In collaboration with the USDA-ARS lab in Peoria, we have found an aggregation pheromone in the *Galerucella* beetles; studies are underway to determine the chemical structure, with an interest in synthesizing the pheromone for use in monitoring the beetles. We are also collaborating with others around the Midwest on biological control of garlic mustard and have begun a new project to look for potential biological control agents to use against teasel, another Old World weed. I still maintain projects looking at the host ranges and impacts of parasitic Hymenoptera used for biological control.



Art Zangerl: Thanks to the National Science Foundation, my research with May on wild parsnips and parsnip webworms has migrated to the homeland for these species—Europe. Last summer, after 7 months and 7000 road miles, I can safely say that the interaction between this plant and this insect is very different there from what it is here. For one thing, wild parsnip is not the major host; that honor goes to *Heracleum sphondylium*. To what extent this difference affects the chemistry of parsnips and the detoxification properties of webworms is something we expect to nail down this. Also, I am involved in two FACE experiments. “FACE” stands for “free-air-CO₂-enrichment”. One is a soybean field and the other involves oaks near Duke

University. The question is how future increases in carbon dioxide will affect insect-plant interactions. In soybeans, it seems that introduced species, including aphids, Japanese beetles, and Asian multicolored ladybeetles are going to be more important in the future (graduate student Bridget O'Neill can tell you more about this). In the oak system, it seems that elevated CO₂ may reduce herbivore damage, contrary to expectations based on closed-system studies. This year, at a weak moment, I agreed to serve as an associate editor of the journal *Ecology*. More sobering activities such as these must always be balanced by fun ones. Our summer Hughes student, Lauren Chambers, is indeed involved in a fun project. She is exploring the patterns of furanocoumarin induction in parsnip foliage, not by microarray or conventional extraction/analysis techniques but by "furanocoumarin-printing," utilizing a microwave extraction method developed by lab alum James Nitao and myself. And, my family and I traveled to Australia in August to vacation and I delivered a couple of symposium talks at the International Congress of Entomology.



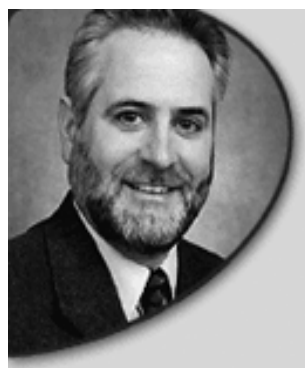
Michael Irwin



Robert Novak



David Onstad



Kevin Steffey



David Voegtlin



Richard Weinzierl



May Berenbaum

150 People, *The News-Gazette*. February 23, 2002

Bug Love, *South Florida Sun-Sentinel*. November 20, 2002

Rx in Argentina: Take 70 Beetles, Call in the Morning, *The Wall Street Journal*. August 6, 2003

An All-America Bug, *Newsday.com*. June 2004

And Now, Cicadas' Swan Song, *The Washington Post*. June 2004

Six-Legged Cinema, *Scientific American*, October 2004

Sydney Cameron

Institute for Genomic Biology Announces Five Themes for Research, *U of I News Bureau*. April 2004

Lisa Carloye (alumna)

Of Maggots & Murder, Forensic Entomology in the Classroom, *The American Biology Teacher*. May 2003

Colin Favret

On the Job, *Inside Illinois*. April 3, 2003

Larry Hanks

Research Focuses on Pest Control, *The News-Gazette*. May 2003

Controlling Insects Naturally, *Lincoln Daily News*. May 2003

Research Could Lead to New Standards for Landscape Designers, *The Times*. May 2003

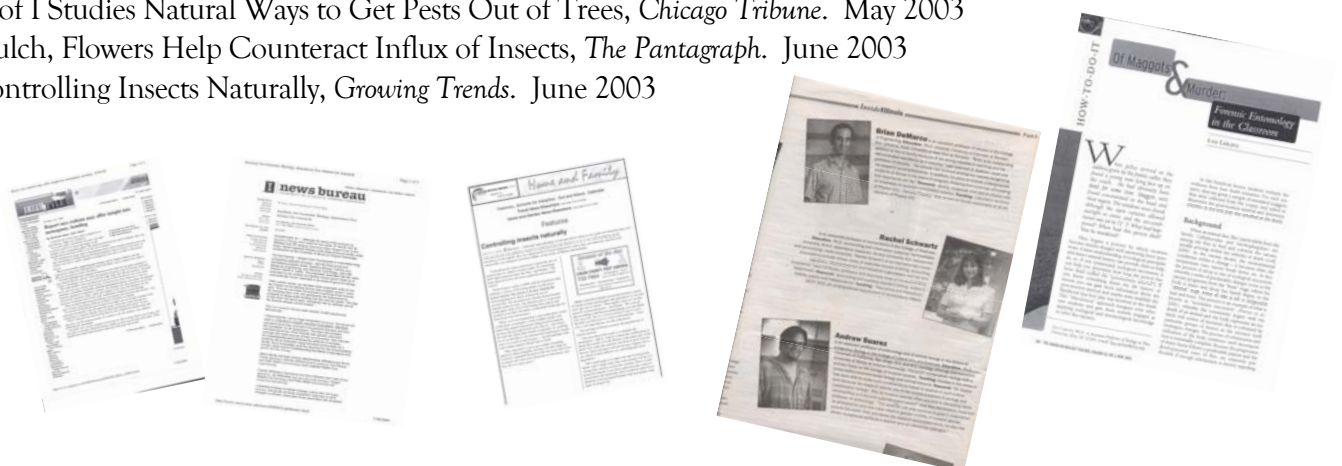
Conservation Biological Control in Ornamental Landscapes, *WDCB DuPage Public Radio*. May 2003

Conservation Biological Control Program, *USA Today*. May 2003

U of I Studies Natural Ways to Get Pests Out of Trees, *Chicago Tribune*. May 2003

Mulch, Flowers Help Counteract Influx of Insects, *The Pantagraph*. June 2003

Controlling Insects Naturally, *Growing Trends*. June 2003



Illinois Entomologist in the News

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Department of Entomology



Gene Kritsky (alumnus)
See page 28.

Xianchun Li

Insights Gained from Molecular Modeling May Lead to Better Insecticides, *U of I News Bureau*. February 2004

Gene Robinson

Gene Changes Tied to Behavior in Bees, *CNN.com*. October 10, 2003

Gene Expression Tied to Social Behavior in Honey Bees, *U of I News Bureau*. October 2003

A Sting of Love, *Findings*. February 2004

Institute for Genomic Biology Announces Five Themes for Research, *U of I News Bureau*. April 2004

Report Says Rodents May Offer Insight into Monogamy, Bonding, *USA Today*. July 2004

Hugh Robertson

Institute for Genomic Biology Announces Five Themes for Research, *U of I News Bureau*. April 2004

David Stone (alumnus)

Under the Microscope, *Gargoyle*. December 2, 2002

Andrew Suarez

New Faces, *Inside Illinois*. September 4, 2003

20th Anniversary Edition Trivial Pursuit

Institute for Genomic Biology Announces Five Themes for Research, *U of I News Bureau*. April 2004

Gilbert Waldbauer (emeritus)

Book Explains Importance of Insects' Role, *Inside Illinois*. April 17, 2003



Bee Short Course

The University of Illinois Short Course on Bees and Beekeeping was held August 16-17, 2003. Beekeepers from throughout the Midwest came to campus to hear lectures and participate in hands-on workshops. Lectures were held on: mite biology and management, breeding and genetics, sting allergies, and honey as a nutraceutical. Workshops were held on: introduction to beekeeping, queen rearing, bee anatomy, and identification of honey by pollen analysis. A special feature of the course was the chance for beekeepers to participate as “citizen-scientists” in a new experiment seeking to explore sex differences in responsiveness to pheromones. Participants also enjoyed a special French-style gourmet honey tasting, sampling honeys from around the world. Instructors included Prof. Gene Robinson and the entire staff at the Bee Research Facility, Prof. May Berenbaum, and Dr. Diana Sammataro, Carl Hayden Bee Research Center. The course is sponsored by the Department of Entomology, School of Integrative Biology, Cooperative Extension Service (University of Illinois), Center for Ecological Entomology (Illinois Natural History Survey), with generous corporate support from Dadant & Sons and Wellmark International.



Bee Short Course 2003

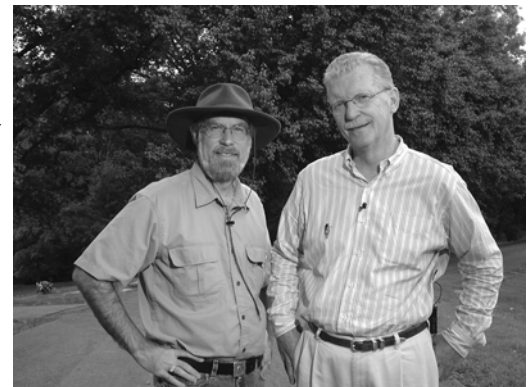
Midwest Institute for Biological Control

Lee Solter organized and taught a Midwest Biological Control Institute (NCR-125) summer short course in insect pathology on the U IUC campus, June 28-July 1. Ten graduate students and 11 USDA-ARS research scientists from 13 states participated in the course. Participants collected insects in the field to search for pathogens and conducted laboratory experiments and observations using viruses, bacteria, nematodes, microsporidia, and fungi. Drs. Richard Humber, USDA-ARS, Ithaca, NY, and Lawrence Lacey, USDA-ARS, Yakima, WA, co-instructed the course with Solter.

2004 witnessed two major emergences. Beginning in May, the periodical cicadas emerged over large parts of the eastern US, whereas the national press covering the cicadas emerged in March. Having worked on periodical cicadas for 30 years, including the previous appearance of Brood X, I was expecting some media interest. The College of Mount St. Joseph Public Relations Director, Linda Liebau, had organized a press conference on March 15 so that I could help the Cincinnati press get the facts needed for their stories. When I walked into the room, I found it filled with television cameras from all five local channels and with reporters from all the local newspapers and many of our radio stations. Within two days, the national media began calling. By the time the emergence had ended, I had conducted more than 260 interviews with reporters and filmmakers from around the world.

This attention was much greater than I had observed in 1987, when Brood X had previously emerged. What had changed in the past 17 years to spark this demand? Perhaps the most significant difference was the existence of the Internet, which changed how the media worked and opened up access to millions. Our press conference in March was not just an information session; it also marked the launch of our cicada website, which was linked to websites for America Online and National Geographic. By May 1, these websites had scored over 3 million hits, and by June 21, over 130 million people around the world had heard of or read about cicadas through our operation.

Soon, this enthusiastic cicada coverage seemed to herald the emergence of Gene Kritsky as well. I found myself appearing on the *CBS Evening News*, the *Today Show*, and with Bill Geist on *CBS Sunday Morning*. *Time*, *US News and World Report*, *Parade*, and *The Scientist* all ran cicada stories (some with full-page graphics), and the cicadas and I were even featured in *People* magazine. The city of Cincinnati asked me to supply a recording of cicadas for a CD of cicada-related songs, city council members were calling, and I was asked to attend city-sponsored parties. For a brief moment, like the cicadas, an entomologist was a going concern. I was asked for endorsements and stopped in grocery stores for autographs. People would point when my wife and I walked into restaurants. It was becoming unreal. But fame is fleeting, and as the cicadas died away, pop culture soon moved on to other concerns. The media interest ebbed, and life quickly returned to normal.



Gene Kritsky, Bill Geist—cicada on shirt

However, all this attention to the Brood X emergence did have permanent results: a major improvement in the public's understanding of these insects. In 1987, I was constantly asked about the "locusts." This year, except for one news story from Pennsylvania, the media and the general populace were correctly focused on "cicadas." In finally calling the cicadas by their proper name, we may have turned the corner on a terminological error that dates back to the early 1700s. Then again, we may have created a new one: many reporters, rather than reading this brood's Roman numeral as "ten," took to calling this emergence by the letter X, as though these cicadas had come from the outer reaches of the universe or belonged to an apathetic new generation. One national reporter told me that "X" was "sexier" than the Roman numeral. Hopefully, it will not take three centuries to correct our new error, but at least there will be something to work on in 2021.

Gene Kritsky (MS 1976, Ph.D. 1977)

Spring 2003

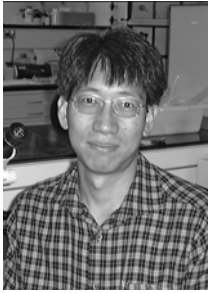
- John Pickering**, University of Georgia, "Discover life beyond the vertebrates- how to study monitor, and better manage 1,000,000 species"
- Steve Taylor**, UIUC, "Cave invertebrates: biology conservation, and management"
- George Roderick**, University of California at Berkeley, "Crop circles, cadavers, and codes: deciphering alien bioinvasions"
- Robin Owen**, University of Calgary, "Mimicry and colour pattern variation in bumble bees"
- Colin Favret**, UIUC, Thesis Defense, "Speciation in the *Cinara* (Hemiptera: Aphididae) of the U.S. pinyon pines"
- Sean Collins**, UIUC, Thesis Defense, "Genetic structure of the North American population of the hornet *Vespa crabro*, and introduced social wasp"
- John Ewer**, Cornell University, "Genetic analysis of ecdysis behavior in *Drosophila*"
- Mark Carroll**, UIUC, Thesis Defense, "Amelioration of furanocoumarin toxicity by dietary lutein in the parsnip webworm"
- John Tooker**, UIUC, Thesis Defense, "Multitrophic interactions in a prairie insect community: ecology, behavior, and conservation"
- Rebecca Petersen**, UIUC, Thesis Defense, "Cross-talk among steroid and xenobiotic response cascades regulates an insect detoxification gene"
- Steve Kutcher**, Arcadia, CA, "Inside Hollywood: a bug's perspective"
- Christopher Pierce**, UIUC, Thesis defense, "A new variant of western corn rootworm, *Diabrotica virgifera virgifera* Leconte, in east central Illinois"
- David Queller**, Rice University, "Genomic imprinting theory and the potential for conflict within social insect bodies"
- John Marlin**, UIUC, "Persistence of native bee fauna at Carlinville, Illinois between the 1880's and 1970's"

Fall 2003

- Matthew Ginzel**, UIUC, Thesis Defense, "Chemically-mediated mate location and recognition in longhorned beetles (Coleoptera: Cerambycidae)"
- Bruce McPheron**, Pennsylvania State University, "Chance favors the prepared mind: An unexpected role for hybridization in host-specific insects"
- J. Scott Turner**, State University of New York Environmental Science and Forestry, "Superorganism or just a big pile of bug? Extended physiology in the colonies of the mound-building termite *Macrotermes michaelseni*"
- Alex Rooney**, USDA-ARS, "Molecular evolution of insect sex pheromone desaturase genes"
- Laura Corley**, Washington State University, "Developmental evolution in parasitoids"
- Mike Scharf**, Purdue University, "Research on molecular phylogeny, caste differentiation, and genomics in Midwestern termites: a deeper understanding through a multi-faceted approach"
- Dan Janzen**, University of Pennsylvania, "Caterpillar, food plant, and parasitoid inventory of a large complex tropical conservation area."
- Larry Zwiebel**, Vanderbilt University, "Molecular genetics of olfaction and host preference selection in the malaria vector mosquito *Anopheles gambiae*"
- Micky Eubanks**, Auburn University, "Pervasive invasives and complex tropic interactions: effects of fire ants and biological control"
- Robert Bartlett**, USDA-ARS Crop Bioprotection Research, "Beetle pheromone research at the USDA lab in Peoria"
- Jonathan Lundgren**, UIUC, Thesis defense, "Assessing the risk of insecticidal corn to the predator *Coleomegilla maculata* (Coleoptera: Coccinellidae)"

Spring 2004

- Alan Nighorn**, University of Arizona, "Neuronal basis of olfaction in *Manduca sexta*"
- Edmund D. Brodie III**, Indiana University, "Parental care in burrower bugs: the indirect genetic effects of Hoosier mamas"
- Christine Johnson**, Ohio State University, "The chemical ecology of ants from near and far"
- Kevin Moulton**, University of Tennessee, "Augmenting the molecular systematics toolbox using output from genome sequencing projects"
- Claudio Gratton**, University of Wisconsin-Madison, "Impact of *Phragmites* in wetlands: invasion and restoration of arthropod assemblages"
- Scott Sakaluk**, Illinois State University, "Sexual conflict in gift-giving insects: chasing the 'chase-away'"
- Jonathan Banks**, UIUC, "Cophylogenetic relationships of penguins and their chewing lice"
- Antonia Monteiro**, State University of New York at Buffalo, "Butterfly wing patterns as model systems to study the evolution of development"
- Robert Marquis**, University of Missouri, "Shelter-building caterpillars as ecosystem engineers"
- Brad Hawkins**, University of California-Irvine, "Determinants of broad-scale spatial patterns of butterfly diversity"
- Susan Ratcliffe**, UIUC, "*Diabrotica virgifera virgifera*: a lesson in evolution"
- Geraldine Wright**, Ohio State University, "How the features of olfactory stimuli affect the odor perception of honey bees"



Won Young Choi

Won Young Choi: For the past three years in Urbana, I've focused on improving my knowledge and finishing my project dealing with systematics of Microgastrinae, a large subfamily belonging to the parasitoid family Braconidae. My doctoral project is a systematic study of the genus *Diolcogaster* and its related groups. This project includes taxonomic revision of the New World *Diolcogaster* and phylogenetic analyses of the diolcogastroid complex based on both molecular and morphological data. My study is going well in both taxonomic and phylogenetic ways.

My other activities other than my research are photography and web programming. As a side project, I am developing a web based interactive key using a web database system MySQL and PHP5 web languages. It is fun, but sometimes it gives me hard times. Then I usually go out for fresh air and photograph animals, mainly insects, and scenery around Urbana-Champaign with my wife, Kyong-in and my daughter, Jung-yoon.



Andy Deans

Andy Deans: Since, my arrival in Spring 2001, I have been able to make substantial progress on my dissertation, and I think that my next newsletter contribution will be as an alumnus rather than a student! I am focusing my research on the systematics of the hymenopteran superfamily Evanioidea, with an emphasis on the relationships within Evaniidae—the ensign wasps. The larvae of these wasps develop inside cockroach egg cases, and I want to know when this lifestyle evolved. I also seek to explain how certain character systems and behaviors evolved: Why do some species have reduced wing venation and short ovipositors? And which groups evolved the ability to oviposit into oothecae carried by cockroaches? Illinois, with its vast academic resources and distraction-free environment, has been the perfect place to begin exploring these evolutionary questions.

This year I spent a month in Mark Dowton and Andy Austin's labs in Australia to help with my molecular data and analyses. I also visited several museums in Europe—Berlin, Warsaw, Budapest, Vienna, Brussels, and Copenhagen—in an effort to examine and locate type specimens. With some luck I'll be heading to more exotic locales in the next 12 months, including India, Africa, and Australia. This has definitely been an exciting year for me!



Casey Funderburk

Casey Funderburk: I was born and raised in Indiana, and I earned my B.S. from BSU (that's Ball State University, for those of you not in the know). Here and now, I am pursuing my Master's degree and I'm finally beginning to see the light at the end of the tunnel. I am working with Sam Beshers and Andy Suarez and lots of ants in an effort to determine ant species richness in various localized habitats at the Vermilion River Observatory and to identify factors related to distribution patterns.

Patrick Halbig



Patrick Halbig

Terry Harrison: I am a doctoral candidate in the laboratory of Dr. May Berenbaum. I am interested in biotaxonomy and biogeography of Nearctic microlepidoptera, mainly because, even though microlepidoptera are an enormous assemblage made up almost entirely of obligately plant-feeding species, even the most basic information (identity, geographic range, phenology, voltinism, larval foodplant(s)/specificity, pathogen/parasitoid/predator associations, morphology of immature stages) is unknown for many species and/or higher-level groups, especially those restricted to specialized habitats.

I am also interested in conservation biology. Microlepidoptera, because of their great density and diversity and their intimate associations with plant communities, offer a wealth of information that can be applied to the theory and practice of learning from, and managing through application of that learning, biotic communities that reflect the long-term history of Illinois.

Both of these interests come into play in my dissertation research, the field component of which involves my collecting larval and adult microlepidoptera on high-quality hill prairies in



Terry
Harrison

western Illinois. This project is the first-ever dedicated inventory of prairie microlepidoptera (to address the paucity of basic knowledge), and data from adult microlepidoptera collected during the study will be statistically analyzed to test hypotheses of optimal reserve design (to add to the scientific evidence available to those in charge of developing conservation and management strategies).

Collecting on public lands is being done under permit from the Illinois Department of Natural Resources (Nature Preserves Commission, Heritage Biology Program, and Office of Resource Conservation). Recently, funding to help realize this project was awarded from The Xerces Society (Joan Mosenthal DeWind Award), and also from Prairie Biotic Research, Incorporated (Small Grants Program).



Martin
Hauser

Martin Hauser: After I failed to write something for the last Entomology newsletter (for which I feel incredibly guilty) my report will span a longer timeframe. I was unable to write this report last time, because I went Down Under for a month to attend the 5th International Congress of Dipterology in Brisbane and to spend some weeks exploring the marvelous insect fauna of Australia. Before that in 2002 I received my M.S. and finished all the course work requirements so all I have to do now is to write up my thesis and defend it. Sounds easy, but it is taking much longer than I expected (I guess a lot of people know what I mean). I worked for a few months in Raleigh, NC, in Brian Wiegemann's lab sequencing many of my flies for my phylogenetic study. To be in Brian's lab, together with Kevin Holston, was a great experience. I went on some interesting field trips to remote locations in Kazakhstan and Bolivia, as well as some not so remote places in Costa Rica and Europe, collecting new material for my thesis and studying material in European collections. Next to the DNA data I also studied the morphology of adults and pupae of stiletto flies and reexamined fossils of this family from Florissant as well as Mexican, Dominican, and Baltic amber. I want to combine all these datasets to resolve the phylogeny of the basal splits in the stiletto flies and learn more about their biogeography and its relationship to the other asiloid families.



Jeffery
Heilveil

Jeffery Heilveil: On September 1, 2004, I successfully defended my doctoral dissertation. My dissertation examined the dispersal and post-glacial range expansion of *Nigronia serricornis*, an important predator in flowing-water ecosystems. Understanding the historical distributions of organisms can help us to better plan restoration and conservation efforts to preserve not only the physical habitat, but also the communities that traditionally inhabit the ecosystem in question. I am most interested in the population ecology of aquatic organisms, from genetic population structure to the newly emerging field of restoration genetics. This fall I'm working for Dr. Stewart Berlocher on a QTL analysis of host-choice and its role in speciation for the tephritid genus *Rhagoletis*.

When I'm not in the lab or playing in streams, I enjoy cooking, literature, and spending time with my wife Amy. With the uncharacteristically beautiful weather we've been having this year, I hope to spend more time combining these pursuits picnicking.



Heather
Hines

Heather Hines: I recently finished my second year of graduate school in the Department of Entomology. I have been working on a comprehensive phylogeny of the bumble bees with my advisor, Sydney Cameron. I am nearly finished sequencing 200 of the 250 bumble bee species for four genes. The phylogeny should come out sometime in 2005. I will also be finishing my Masters degree by October, 2004 on the phylogenetic relationships and biogeography of the bumble bee subgenus *Pyrobombus*. I will start my PhD here focusing on the evolution of color patterns in bumble bees. This will include examining how color patterns have evolved relative to the phylogeny and geography, and the developmental genetics guiding color pattern changes.

In the last two years I have gone on several exciting trips. I collected bumble bees for the *Bombus* project in Turkey, the Pyrenees, and in northern California, and I hope to make another collecting trip soon to Mexico. In May 2003 I attended the Workshop in Applied Phylogenetics in



Nyla Ismail

Bodega Bay, CA and spent some time visiting the bumble bee collection at the Bohart Museum in the University of California, Davis. In June 2003 I traveled to London, where I studied bumble bee taxonomy with Paul Williams. I also attended the Entomological Society of America meeting in Cincinnati, OH (Nov. 2003), the Evolution and Development in Butterflies conference in Puerto Rico (April 2004), and the Evolution meeting in Fort Collins, CO (June 2004).

In my free time, I enjoy traveling, hiking, photography, and watching movies.

Nyla Ismail

Reed Johnson: I'm in the process of annotating the cytochrome P450 genes in the honey bee genome. When that is complete, I hope to find the P450 or P450s that help honey bees metabolize insecticides and xenobiotics. On the weekends I've been exploring central Illinois through geocaching.



Reed Johnson

John Kane: I came here from San Diego two years ago, although it doesn't seem nearly that long. I'm studying mosquitoes in the Medical Entomology lab headed by Dr. Robert Novak, and to complete my Master's I'm assessing the larvicidal activity of different *Bacillus* strains and formulations under varying environmental conditions. In the longer term I'm interested in mosquito immunity and the mechanisms by which they fight infection and develop resistance. When I'm not teaching, in class, or in the lab, I enjoy biking and playing the piano.

Lauren Kent: Currently, I am studying the expression of putative gustatory receptor genes in *Anopheles gambiae* in Hugh Robertson's lab. We believe that one of these genes encodes a receptor for carbon dioxide detection, and I'm working in misexpressing it in *Drosophila* to prove this. I'm deeply interested in malaria research, and am also curious about potential impact of symbionts and other flora in the mosquito on vector competence.

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! Drawing, painting, hiking, tennis, and falling asleep outside on the sunny day are among the things that make me happy, if I can get the time...which is rarely. I've also started getting involved in the movement to retire the university's Native American mascot, Chief Illiniwek.



John Kane

Emily Kluger: A new member of the Hanks Lab, I recently made the journey from eastern Pennsylvania to Illinois to begin the adventure known as grad school. Having completed my B.S. in Biology at Muhlenberg College a liberal arts college which is 1/10 the size of UIUC I am attempting to adapt to the atmosphere of a Big Ten school, which includes developing a number of cycling skills that I lacked prior to my arrival. My research interests are primarily in insect-plant interactions and chemical ecology. I am in the process of developing a Master's project which will examine mate location, oviposition patterns, host preference, and chemical communication within and among trophic levels associated with *Haplorhynchites aeneus*, a head-clipping weevil that essentially decapitates flowers in the *Silphium* genus and deposits its larvae in multiple seed heads. This is a native prairie system, which means that I get to spend a decent amount of time exploring the few preserved areas that are in the vicinity of campus.

Outside of 420 Morrill, I can usually be found running in the grey regions of Urbana-Champaign, experiencing the 'fine-dining' of Green St., or drawing. An avid hiker, I am looking forward to seeing the fall foliage while climbing the mountain ranges of Illinois.



Lauren Kent

Lisa Knolhoff: I received my B. S. in biology in 2003 from Truman State University, where my interest in entomology came to full realization. I studied underwater respiration in the dog tick for my honors thesis and decided to continue my studies on arthropods. I am now working on my



Emily Kluger

M.S. degree under David Onstad studying the western corn rootworm and the possibility of behavioral differences between the wildtype and rotation-resistant variant. I just finished my first year of graduate school, and I am enjoying my time here in Champaign-Urbana.



Lisa Knolhoff

Sindhu Krishnankutty: Hi all, I am Suni from Kerala, popularly known as ‘God’s own country’ in India. I graduated from the University of Agricultural Sciences, Bangalore, India. There I got an opportunity to work under Dr. C.A.Viraktamath, a leafhopper taxonomist. That was really a nice experience as well as a breakthrough in my life. He introduced me to the taxonomic world. The strong foundation in that field gave me confidence in pursuing my career as a taxonomist. Here at UIUC, I am again doing leafhopper systematics (the subfamily is the same as that I studied in India), but of course more advanced study. Now everything around seems new to me; not only the system of education but people, customs, everything.., a new experience of straddling two continents with diverse cultural backgrounds!!! And I enjoy this. Above all, graduating from UIUC, which is tops in systematics, is a great privilege.



Sindhu Krishnankutty

Emerson Lacey: Where else can you do gas chromatography and mass spectrometry in the morning and then hop into a pickup truck and go to the woods with a chain saw and collecting vials in the afternoon? Working in the Hanks’ lab, I received my Master Degree in 2003 for identification of the aggregation pheromone from the longhorned beetle, *Neoclytus acuminatus*. The research provided my first paper (*Journal of Chemical Ecology*). I continue to work with chemical ecology of cerambycids and am pursuing a Ph.D. with Larry Hanks. We have identified the putative attraction pheromones from several other longhorned species and are in various stages of lab and field-testing the chemicals for these species. In addition to volatile pheromones, I study contact sex pheromones and larval host volatiles (i.e., tree smells) of the beetles and host finding strategies of cerambycid predators and parasitoids. When not in the field or lab, I enjoy live music, camping, travel, Chicago, collecting stuff, food, cats, baseball, cooking, and the color green.



Emerson Lacey

Jonathan Lundgren: Recently, I graduated from the Department of Entomology with my Ph.D., and have subsequently been working for the Center for Ecological Entomology at the Illinois Natural History Survey as an Associate Research Scientist. My research program focuses on ground beetle ecology and the biological control of insects and weeds in agricultural systems. Specific projects have been exploring physiological adaptations to omnivory in ground beetles, DNA fingerprinting of ground beetle larvae, toxicity assays of transgenic insecticidal proteins to ground beetle larvae and adults, the role of organic farm management strategies on ground beetle abundance and diversity, and the importance of ground beetles as biological control agents of weed seed banks in organic systems. Although I really enjoy my position at INHS, I am anxious to settle into a permanent position.



Jonathan Lundgren

Katy Lustofin: My current research focuses on the developmental toxicity of plant alkaloids to vertebrates and invertebrates, using chicken eggs and *Drosophila melanogaster* as model organisms. For the past year I have been working with a high school chemistry teacher at Hinsdale South as part of the GK-12 program, an NSF-funded program whose aim is to increase student interest in science and mathematics by increasing the use of technology in the classroom. I have greatly enjoyed the experience and am pleased that in the fall I will continue with the program, working with two of the science teachers at Home Hi, an all-girls middle school located conveniently near Morrill Hall.

Cindy McDonnell: In December 2003, I completed my masters thesis, called it “Regulation of cytochrome P450 gene transcription in two species of swallowtail caterpillar,” and handed copies to my advisors, Dr. May Berenbaum and Dr. Mary Schuler, and to my parents, to prove that I do work in graduate school. Between 2002 and then, I had spent most of my time trying to fix the



Katy
Lustofin

molecular methods, but different parts of the methods than those that Becca Petersen Brown had spent her graduate career fixing.

I presented this work at a couple of ESAs, Evolution 2002, some local meetings, and a Sackler Colloquium (“Chemical Communication in a Post-Genomic World”), coordinated by May and Gene, that was quite possibly the best meeting I’ve attended yet! In August 2004, I traveled to Australia for the International Congress of Entomology, which rivaled entomology meetings here in the States. I received support from a number of programs on campus to attend this conference, including the Graduate College Travel Fund, the Clark Grant for Summer Research, and the SIB Enhancement funds, which I think demonstrates how supportive of graduate students the school really can be.

In August 2004, I ended my stint as an Environmental Toxicology Scholar, a program funded by Environmental Council on campus. Only recently, I received news that I’ve been accepted as a fellow in the EPA STAR (Science to Achieve Results) program. For this fellowship, I have proposed to study the regulation of cytochrome P450s by methoprene in mosquitoes and *Drosophila melanogaster* and the possible connection with aryl hydrocarbon response mechanisms in mammals. I fear that I’ll find myself rearing tiger swallowtails again, even though they are the coolest-dancing caterpillars.



Cindy
McDonnell

Jennifer McGovern: After spending three summers as an undergraduate in May Berenbaum’s lab, I decided to continue my formal education as a Masters student. I am continuing my studies of P450-mediated metabolism of furanocoumarins, only now in the parsnip webworm rather than in swallowtails. Although I am a native Illinoisan, I enjoy traveling, thanks in part to my time in the U.S. Navy. My husband, Matt, and I spend a lot of our free time fixing our house or watching local sports teams.

Mathys Meyer: Originally from Pretoria, South Africa I moved to the United States in 1993. I received my bachelor degree in biological sciences from Knox College in 1999 and my masters degree from Illinois State University in 2004. I am the first graduate student in Kevin Johnson’s lab at the Illinois Natural History Survey. Our lab is interested in the coevolution of birds and their ectoparasitic lice. My research is primarily concerned with the alpha level taxonomy and phylogenetics of two Ischnoceran louse genera associated with galliform birds. On a more personal note my partner, Karyla, my son, Bix, and I live in Savoy with our chinchilla Yasusada.



Jennifer
McGovern

Susan Moser: I am pursuing a doctoral degree in Entomology with Larry Hanks (Department of Entomology) and Robert Wiedenmann (Illinois Natural History Survey). I am interested in biological control and parasitoid ecology. My research is focused on interspecific interactions between two generalist pupal parasitoids, *Itopectis conquisitor* and *Pimpla disparis*. *Pimpla disparis* is an exotic parasitoid released into the United States for biological control of the gypsy moth. It has recently been found attacking evergreen bagworms in central Illinois, an area in which gypsy moth has not established. *Itopectis conquisitor* was previously reported to be the main parasitoid attacking bagworms. However, Jodi Ellis, a recent graduate of the Hanks lab, found *Pimpla disparis* to be the dominant parasitoid in this system. Another aspect of my thesis work is investigating mate location, an aggregation behavior of these species. My husband Paul and I recently purchased our first house. During our free time, we enjoy remodeling our home and spending time with our puppy.



Mathys
Meyer

Goudong Niu: It is my second year studying as a Ph.D. student in May Berenbaum’s lab. I got my masters degree in microbiology in Wuhan, China. In the past year, I was trained in the labs of May Berenbaum and Mary Schuler. My training project was to study the function of a P450 (CYP6B3) gene in black swallowtail. I successfully expressed the CYP6B3 gene in the



Susan Moser

baculovirus expression system and detected metabolic activity against multiple furanocoumarin compounds. At the same time, I found several new *CYP6B3* alleles and studied their metabolic activity. My dissertation project will focus on mosquito P450s. I hope to find out the P450s contributing to insecticide resistance, including permethrin and DDT, and figure out their metabolism profile and the mechanism of transcription regulation. In my spare time, I like to play tennis and swim. I hope to make more friends and go together for fun in these sports.



Goudong Niu

Bridget O'Neill: I am finishing my second year of graduate school in entomology in the lab of May Berenbaum. For my masters project I have been working out at the SoyFACE site. SoyFACE is a soybean field with plots "enriched" with either/both carbon dioxide and ozone gases at the levels projected for the Earth's atmosphere in the year 2050. I am looking at the affects of the enriched soybeans on herbivorous insects, particularly Japanese beetles. This summer I will also be looking at the newly introduced soybean aphid and its predator, the multicolored Asian lady beetle. In collaboration with members of the DeLucia lab in Plant Biology, I have been looking at total species and individual numbers present on different soy cultivars within the treatments. We will start looking at the genetic component of these differences this summer.

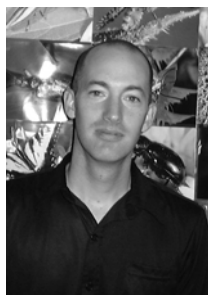
In my spare time I enjoy searching for random festivals and museums in Illinois, eating well, supporting all things New England, and photography.



Bridget O'Neill

Harland Patch

Claus Rasmussen: I am from Århus, Denmark, where I received my M.Sc. (1999) degree in biology and ecology through my work on oil-gathering bees and their flowers in Peru. I later went back to Peru and worked for some time at the International Potato Center in Lima with Andean crop pests, but did also work for different NGO's in the Amazonian parts of Peru. There I spent time catching colorful orchid bees, harvesting honey from hives of stingless bees, teaching conservation and measuring trees. Now I have joined the laboratory of Sydney Cameron, focusing on a molecular phylogeny for the tropical stingless bees (Apidae). I am married to Iris Rios from Peru and we welcomed our baby Melissa born September 19, 2004, 8 lbs.



Harland Patch

Annie Ray: Until last summer, I lived my whole life in Kentucky: a beautiful, green, rolling place full of friendly folks and free parking. I joined the Hanks Lab one year ago and while I can't say that I am pleased with the topographical change and the weird parking rules, I have found plenty of nice people and fun activities to keep me entertained. I received my B.A. in biology from Bellarmine University in Louisville, KY, in May 2003. By mid-June I was already at work here, hauling fermenting bait traps through the "mosquitoe-y" forest. My masters work focuses on mate location and recognition in longhorned beetles and is a two-pronged project. First, I am seeking to characterize the mating behavior of the Carolina pine sawyer, *Monochamus carolinensis*, a serious pest of ornamental pines in the Midwest. Second, I am using the GC-MS to identify patterns of cuticular hydrocarbons within the different subfamilies of longhorned beetles. Such analysis may lead to better understanding of the phylogenetic relationships among these beetles. In my free time, I enjoy singing (mostly in my car nowadays), taking dance lessons, cleaning guinea pig cages, cheating on my diet, and cross-stitching.



Claus Rasmussen

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 tetraphthalmus* (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



Annie Ray

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 returned to working with longhorn beetles. I am interested the reproductive biology of the parasitoids of cerambycids, in particular the influence of the size of beetle larvae on the parasitoid. I would also like to look at the host-finding behavior of these parasitoids. Along with watching insects, I like to hike and read mythology and ghost stories.



Peter Reagel

Josephine Rodriguez: I arrived in Urbana in July 2003 from San Jose, CA. Upon joining Jim Whitfield's Systematics Lab, I began learning to identify the different genera of microgastrine braconids. With success I can classify most genera; however, many of the more difficult specimens are still labeled "ask Jim." Since the Fall 2003 semester, I have been investigating the morphological evolution of the male genitalia of the microgastrine wasps and have begun to identify dozens of new species of *Apanteles* collected from Costa Rica.

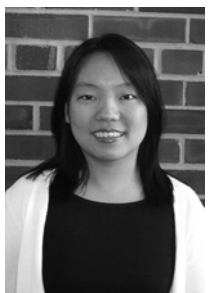
Time outside of the lab is usually spent with my husband, Lorenzo, and yellow Labrador retriever, Vegas. I also enjoy photography and, of course, a great bargain at the mall.



Josephine Rodriguez

Daniela Takiya: Time flies too fast. I have been living in Urbana-Champaign for almost three years. I came all the way from Brazil to continue studying taxonomy and phylogenetics of one leafhopper subfamily, commonly known as sharpshooters. Sharpshooters are distributed worldwide and are major vectors of phytopathogenic bacteria and thus are economically important as agricultural pests. My Ph.D. thesis, under the guidance of Chris Dietrich, focuses on the controversial classification of this subfamily, which, depending on the author, can include from two to ten tribes. By constructing a phylogeny based on morphology and DNA-sequences, we intend to suggest a more stable higher-level classification for this group. Additionally, I am working on the generic phylogeny of the tribe Proconiini so that we, along with postdoc Roman Rakitov, can understand the evolution of a unique ovipositional behavior and associated morphological traits. Recently, we also have been collaborating with Nancy Moran (University of Arizona) in a very exciting project studying co-evolution of sharpshooter hosts and their primary and secondary endosymbiotic bacteria.

The best part of all this work might be traveling all over the world to collect bugs, visit museums, and attend meetings! When in town, I enjoy watching movies, playing games, dancing, and drinking White Russians. Although living here has been quite enjoyable (except for winters), what the Midwest cannot replace is the music, food, forests, warmth, and people from Brazil...



Daniela Takiya

Amy Toth: I grew up in Connecticut and received my bachelor's degree in biology from Bard College in Annandale, NY in 2000. Since then, I have been working on my Ph.D. with Gene Robinson, studying the influence of nutrition on honey bee division of labor. My time in Illinois has turned me into a true wanna-be entomologist, although I am actually a student in the Program in Ecology and Evolutionary Biology, and also a trainee with the Agricultural Genomics and Public Policy Program. My work has taken me from a background in behavioral ecology into studies of physiology and molecular biology. More recently, I have begun a new avenue of research, comparing mechanisms of honey bee behavior to those of the social wasps, focusing on the local paper wasp *Polistes metricus*. Currently, I'm testing my skills in time management, working simultaneously at the lab bench, the bee lab and nearby apiaries in Urbana, and wasp-infested natural areas in Piatt and Vermilion Counties in Illinois. My non-entomological interests include traveling (this year I'm planning trips to Australia for a conference and Argentina to spend time with my boyfriend Fernando's family), hiking (well, I try in Illinois!), playing the flute, listening to music, and going to concerts.



Amy Toth



Nick
Tzovolos

Nick Tzovolos:

Alejandro Valerio: Here I am, in the flat lands of Illinois looking at Neotropical wasps as big as 3 mm in length wishing for a more tropical weather at Jim Whitfield's Lab, WHAT A LIFE!!!! Well, it has been fun so far. An amazing experience has been inhabiting the mid-west and remembering the best of it, corn as far as you can see, dream a wish! Of course, the soybeans make the esthetic landscape difference in this case. The university is the best ever (as far as I can tell) as well as the people I have run into during my stay in this institution. NO regrets, but I wish some of the Japanese beetles would fly away from the garden and never, ever return.

Of course I cannot say goodbye without first saying "Dude fest, this is the best!!"



Alejandro
Valerio

Rodrigo Velarde

Adam Wallner: I am a native from Brooklyn, but grew up in Illinois, and I have always been interested in the study of insects since I can remember. My masters research focused on biodiversity, distribution, and complementarity of Neotropical leafhoppers from Ecuador and Peru. Currently a doctoral candidate, my research interests I have shifted from Neotropical to Nearctic leafhoppers and their relatives in Midwestern tallgrass prairies. The main objective of my study is to evaluate whether leafhoppers and their relatives (Homoptera: Auchenorrhyncha) are indicators of tallgrass prairie quality. Related objectives are to determine host plant affiliations and distribution of prairie-endemic species of leafhoppers and their relatives and evaluate if these species can be used in conservation priority areas and management decisions in tallgrass prairie ecosystems.



Rodrigo
Velarde

James Zahniser: After a few years of working with my advisor, Dr. Chris Dietrich, I received my M.S. degree in Entomology in the summer of 2003. The title of my thesis was "Morphological phylogenetic analysis of the leafhopper subfamily Deltocephalinae (Hemiptera: Cicadellidae) and related subfamilies." In this analysis, I examined multiple representatives from 41 leafhopper tribes in 13 subfamilies. Based on this and previous analyses, the classification of the group was revised. I also found that grass specialization, an important life-history trait in at least eight of the tribes examined, is highly phylogenetically conserved. In the coming years, I will gather molecular data to test my phylogenetic hypotheses based on morphology, and will also investigate evolutionary and biogeographic questions regarding grass specialization. Luckily, I work on a group that is distributed worldwide, providing ample reason to collect leafhoppers from distant regions of the earth. Hopefully, this travel will be as fulfilling as our month-long trip to Taiwan in the summer of 2004.



Adam
Wallner



James
Zahniser

January 2003 Sackler Colloquium on
Chemical Communication, Irvine, CA
Left to right back: Matt Ginzel, Harland Patch
Left to right front: Christina Grozinger ,
Cindy McDonnell, Lauren Kent



Master of Science

- Jesse Albertson.** 2003. Systematics and Diversity of the Neotropical Treehopper Subfamily Nicomiinae (Hemiptera: Membracidae)
- Ashley Bennett.** 2003. Conservation Biological Control of Pine Needle Scale (Homoptera: Diaspididae) in Ornamental Landscapes
- Emerson Lacey.** 2003. Aggregation Pheromone of the Red-headed Ash Borer, *Neoclytus acuminatus acuminatus* (F.) (Coleoptera: Cerambycidae)
- Cindy McDonnell.** 2003. Regulation of Cytochrome P450 Gene Transcription in Two Species of Swallowtail Caterpillar
- Katharina Rothwangl.** 2003. Chronic Effects of Low-Risk Insecticides on the Citrus Mealybug Parasitoid *Leptomastix dactylopii* (Howard)
- Jamie Zahniser.** 2003. Morphological Phylogenetic Analysis of the Leafhopper Subfamily Deltocephalinae (Hemiptera: Cicadellidae) and Related Subfamilies

Doctor of Philosophy

- Rebecca Petersen-Brown.** 2003. Interactions Among Steroid and Xenobiotic Response Cascades in the Regulation of CYP6B1
- Sean Collins.** 2003. Genetic Structure of the North American Population of the Hornet *Vespa crabro*, an Introduced Social Wasp.
- Mark Carroll.** 2003. Amelioration of Furanocoumarin Toxicity by Dietary Lutein in the Parsnip Webworm.
- Colin Favret.** 2003. Studies on Species of the Aphid Genus *Cinara* on *Pinus edulis* and *Pinus monophylla*
- Jeffrey Gilardi.** 2004. Genetic Divergence among Subspecies of *Basilarchia arthemis*
- Matthew Ginzel.** 2003. Chemically-Mediated Mate Location and Recognition in Longhorned beetles (Coleoptera: Cerambycidae)
- Jeffrey Heilveil.** 2004. Mating Habits, Dispersal, and Postglacial Range Expansion of *Nigronia serricornis* (Say) (Megaloptera: Corydalidae)
- Kevin Holston.** 2003. A Phylogenetic Assessment of *Thereva* Latreille (Insecta: Diptera: Therevidae)
- Weimin Li.** 2003. Functional Characterization and Evolutionary Analysis of Lepidopteran Cytochrome P450 Genes Involved in Plant-Insect Interactions
- Xianchun Li.** 2003. Molecular Definition of Cytochrome P450-Mediated Multiple Resistance in *Helicoverpa zea*
- Christopher Pierce.** 2003. Case Study of a Variant of Western Corn Rootworm, *Diabrotica virgifera* Leconte, in East Central Illinois
- John Tooker.** 2003. Multitrophic Interactions in a Prairie Insect Community: Ecology, Behavior, and Conservation
- Jonathan Lundgren.** 2004. Assessing the Risk of Insecticidal Corn to the Predator *Coleomegilla maculata* (Coleoptera: Coccinellidae).
- Karlene Ramsdell.** 2004. Discovery and Phylogeny of the Odorant Binding and Chemosensory Proteins of *Diabrotica virgifera* (Coleoptera: Chrysomelidae) and *Rhagoletis* (Diptera: Tephritidae)



The Entomology Graduate Student Association serves as a voice for the needs and concerns of graduate students in the Department of Entomology and to foster outreach and social activities among the graduate students. For the past two years, Alejandro Valerio, Andy Deans and I (Cindy McDonnell) have been treasurer, secretary and president, respectively. Alejandro and I have made a great team in which he carefully manages our money and I exercise all of my power to spend it: on camping trips, skating parties, the Insect Fear Film Festival, or wherever. I just hope the next president and treasurer can forge such a special bond. Andy, on the other hand, avoids our financial tango by delving into the menacing and murky world of organizing and propagating the mission of the EGSA. He created the EGSA website (<http://www.life.uiuc.edu/entomology/egsa/index.html>) which showcases our events, online nominating for EGSA positions, information about upcoming Insect Fear Film Festivals and even the minutes from our meetings.

But Andy, Alejandro, and I did not carry out the mission alone. The GSAC representatives (Matt Ginzel, Bridget O'Neill) and faculty representatives (Jonathan Lundgren, Lauren Kent) have performed their intelligence operations, to obtain and disseminate information about prospective students and departmental gossip, with the stealth of seasoned professionals. No one suspected a thing.

Everyone helped out for the Insect Fear Film Festival, our main outreach and fundraising event of the year. I think that the t-shirt designs for the past two years have been quite smart-looking, but unfortunately they were limited edition although you are guaranteed to see one on any given day in the halls of Morrill. In addition, we continued to feature an insect art contest for area schools that included some excellent representations of insects that adorned the walls of Foellinger at the Festival.

Finally, in an attempt to broaden our outreach objective, several of our members have participated in Bugscope (<http://bugscope.beckman.uiuc.edu/>), an NSF initiative to introduce school kids to science and technology that marries the intrinsic appeal of insects with scanning electron microscopy, all via the Internet. It is so brilliant, it makes you wish you had thought of it, but the next best thing is jumping on a computer over at the Beckman and chatting with the kids all over the country about insects and how strange and wonderful they are.



Cindy McDonnell



Today, public outreach activities sponsored by entomology departments are commonplace Iowa State, Penn State, Purdue, and innumerable other institutions host festivals, expos, and other community-directed events to entertain and educate the public about insects. But, as far as I can tell, we did it first. The UIUC Insect Fear Film Festival was the first and is the oldest such event in the country. We're even recognized by the film community—in Adam Langer's 2000 *The Film Festival Guide for Filmmakers, Film Buffs and Industry Professionals*, "Everything's here, from the big and famous (Cannes) to the small and specialized (Insect Fear Film Festival)." From the review of the guide in Booklist an index listing all the festivals in a single alphabet would be a useful feature; as it is, there is no way to locate the Insect Fear Film Festival without first knowing that it takes place in North America (Champaign-Urbana, IL, to be exact"). We're mentioned in film reviews; Roger Ebert in his review of *Tuxedo* September 27, 2002, writes "Some of the shots are computer-generated, which is kind of cheating, isn't it, with Jackie Chan? Luckily, special effects are not frowned upon at the Insect Fear Film Festival at the "Great University."



For our 20th festival, we honored one of the founders of the genre—Mr. Bert I. Gordon, known as Mr. BIG not only because of his initials but also because, of 20-some films, at least ten involved oversized creatures of one species or other. To our surprise and delight, he accepted our invitation to be our special guest at our Bert I. Gordon Big Bug retrospective. In a sense big bug films began here in Illinois in that Gordon spent the first six years of his life in Chicago; his family then moved to Kenosha, Wisconsin. He decided early on to pursue a film career and made some industrial films (including one on how to train hunting dogs) in St. Paul, MN, before moving out to try his luck in Hollywood. He broke out in a big way with the film *King Dinosaur*. It's his third film that started him on the path that brought him here tonight. *Them*, a 1954 film about giant ants in Los Angeles, had been the biggest movie of the year for Warner Brothers and the time was right for another big insect. The inspiration for *Beginning of the End* came from reading a news story about a grasshopper plague in Texas. Gordon wanted his film to take place in the Midwest, with the climax in his old hometown. Gordon was producer, director, and special effects coordinator for the film. Each task posed challenges. For effects, he needed grasshoppers. The California Department of Agriculture wouldn't permit him to import locusts unless they were all inspected and certified male. But male locusts in confinement have a tendency toward cannibalism. According to Mr. Gordon, "I was worried whether I would have enough grasshoppers to finish the film; I kept separating them and had to keep at it." As for screenplay, they needed a setting. The movie begins in central Illinois with a police radio call "Car 88 to Urbana! Car 88 to Urbana" Hello I'm at Ludlow. The whole town is destroyed! Everybody's gone! You have to do something! You won't believe this! Send help—lots of help!"

Why Ludlow? According to Gordon's interview with Kirby Pringle of the News Gazette, because it was "on the map. We just picked them out." I mentioned to Roger Ebert my curiosity on this point, and his response was, "For me, the real question is why many other movies have not also chosen Ludlow for destruction." Astute audience members were quick to note that, although a second unit was dispatched to Chicago for background shots, the crew never made it to Ludlow, Rantoul, or Paxton (as evidenced by the mountains looming in the background of every scene).

Earth vs the Spider was Gordon's third movie made in 1958 (and the last black and white big bug film). Gordon directed, wrote, produced, and did special technical effects. Filmed as *The Spider*, it was released as *Earth vs the Spider*. In brief, a giant spider is discovered in a cave outside Spring Valley, is stunned by DDT, and brought to a high school gymnasium by the science teacher for further study. Rock music disturbs it (as it does so many in the 1950s) and it begins a rampage.

To set the record straight, there are spiders in caves. The huntsman spider *Heteropoda* sp. *near venatoria* is found in caves of Sarawak, Borneo, and is thought to be quite dangerous, and there are even several spiders on the endangered species list including the Tooth cave spider (*Neoleptoneta myopica*) in Texas and the Kauai cave wolf spider (*Adelocosa anops*)

20th Annual Insect Fear Film Festival

(which is known as the "No-Eyed, Big-Eyed Hunting Spider). There's even a cave tarantula (from Oaxaca, Mexico) named *Spelopelma reddelli*, although it's considerably smaller than the one that tore apart the school gym in the movie. If you worry about the quality of secondary education today, listen to high school science teacher Mr. Kingman tell the sheriff, "Naturally I didn't call you up to get you to investigate abnormal insect life."

Empire of the Ants was Bert Gordon's second big bug film in color if one counts *Food of the Gods* filmed the year before as a big bug film (there are giant wasps, in a brief but critical scene; there are also, however, giant rats, a giant rooster, and a giant gopher). On this film he served as director, screenwriter, and visual effects coordinator. The story is loosely based on H.G. Wells's *Food of the Gods* (as was the movie of the same title the year before). Basically, the plot involves a greedy real estate developer, played by Joan Collins, who tries to sell radioactive waste contaminated land to people, not knowing that Dreamland Estates is infested with giant, superintelligent ants that have enslaved the local human populace. Gordon appears to have been the only filmmaker to produce big bug films in the 1970s (most were making movies with lots of little bugs, namely killer bees). It may also be the first film in which the term "pheromone" is used (in *The Bees*, released the same year, entomologist John Saxon calls get them "pheromes").



Mr. Gordon graciously participated in a 30-minute question-and-answer session with the audience (explaining away the mountains of central Illinois by saying "there was a lot of construction at the time") and received a plaque and certificate of appreciation; without Mr. Gordon, there might never have been one Insect Fear Film Festival, much less twenty.

21th Annual Insect Fear Film Festival

The 21st annual insect fear film festival was held on February 28, one night before the Academy Awards (the closest most of these films will ever get to that show). After 21 years, we still continue to make the news—on the very day of the Oscar ceremonies, in Tinsel-Town itself, the Los Angeles Times ran a story by Mark Wheeler on our festival titled "Bitten by the Movie Bug" (we're proud of sponsoring an event that has a 21 year tradition of providing opportunities for bad puns in headlines). We also provide opportunities for ponderous attempts at entomological humor—Wheeler describes me as "May Berenbaum, festival founder and queen bee, er, head, of UIUC's entomology department" (and who better to appreciate ponderous attempts at entomological humor?). Continuing our tradition of one year, where, like real film festivals, we invite people actually involved in the movie, we had in our audience John Chua, who is a friend of Paul Wynne, the director of our third feature, *Tail Sting*, and who worked on the marketing of that film as director of publicity (he tells me that the real horror story wasn't onscreen, it was dealing with distributors).

Festival diehards may remember our Alien Insect Fear Film Festival back in 2002, where we showed *Spiders 2000*, the first festival film with a direct connection to the University of Illinois (Craig Reid, Entomology Ph.D.) appeared as an extra in the crowd scene in front of the Los Angeles Coliseum fleeing a giant extraterrestrial spider). The 2004 festival was remarkable in that all three feature films have a direct connection to the University of Illinois.

The theme of this year's festival was, genetically engineered insects, one supposes, inevitable. One thing you can count on in terms of new technologies is that they'll have unintended consequences, and this has



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Photo courtesy of:
Martin Hauser

been grist for Hollywood's mill since the beginning of movies. In the 1950s, when people became aware of the ability of atomic radiation to induce mutations, their worst fears manifested themselves in the form of giant oversized mutant insects. In the 1970s, when people realized that toxic chemical waste could produce mutations, their worst fears manifested themselves as giant oversized mutant insects. Now at the dawn of the era of genetic engineering, where scientists can deliberately move genes around, people's worst fears of technology gone astray are being manifested as giant oversized mutant insects. No matter what humankind devises to improve its lot, the downside always seems to be giant mutant insects bent on destruction and mayhem. Giant mutant insects are probably a consequence of the Atkins diet, too.

To date, most genetically engineered insects aren't incredibly frightening—one of the earliest demonstrations of the efficacy of the technique was to turn the eyes of the yellow fever mosquito from red to white (hard to imagine corporate exploitation of that feat, unless Visine is controlled by evil executives). But this is a far cry from giant mutant scorpions in an airplane cargo hold.

Our first film was kind of a cheat—*The Tuxedo* involves not genetically engineered insects but genetically ordinary insects that are used to transport genetically engineered microbes that will pollute the world's water supply. In this film, Jackie Chan plays Jimmy Tong, a taxi driver whose phenomenal driving skills get him a job chauffeuring around Clark Devlin, an international superspy (played by Jason Isaacs, who played Lucius Malfoy in the second Harry Potter movie). When Devlin ends up seriously injured by a skateboard bomb, Tong ends up with his high-tech tuxedo, which confers upon him remarkable physical abilities. Out of loyalty to his employer he decides to impersonate the superspy to solve the mystery of the bomb attack—hinted at by the almost comatose superspy who whispers what Tong interprets as “Walter Strider.” I hope I'm not giving away too much when I tell you that what he actually said was “Water strider” (which doesn't really sound like “Walter Strider” unless you happen to have a Chinese accent). It wasn't a surprise to me because Devlin is carrying around a sketch of—guess what—a water strider.



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It turns out that Devlin was on the trail of the unscrupulous bottled water magnate Diedrich Banning, who has a plan to destroy the world's water supply by sending out water striders carrying genetically engineered microbes that will convert the water in the world's reservoirs into a dehydrating substance rather than a thirst quenching substance. Why water striders? Because the world's reservoirs have alarms that sound whenever the surface is broken and water striders, as their name suggests, skate on the surface without breaking the surface tension. (What all the twigs, leaves, jumping fish, and raindrops do to the alarms isn't really spelled out).

See what Roger Ebert has to say in his review for the Chicago-SunTimes: “Do water striders have queens, like bees and ants do? For an authoritative answer I turned to Dr. May Berenbaum, head of the Department of Entomology at the University of Illinois at Urbana-Champaign, and founder of the Insect Fear Film Festival, held every year at the Great University.” She writes: “Water striders are true bugs (i.e., insects with piercing/sucking mouthparts) that run or skate on the surface of bodies of water, feeding on the insects that fall onto the water surface.” There are about 500 species of gerrids in the world and, as far as I know, not a single one of those 500 species is eusocial (i.e., has a complex social structure with reproductive division of labor and cooperative brood care). I don't even know of an example of maternal care in the whole group. In short, the answer to your question is an emphatic 'no!' ..So there you have it. Professors Smith and Berenbaum have spoken. The evil Banning has spent untold millions on his secret plans for world domination, and thinks he possesses a water strider queen when he only has a lucky regular water strider living the life of Riley.” www.suntimes.com/ebert/ebert_reviews/2002/09/092705.html

Our second feature, *Mimic*, was specifically mentioned on Roger Ebert's “Siskel and Ebert at the Movies” festival as being “one for the folks down at the University of Illinois for their Insect Fear Film Festival.” Basically, Dr. Susan Tyler,



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21st Annual Insect Fear Film Festival

entomologist at the Natural History Museum, creates a genetically engineered cockroach, the Judas Breed, with termite and mantid DNA in order to combat a cockroach-borne disease that's afflicting the children of New York City. There's no cure or vaccine for the virus, so they "went after its carrier, the common cockroach" with "a new species to be our six-legged ally," which is bred for "100% sterility in all Judas Breed females." The Judas breed is "infected with an enzyme" that somehow inactivates the polio-like virus. Three years later, a couple of kids bring in an unusual specimen they found in the subway system and Dr. Tyler gets chilling confirmation of the failure of her pest management approach. What she's holding is a "baby" Judas breed. How does she know it's a Judas breed? This woman who apparently single-handedly genetically engineered a new species identifies this specimen with litmus paper—"I did a pH test and there are only two species which match what I found; a leafcutter ant in the Amazon and the Judas breed." Real insect systematists must laboriously sequence long stretches of DNA and make meticulous measurements on internal genitalia—and we'd all like to know where to buy the "ClearBlue Easy" insect identification kit.



IFFF 2004

Photo courtesy of Martin Hauser

As for our last film—here's what EGSA president Cindy McDonnell said about it: "What do you say to someone who makes a bad movie that set out to make a bad movie? Congratulations?" *Tail Sting* is the product of a UIUC education—coproduced and written by Peter Soby, Jr., (UIUC BA in Speech communications, 1991) and Tim Griffin (UIC). Peter was inspired to make a movie after reading an Associated Press news story about a dog in a cargo hold of an airplane en route from Boston to San Francisco who had chewed its way out of its crate and through some landing cables. His first thought was to make a horror film with a wolf in the hold—but in pitching the idea to what he called a foreign (Japanese) sales company he was told that the special effects would be too expensive, so the wolf became giant scorpions instead. The entire script was written in 7 days, the film was shot in 19 days (6 without any scorpion models), and the entire budget was less than \$370,000—and over 50,000 units were sold (it's a big hit in Japan). The scorpions were crafted out of foam and the queen scorpion was a guy in a foam scorpion suit. The only real scorpions used in the film appear on the runway at the end of the film—the arachnid wrangler was a friend of the director whose only qualifications were that he owned a tarantula. That there are scorpions alive at the end means sequel—and indeed York Entertainment is talking sequel. This time, though, the giant mutant scorpions are—on a submarine! Soby had creative differences with the company and parted ways. His newest project is a film called *Being Ron Jeremy*, a parody of *Being John Malkovich* based on the life of a legendarily well-endowed porn star. Advice to young students? Follow your dreams. For the record, he never took a film course while he was here, nor did he ever take an entomology class (which might be obvious when you see the movie. For the record, scorpions are not insects).



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Pamela Anderson (M.S. 1981): Named as the next Director General of the International Potato Center

Lima, March 8— Jim Godfrey announced today the appointment of Dr. Pamela Anderson as the next Director General of the International Potato Center (CIP). “I look forward to working more closely with Dr. Anderson, continuing our valuable work in improving the livelihoods of farmers and communities of the developing world,” said Godfrey, the Chair of CIP’s Board of Trustees, at the start of their annual meeting. Dr. Anderson, acknowledging the news, affirmed: “The leadership and investment over the past 30 years by the CIP Board of Trustees, Directors and scientists have resulted in a strong and vibrant center, with a demonstrated contribution to improving the well being of the world’s poorest people, for whom potatoes and sweet potatoes are vital crops. It will be my honor and privilege to lead the International Potato Center and work with our donors, partners and beneficiaries.”

Dr. Anderson, a national of the United States of America, is a highly regarded entomologist and ecologist. She joined the International Potato Center in June 2002 as Deputy Director General for Research. A leading expert on emerging plant diseases, Dr. Anderson has also done extensive research in virology, ecology, food production, human health and agricultural development for resource-poor farmers. She has worked in Latin America for more than 25 years, including over a decade in national agricultural research systems. Since joining CIP, Dr. Anderson guided the Center through a Vision exercise, realigning the Center’s research and development program to bring it closely into harmony with the UN Millennium Development Goals and Targets.

Dr. Anderson will succeed Dr. Hubert Zandstra, who has led the Center successfully since 1991. “This appointment will ensure a smooth transition upon Dr. Zandstra’s retirement as Director General on April 30, 2005,” commented Godfrey.

The International Potato Center (CIP) is a Future Harvest Center supported by the Consultative Group on International Agricultural Research (CGIAR). CIP seeks to reduce poverty and achieve food security on a sustained basis in developing countries through scientific research and related activities on potato, sweet potato and other root and tuber crops, and on the improved management of natural resources in the Andes and other mountain areas.

International Potato Center (CIP)

Thomas Anderson (B.S. 1974, M.S. 1977): I continue to work with BASF Corp (for 19 years so far), even after all the acquisitions and resulting corporate reorganizations over the past several years. The last reorg got me moved back to the home office in NC after spending 4 years as a Field Research Biologist covering the Mid-Atlantic region from my home in Myersville, MD (yes, this was the place where they finally caught the Washington sniper less than 2 miles from my house!). I am a Project Leader for Insecticide and Fungicide Development. I am also Chair of the Education Subcommittee of the Insecticide Resistance Action Committee, and am involved in an educational initiative to promote mode of action (moa) labeling, and moa statement in state pesticide recommendations. My wife, Susan (B.S. Agronomy, UIUC, 1976) is currently working for Pathology Associates, Inc. In my spare time I write checks to pay for my daughters’ (Gwynne and Kirsten) educations at, respectively, the University of Maryland and the Catholic University of America, both in the Washington, DC, area. I suggested the UIUC, but they had to have a metro system to get around.

Murray Blum (B.S. 1952, M.S. 1953): Finished another article for UNESCO with a great section on human sex pheromones. Started a program on semiochemicals in eusocial insects. Off to Australia early next year. Co-writing a review article on reproductive strategies vis-à-vis colonial development in selected insect group. Playing with a book about a world without insects. Amazing and then again amazing.

Joel Coats (M.S. 1972, Ph.D. 1974): This summer I completed my 5-year term as Department Chair for the Department of Entomology at Iowa State University. While I managed to maintain my research program and most of my teaching responsibilities while Chair, it’s great to be able to focus more fully on my six grad students, plus interns, honors students, undergraduate research projects, as well as my teaching in entomology (Insecticide Toxicology and Pesticides in the Environment) and in the toxicology graduate program (portions of “Principles of Toxicology,” “Laboratory Methods in Toxicology,” and “Natural Toxins”) I hope to see some of my Illini friends again at conferences in the future.

Mike Cohen (Ph.D. 1991): It’s a little hard to know what to begin with in this email. But being as you might already have looked at the attachments, I’ll start with the baby. Susan gave birth on July 8, and mom and baby are doing great. We’re holding our own pretty well for a couple of young (ha!) first-time parents. We’re having fun and learning a lot, and I think the little guy is too.



So what could possibly compete for headline status with the arrival of one's first-born? Well, I quit my job as of June 30. I love science but I've been thinking of getting out of running my own research program for several years. I was all ready to do so a couple of years ago, but then I couldn't resist trying the job at Alberta once it was offered to me. I took the job with trepidation because I knew that it would be very hard to start a new research program from scratch given that my enthusiasm was tempered and that it had been eight years since I did my own hands-on lab work. My reservations proved to be well founded. I didn't enjoy getting back into the lab and I didn't dream up research projects that excited me. My NSERC proposals were turned down two years in a row, despite the fact that applications from first- and second-time applicants have a 50% success rate. Even if I had been awarded the money, I would not have been enthusiastic about doing the research.

I enjoyed teaching, but in my department the emphasis is strongly on research. I know that I would have struggled with this (in terms of enjoyment and success) for years to come. So I figured now was the time to leave. I warned Susan when we first got serious that this would most likely happen, and she has been fully supportive. I was relieved that all my colleagues were understanding and supportive as well.

What's next? I'm looking into jobs with the government in biotech regulation, but I've also been thinking of a real career change for several years. One possibility is the nonprofit social services sector, where I've long done volunteer work. I might experiment (ironic choice of words) with various jobs over the next few years. Given that I have 25 years of working life ahead, I'm confident I'll get it right eventually!

I had a great 20 years in entomological research and have no regrets. I've experienced the excitement of real discovery, made some contributions I'm proud of, worked with great people, and traveled the world. I hope that I can find something to do next that can compete with all that!



Bill Delaplane (Ph.D. 1958): While getting my degree (1958) and after I was with Illini Pest control, which our son Gary (birth 1983) took over until his sudden death in 1994. Our daughter Diana (birth 1988) succeeded Gary in 1997. I'm no longer active in the business since we've been most fortunate for Dr. C.L. Metcalf (Bob's father), one of the original four founders gave us the motto (paraphrased) "Don't sell any service or product if it's not needed." It's our *modus operandi* still. The other original founders, all UI grads in entomology, were Dr. Dwight Powell—the real mover and shaker who got us off the ground, but who made his professional fame as an "apple knocker" (plant pathologist), W.E. McCavely, with the Natural History Survey—who had the ideas of the flea collar and the flystrip later, while with Shell Chemical, and Dr. C.W. Kerns who first co-researched chlordane, and did a humongous long-time research on insect resistance to the chlorinated hydrocarbons. A few of his famous protégés were Paul Dahm, Paul Gippod, Bob Metcalf, Cliff Roan, Ralph March, Bob Barker, and a host of others whose names escape me. If any of you guys read this, please write or call me. I'd love to hear from you. What happened to Berne Silverman, John Porter, Bernie Berger, Bob Traub, Kay Sommerman, Bob Lewis, Mouffid Moussa, Ken Knight, et al!

I'm still kickin a bit. By the time you read this my 90th will have passed; as George Burns said, "Not many people die after 90." To you young-uns: The future for entomology is in your good hands.

Robert (Bert) W. Clegern (M.S. 1966, Ph.D. 1972): In the past two years, my wife Linda and I have accomplished one of our traveling goals: driving through each of our states—not bad for 7 years of marriage. Another goal was to make our 1850 home fully livable, and it has been fun accomplishing this task. Currently I am still teaching a class in environmental science at the University of Maryland's University College. I'm also doing some consulting and traveling to Wyoming, working on efficacy studies of new soy-based mosquito larvicides in coalbed methane ponds.

We also still dabble in antiques, so we stay busy.

Randy Cohen (Ph.D.1987): I am a Professor in the Department of Biology at California State University, Northridge. My research is split between mammalian and insect neurobiology. At home, Susan and I have two daughters (Rachel is a sophomore at UCLA; Sarah is a junior in high school) and a son (Josh is a freshman in high school).

David Evans (Ph.D. 1978): I am now serving my first term as the elected Chair of College Council, a part of the Penn College Governance system. Governance represents over 1200 employees and more than 6000 students at the Pennsylvania College of Technology. The Chair of Council presides over monthly meetings in which the concerns and interests of the entire College community are presented. I then report the decisions and recommendations to the President. Council is roughly equivalent to faculty senates in some other institutions but is more inclusive.

Susan Fisher (B.S. 1977, M.S. 1979): I finished up my first term as secretary of the University Senate and, miraculously, was appointed to a second term by the new president. So, it is once again my job to herd faculty, remind people of the faculty rules, and explain to the provost du jour why he can't abolish tenure should it please him to do so. The corporate model keeps trying to take over but some of us are pushing back.

My research program on food chain transfer of PCBs and other persistent contaminants continues, albeit at a reduced level. I continue to have funding and graduate students. I am grateful for the broad training I received at UIUC; it fosters versatility, which is a very useful commodity.

I've rediscovered undergraduate teaching. For reasons that now elude me, I volunteered to teach Biology 1010—a class of 722 nonmajors. Since I wanted to emerge from the experience in one piece, I have completely retooled my approach to teaching undergraduates. I have introduced the arts into biology by commissioning a dance troupe to perform cell division. I have commissioned a musical piece based on the nucleotide sequence in the gene for testosterone. Now my students know what testosterone sounds like. This fall, I will borrow OSU's famous marching band to depict the Krebs cycle. It's lots of fun and the students seem to enjoy it and learn from it.

At home, we are still trying to raise 7 children, 8 or so equines, lots of rescued dogs, and a whole bunch of cats. It's not easy, but it keeps me out of the saloons at night. Our eldest is now a junior at OSU, so there is at least the possibility of an empty nest one day, but no one is in a hurry.

Stephen D. Gaimari (Ph.D. 1998): After a few years at the Smithsonian Institution, first as a postdoc, and then as a research entomologist (on soft money), I was hired in 2001 as an insect biosystematist with the California Department of Food and Agriculture in Sacramento. So we packed it up and moved west. In addition to my research, I identify flies of potential economic importance that are submitted from around the state (from border stations, trapping and monitoring programs, etc.), especially exotic fruit flies. I also serve as co-curator of the California State Collection of Arthropods. My research on Diptera systematics continues, including my current NSF grant to study phylogenetics of Lauxaniodea, and nearly a dozen collaborations on other NSF-funded projects (read, I don't get the funds, but I do get specimens and resources!). Among my other research projects are four chapters in the upcoming *Manual of Central American Diptera*, revisionary studies in various families of flies (so many species to describe, so little time!), studies of fossil lauxanioids and odiniids, and exploration of Raman-Atomic Force Microscopy as a tool for systematic research. My research has taken me to several countries for collecting and museum studies over the last couple of years, including Austria, Australia, Bolivia, Costa Rica, England, France, and Hungary, and I have spent much time in the field collecting all over California. I am also supervisor for one postdoc (who works with me on tephritid fruit fly systematics), and I am a committee member for one doctoral student at UC-Davis (who works on chironomid midge systematics). Helen and I have 3 kids, Alex (age 9), Becky (age 7), and Tony (almost 5). They grow up way too fast, but I know there is still a long way to go! We are all enjoying life in sunny Davis, CA, but being a native East-coaster (I grew up in New Hampshire), I miss the hard summer rains and thunderstorms. And I never thought I would live somewhere flatter than Illinois, but California's Central Valley surely gives it a run for its money. But, despite the flatness right here in the valley, we are very happy to be about an hour from the coast, an hour from San Francisco, and an hour from the Sierras, giving us a very diverse array of potential escapes on weekends!

Angel Gonzalez (Ph.D. 1978): In September 2002 I was appointed as Assistant Dean of Academic Programs for the Faculty of Agriculture in the College of Agricultural Sciences of the University of Puerto Rico-Mayaguez Campus (a land grant institution). I have been teaching a graduate course (6000 level) in the "Theory and Practice of Biological Control" (I cover the area of entomology, a colleague the area of plant pathology). I also teach an advanced undergraduate course (5000 level) in "The Insects of Tropical Crops."

Since 2002 I have had five graduate students; one graduated last December, a second one is defending a M.S. this September, the others are still working on their dissertations and finishing course work. My research work is focused primarily on the biological control, food preferences, and population dynamics of various insect pests of vegetable crops. My research is being funded by Hatch and T-STAR

projects, the latter in collaboration with researchers in the University of Florida. I have attended the Annual Meeting of the Entomological Society of America, the annual meeting of the Southeastern Branch of ESA, the summer program of NASULGC, the annual meeting of the American Society of Horticultural Sciences, and several local professional societies where I presented the findings of my research. I have also attended several meetings of the Caribbean Council of Higher Education in Agriculture (CACHE), an organization which groups together Spanish-, English-, French- and Dutch-speaking countries within the Caribbean basin.

In July 2004 I was promoted to the rank of professor of entomology.

John L. Eaton (Ph.D. 1966): Retired since January 2002, I spend time with lawn work, gardening, hunting, fishing, genealogy and family history, playing with grandkids, traveling, and visiting friends. Peg stays busy volunteering at the local elementary school and is active with the Red Hat Society. This fall we will do a Baltic Cruise with a side trip to Moscow. We usually spend some time during Mardi Gras Season in Louisiana. Best wishes to fellow alumni and retired faculty from the 60's.

R. Earl Grossmann (M.S. 1953): Retired. My wife Nancy and I have an Illinois residence at 902 Hanlin Ct., Normal, IL, 61761 (309-452-2148). Our winter address is 1960 Par Place, Mulberry, FL, 33860 (863-646-4147). My email address is grossma8@aol.com. We are in our 13th year of retirement enjoying golf, freshwater fishing, 13 grandchildren, and travel. Now that we are away at Illini football time, we enjoy Tampa Bay Buccaneer football

Gene Kritsky (M.S. 1976, Ph.D. 1977): Since the last Entomology Newsletter I have completed a sabbatical to Cambridge University where I transcribed Charles Darwin's research notes for the *Descent of Man*. This was completed for the Darwin Correspondence Project at the University Library. In 2002, I completed my administrative duties as Director of Health Sciences and resumed my role as Professor of Biology at the College of Mount St. Joseph. I also started writing a monthly column for the *American Bee Journal* and serve as editor of *American Entomologist*. My wife, Jesse Smith, and I have spent part of our last three summers at Theodore Roosevelt National Park in North Dakota conducting insect surveys and at Cambridge University continuing my historical research. It was great to see so many of my colleagues at the ESA meetings in Cincinnati, and I look forward to seeing you in Salt Lake.

Phil Lewis (B.S. 1985, M.S. 1989): At work I continue to assist with researching the best ways to chemically control Asian longhorn beetle and emerald ash borer infestations. I've had to branch out into the field of tree physiology as I am looking at various methods to inject trees. A large population of ALB was recently found in New Jersey, so there is no shortage of work. On the personal front, Jenny and I are the proud parents of Andrew William, a real yankee doodle dandy born on July 4, weighing in at 6 lbs, 5 oz.!

Richard L. Lipsey (Ph.D. 1972): I graduated in 1972 in pesticide toxicology with Dr. Robert L. Metcalf as my major professor. I worked in the pesticide industry for 9 years (Velsicol, Bayer, Spectracide) and was VP of R&D. I was an associate professor at the University of Florida and taught pesticide toxicology and was Florida Statewide Pesticide Coordinator while consulting for EPA and for USDA and had an office in Washington, DC.

With that background I began consulting as an expert witness and testify nationwide about 90 times a year. It is fun and exciting and I have almost 4 million frequent flyer miles.

Chris Maier (M.S. 1973, Ph.D. 1977): Over the past few years, I have investigated the detection and biology of exotic insects recently found in North America. My biological studies have focused principally on the distribution, host preference, and life cycle of orchard pests (the green pug, *Pasiphila rectangulata* [Geometridae], and the apple tortrix, *Archips fuscocupreanus* [Tortricidae]) and forest pests (especially the small Japanese cedar longhorned beetle, *Callidiellum rufipenne* [Cerambycidae]). I hope my research will assist in devising strategies to cope with these alien invaders.

I recently finished a long-term project on the caterpillars feeding on the foliage of conifers in the northeastern United States. General information from the study is summarized in a color atlas that was published by the USDA Forest Service in 2004. The identification guide (available free) includes color images and descriptions of caterpillars, their hosts, and highlights of their life cycles.

In addition to my formal research, I still spend a large amount of time pursuing rare or little-known insects. Favorite targets include species of Cicadidae, Tabanidae, Asilidae, Stratiomyidae, and Syrphidae. I suspect Connecticut has more flies on its endangered species list than any other state! I have discovered many rarities near my home in Guilford, Ct., where I reside with my wife Marie, and three daughters, Caitlin, Emily, and Julia.

John Marlin (Ph.D. 1978): Mud-to-Parks Brain Child of John Marlin (*Champaign-Urbana News-Gazette*, 4/12/04)

Along the Illinois River near Peoria, giant clamshell buckets scoop up great piles of mud and dump it into barges. Mud, Illinois River mud, central Illinois sediment. Fertile topsoil gone under. Its resurrection began last week in a major undertaking called the Mud-to-Parks project. Over the next month, some 105,000 tons of sediment will be dredged from Peoria Lake where it meets the Illinois River, loaded onto 70 barges and shipped 163 miles up the river to Chicago's old U.S. Steel site near where Calumet City joins Lake Michigan.

That site is now a brown field, an abandoned, barren, rusting, slag-filled stretch of useless land where nothing grows. The sediment will be spread across the slag, covering 17 acres to a depth of 2 to 3 feet. The city of Chicago has been working with U.S. Steel for 10 years to reclaim the site. Eventually, 100 acres of lake front will be turned into a park, with another 200 acres redeveloped into residential, commercial and light industrial uses. There's plenty of sediment to work with. Scientists estimate some 14 million tons of silt a year are dumped in the river basin.

Heralding the start of the project last week was an unusual alliance. Gathered on the riverbanks were Democratic Lt. Gov. Pat Quinn; U.S. Rep. Ray LaHood, R-Peoria; state Rep. Dave Leitch, R-Peoria; river conservationists from Heartland Water Resources Council; and a bevy of Champaign-Urbana Survey scientists. And there wasn't even any mudslinging. Of course, this wasn't the Salt Fork River.

This elaborate, bipartisan undertaking was the brainchild of John Marlin, whom you may have heard of if you've lived here awhile. Marlin, of Urbana, is a senior scientist at the Waste Management Research Center, a Champaign based division of the Department of Natural Resources. He's also the former head of the Illinois Pollution Control Board and a long-ago ringleader of the successful effort to block the U.S. Army Corps of Engineers from flooding 1,600 acres of Allerton Park.

Despite those and a few other scientific credentials, he's also the guy who wasn't considered qualified enough by the Champaign County Board Republicans to be appointed to the Champaign County Forest Preserve Board in 1994. But there he was last week, honcho of a ground-(sediment?) breaking effort that will help save rivers and lakes, enliven wildlife habitats and restore brown fields.

"This is a model of bipartisan, intra-agency cooperation," Quinn said. "And it's a living tribute to the vision and tenacity of Dr. John Marlin, who shows us all how one person can make a difference."

Marlin's been doing this awhile. Experiments in 1999, with river sediment used to grow five different species of plants in Champaign greenhouses, showed no differences from plants grown in regular ol' black Drummer-Flanagan. More recently, Survey scientists spread sediment over sandy soil in Mason County in the western part of the state and saw fourfold increases in corn production and a 1.6 percent increase in soybean production from those plots. Initially, there were fears that the silt would carry unacceptable levels of chemicals, but Marlin said that hasn't proven true.

Marlin said the idea of retrieving sediment for reuse isn't really new. "What is new is the idea of taking it that far away and using barges to do it," Marlin said. Each barge carries the equivalent of 75 truckloads of dirt. In urban areas, developers get that dirt from suburban areas and truck it through the city. "This saves topsoil, saves costs and puts the sediment back to work much more efficiently," Marlin said. More importantly, the dredging will restore rivers and lakes. Some 60,000 acres of Illinois River backwaters have lost more than 70 percent of their capacity this century, Marlin said. The river and sloughs have filled in the extent they are of no use to fish, water fowl and other plants and animals, except maybe Asian carp.

That's a lot of job security for Marlin, survey scientists, river advocates and other tree-hugger types. Quinn said their recognition at the state level is overdue. Maybe someday they'll get it in their own back yards.

Eric S. McCloud (M.S. 1973, Ph.D. 1975): I continue to work in the Department of Biology at the University of Southern Indiana, where I am an associate professor teaching a zillion different undergraduate biology courses. Outside of running, my spare time is devoted to wiring, plastering, plumbing, and such because I'm trying to fight entropy in an ugly, old Craftsman bungalow.

Mark McClure (Ph.D. 1975): On June 1, 2003, I retired as Chief Scientist at the Valley Laboratory of the Connecticut Agricultural Experiment Station in Windsor, CT, after nearly 28 years of service. I still maintain an active interest on forest health issues, in particular research on hemlock woolly adelgid and elongate hemlock scale in the eastern United States. In March I was honored at the Eastern Branch of the Entomological Society of America with a symposium entitled "Theoretical and Practical Implications of Ecological Research on Herbivorous Insects," which, among others, included University of Illinois notables Drs. Peter Price, Chris Maier and Larry Hanks. Other time has been spent traveling to such places as Alaska, Hawaii, Ecuador and the Galapagos Islands, Peru,

and to New Orleans and San Antonio to see the University of Connecticut women's and men's basketball teams win the 2004 NCAA championships. My wife, Laura, and I spent last winter in Florida escaping the brutal New England cold. We plan to do the same again this coming winter.

The Connecticut Tree Protective Association will be initiating a scholarship in Mark's honor. Please contact Chris Donnelly or Rita Smith at 203-484-2512 or 888-919-2872 (in-state only) for further details.

William K. (Bill) Medler (M.S. 1974): Greetings to old friends and new, I am entering my final year of teaching at Hoopston Area High School. There are still some rewards in high school education but I seldom encourage any of my students to pursue a similar career, especially if they plan on having children. Societal values have changed enormously in the last 31 years. This probably places me in the "old codger" category, but so be it.

Retirement from teaching opens new opportunities for a second career and it appears to be between financial advice services or possibly landscape design and construction. Conventional wisdom cautions against the conversion of one's hobbies into a career but I remain a bit of a contrarian.

My wife and I lead a very sedate lifestyle in an idyllic setting far from the maddening crowd. We are fairly passionate about our travels and, in Walter Mitty style, we often pretend to be observant anthropologists thrust into a mysterious assignment in a strange land. It is, of course, very convenient to drop the fantasy any time we decide to dine. I wish the best for everyone's continued success and happiness.

Lance Petersen (Ph.D. 1968): I retired in 2000 after 32+ years of developing and promoting IPM systems in agriculture around the world. The goal was to find chemical products that targeted, and controlled, specific insect or disease metabolic and/or hormonal sequences with minimal effect on non-target organisms when used with other appropriate cultural and natural bio-control methods. Several such products were found and introduced into world-wide agricultural pest management. At the time of my retirement, I was: an adjunct professor at Auburn University; visiting professor at Florida A & M University; Special Appointee to the University of Florida, (allowing me to serve on graduate student committees); and was a non-faculty member of a Long Range Planning Committee for the University of Georgia, Plant Pathology Department. I am an Emeritus Member of the ESA and remain active in the Southeastern Branch. I am also a Past President of both the Florida and Georgia Entomological Societies and continue my involvement with the Georgia Entomological Society.

Since retiring, my wife Jan and I divide our time between our home in Tallahassee, FL, a summer home on the shores of Lake Superior in Two Harbors, MN, and spending time with family. Between us we have 5 married children, and 3 grandchildren. I am very proud to say that our son-in-law is in the final stages of completing his Ph.D. in Physics from the University of Illinois.

I spend my leisure time making realistic wood carvings, a hobby that I took up after my retirement. I have carved and painted several realistic, life-sized birds and butterflies, along with a small collection of fish, marine mammals, dogs, and other characters.

Peter Price (faculty 1967-1978): I retired from Northern Arizona University in May 2002 so I could get more work done: work being research and writing. Since then I have published a book on my research program, which has depended on a lot on many graduate students over some 30 years (Price, P. W. 2003. "Macroevolutionary Theory on Macroecological Patterns, Cambridge University Press, Cambridge). It's only about \$30 for the paperback edition, so please buy a copy. I have also obtained a contract from the same publisher for the equivalent of a 4th edition of *Insect Ecology*, except that it will be a new book entirely, with Bob Denno as a coauthor, due in 2006. I have also written some research papers and am working on a paper to cover my 22 years of population dynamics data on the arroyo willow stem-galling sawfly, *Euura lasiolepis* (Hymenoptera: Tenthredinidae). I'm traveling to give lectures, writing letters of reference, doing reviews, just as before. But I have had more time for field work, including work in Finland and Japan, gardening, pottering in my greenhouse, running, and I hope to add more hiking in the near future. But Maureen and I had some good hikes on Vancouver Island this summer. I hope to see you all at the national meetings this year.

Craig Reid (Ph.D. 1989): I hope this note finds you in good health and spirits. which is more than I can say for our poor footie team aye? Oh my goodness, it's the end of the year and it always seems that it brings on reflections of classic clichés like "Where has the time gone," "I can't believe the New Year is around the corner," etc...

And speaking of time, this has got to be one of the busiest few months I've had since studying for my Ph.D. oral examinations. Silvia and I barely got our Christmas decorations up by the 23rd, and we've been so remiss in sending out Christmas cards. I mean, for the past 4 weeks, I have not seen one soccer game from England or an American football game on TV, things I do so enjoy. I've been working on three, count em, three scripts as well as shooting a promo starring Dustin Nguyen 21 Jump Street, VIP and Louis Mandylor (*My Big Fat Greek Wedding*, *Martial Law*), for a TV show called *SHOW DOWN*, which I'm producing. I was just planning to be a writer and now this opportunity has come my way. It's a lot about details is what I'm finding, but the challenge intrigues me.

But with everything going on, I've still made time to continue treating our friend Angela, a c3-c4 quadriplegic, supposedly paralyzed from the neck down for life. Um, I don't think so. Silvia and I have been working with her now for almost 2 years, I know I've probably shared with you that she can move her legs, ankles toes, arms, some fingers, but what's really exciting this year is that she is having tons of internal sensations, urges to go to the bathroom, pain all over (which is sad, but a good sign) and many other things that just continues to boggle our minds. We all need to remember just how lucky we are, and Angela is constant reminder to us. Through all that she goes through, I have never heard her ever complain about her situation, a lady who was a former supermodel, an-up-and-coming actress, and a well-trained martial artist, and personal trainer.

A little boy with cystic fibrosis flew in from England and asked if I would teach him chi to help his health. So I spent a solid 2 weeks with him teaching him as much as safely possible; he e-mails me often, excited with his improvements and new strength. Money isn't everything, and this is one of those things that shows it. It sickens me to hear when he tells me that a famous "chi master" (of which there is really no such thing) comes to London to teach special 2-day chi retreats at 1800 bucks a shot. Chi should not be about profit or money-making; it just seems that righteousness is dying. If I had one wish (besides meeting the one man I've always wanted to meet, David Bowie), it would be to let the world know what's real, what's fake, and how to tell one from the other.

Hilary Reno (Ph.D. 2000): I'm doing well, but am tired. St. Louis is a great city but not too big. Shaun has a full time position at one of the St. Louis Community Colleges in English (yeah!). I'm working very hard at the hospital. Now I'm in the intensive care unit...I don't like it very much with all the poor outcomes. I'll start some research on community acquired resistant *Staph aureus* next year and I'll do my infectious disease fellowship here. Otherwise, we plan many trips in the little vacation we have. I hope you and your family and lab are doing well. The butterfly houses here in town are amazing on a sunny day!

Claire Rutledge (M.S. 1994, Ph.D. 1998): In the last two years I have gotten married and gotten a job. I got married on October 18, 2003 to Robert Alan Booth of Indianapolis, IN. Rob and I were both at Purdue University at the time; I was doing research on soybean aphids with Dr. Bob O'Neil in the Entomology Department and Rob was working on his Master of Science degree in Anthropology. We got married at Duncan Hall in Lafayette, IN. Christine Armer was at the wedding, and served as our officiant. While on our honeymoon in London, I got word that I had an interview at The Connecticut State Agricultural Station for a position studying the ecology and control of wood-boring insects. That interview was successful, and in May, Rob and I packed up our household and headed east. I started at The Station on May 17 as an assistant entomologist. I have been learning about wood boring insects, Buprestidae and Cerambycidae in particular, and the forests and nurseries of Connecticut. Rob and I are living in West Haven, 2 blocks from the Long Island Sound and would be happy to hear from any UIUC entomology alum.

Sherri Sandberg (B.S. 1980, M.S. 1987): I am about to start my 9th year as a science teacher at Davis High School. One of my favorite things about my job is the chance to work with students on habitat restoration projects at local farms. I also work each year with a group of six students on research project related to sustainable agriculture.

I live in Davis with my husband and two children, Linnea (age 11) and Sylvan (age 7). We also have a number of animals that share our roof: two Labrador retrievers, two parakeets, a gecko, a frog, and a number of walking sticks. Last year I borrowed live insects from Steve Heydon (U of I alum and curator of UC Davis insect museum) and shared amazing insect tales with kindergarten and 1st grade students at my children's school science fair.

Alan Schroeder (Ph.D. 1990): Since the last installment of UI entomology department notes, I have been thoroughly enjoying living in Corrales, NM, with Sonia Ortega. She returns to NSF this fall, to resume heading up the GK-12 program and helping NSF spend about 50 million a year. I will begin work as the DC-based Executive Director for Advocacy for the Global Health Telematics Foundation, based in Taos, NM, and Pretoria, South Africa. Currently, I serve on their Board of Directors. We will be working on producing and promoting the use of smart cards for patients in Africa to track their disease and therapy regimes in dealing with HIV/AIDS, TB, malaria, and other diseases.

While on detail from NSF for the past couple of years, Sonia served as the Education Coordinator at the Long Term Ecological Research program at UNM, and I consulted with USAID to produce chapters on IPM and safer pesticide use for small scale activities in Africa. I just finished a programmatic environmental assessment for integrated vector management technologies for global malaria control for USAID (who'd have thought that serendipity would lead me from the agriculture to the health side of entomology technologies). And, in-between, for most of 2003, I served as the Interim International Coordinator for International LTER network.

For the past year, I did the unthinkable for a scientist. Yup, I enrolled in an Executive MBA program in the Anderson School of Management at UNM. Heng-Chen Lin, my Ph.D. classmate at UI, got an MBA a couple of years ago, and he continues to serve as an inspiration for me. The degree helped him enter senior management at Bayer. I found that, as a scientist, I had very little theoretical training in management, managerial accounting, organizational behavior, international business, economics, finance, etc. I aspire to use the degree to move into upper-level strategy and policy-making positions and make my life and careers even more interesting and challenging.

For the past 3 years, I have continued to fly Cessna 172s with Sonia and I continue to study Spanish at an advanced level through Instituto Cervantes. Together, we are still learning and performing Mexican Folkloric dance. I've cut back considerably on the international travel, which used to stand at about 7seven trips per year. Now, I get abroad only about three times a year. I trust this will pick up a bit when we return to DC.

I encourage scientists to risk entering fields outside of academia. My experience traveling and working on locust plagues all over Africa for our government, and living in Mexico working on new insect-resistant maize varieties for an international organization, would not have been possible without this shift. There are also incredible opportunities for entrepreneurial scientists to form or join start-up technology firms, where the word "routine" is not known.

My letting go of a really neat job in DC three years ago to follow Sonia to New Mexico, to do consulting and another degree, has been an incredible opportunity to re-evaluate my life path and interests, to continue learning, and to discover where I would like my next career to go. It was not easy taking the leap, but it has certainly been worth the risk. Now, interesting opportunities are finding me, instead of the other way around.

Keith Solomon (M.S. 1972, Ph.D. 1973): Apart for the usual teaching, research, thesis defenses, comprehensives, conferences, and committee meetings, not much has happened in the last year except for a new grandchild, our second, born to daughter Fiona and her husband John Baird. As she has one year of maternity leave, we have been excused from baby-sitting for a while and Sandra is using this opportunity to travel with me to some of the more interesting meeting locations Shangri-la is our next stop.



Alumni Nathan Schiff (Ph.D. 1988) and Ellen Green (Ph.D. 2000) cut the cake at their wedding reception in Northbrook, Illinois on October 31, 2004.

(Nathan, former part-time florist did all of the arrangements himself.)



Robert Snetsinger (Ph.D. 1960): The era that I was a student at the University of Illinois was, off and on, between 1948 and 1960. The streets of all Illinois towns, including Urbana, Champaign, and the campus mall were lined with American elm trees which were getting Dutch Elm Disease. This was also the era of "modern" insecticides. Paul Müller (1897-1957; 60 years) had received the Noble for the discovery of DDT; dozens of organophosphorus insecticides, thanks to Fritz Haber (1868-1934; 66 years) and Gerhard Schrader (1903-1990; 87 years) were developed. The agricultural chemistry companies were rolling in money and sponsoring research. My mentor as a graduate student was Lester English and my thesis adviser was George Decker (INHS). George accepted this tribute of grants, had his students test pesticides as a duty, but mainly our thesis research involved basic economic entomology (money laundering). Mine was on the biology of clover mite, which was then a household pest. To some extent, the pesticide companies paid for "their own demise."

Rachel Carson's (1907-1964; 57 years) *Silent Spring* appeared in 1962, but rumors of her crusade were in the air as early as 1958.

A friend of mine, Ethel Untermeyer of Lake County, knew that Rachel was writing a book exposing the environmental hazards of pesticides. The two of us worked an arrangement so that Rachel Carson and George Decker would discuss the position of entomologists on pesticides; George was not able to convince her that entomologists were moving away from complete reliance on pesticides. Ethel and I were on a committee that initiated the Lake County Forest Preserve District and she was rightfully highly honored two years ago for 40-some years of service on behalf of conservation in Lake County, IL.

The thing that I respect George Decker for was that he allowed me to be involved in projects like the Forest Preserve District, which wasn't precisely what I was being paid to do. While I was a graduate student Dr. English went on a six month leave and shortly after his return he had a heart attack. Thus I had the opportunity and freedom to do his job for about a year and a half.

I first worked for the Illinois Natural History Survey in 1952. My job was sampling the leaves of the campus elms for spider mites, aphids, and scale insects. This study was started in about 1949 by Les English, and he is the one who conceived the idea of using a sling-shot to get the leaf samples. Previously, tree climbing and ladders were employed. Les broke one parked car wind-shield, but in three years, I never had an accident. The sling-shot was made of aluminum, but otherwise similar to those made by boys of the time. The bands were natural rubber (hard to come by), cut from tire inner tubes found along the roadside. The rocks were about an inch in diameter and my range was about 50 yards in the open. It took about 20 rocks to get a representative sample per tree. I sampled about 30 trees in about two hours of shooting. We took 32 leaves per tree and processed them in a Henderson and "McBirdy?" brushing machine. The mites and insects were evenly distributed on greased glass plate and counted.

One day, a campus policemen cited me for using a dangerous weapon on campus. I checked the Urbana City Code and found a law dating from the late 1880's which mentioned "slung-shoots." You were not allowed to carry them concealed or use them on a property without the property owner's consent. My friends in the law school wanted to take my citation to court, but the policemen was instructed by his boss in the Physical Plant to drop the matter and help me instead.

Of course, the reason for the study was that the elm trees and for that matter all of the trees and shrubs on campus were suffering from spider mites, scales, mealybugs, and other pests, because their natural enemies had been killed by DDT. I also conducted a survey of all the plants on campus for these pests. It was a great opportunity for me to learn the pests of ornamentals.

James A. Slater (B.S. 1942, M.S. 1947): Still retired from Department of Ecology and Evolutionary Biology, University of Connecticut, Storrs, CT. I remain active with research office and lab, working on the systematics of Lygaeoidea. I have a large paper in press at University of Florida on the entire fauna of the West Indies, jointly with R.M. Baranowski, including keys, distribution, biology, and descriptive information.

I have recently published a 56-page paper with M.H. Sweet, "An analysis of species groups of the genus *Plinthisus* Stephens in the Ethiopian region with the description of eight new species" *Zootaxa* 533: 1-56; small paper "The rectification of the type species of *Acolhua* with the description of a new species. *J.N.Y. Ent. Soc.* 111: 207-210; two book reviews in the *Florida Entomologist*; obituary of Halbert Harris in *N.Y. Ent. Soc. Jor*; Modification of Hemiptera chapter in Triplehorn et. al. Introduction to the Study of Insects. I also attended annual meetings of National Milk Glass Society in New Jersey and Cincinnati, OH.

I was operated on Dec. 9, 2003, on left eye for glaucoma and a cataract in my left eye that left me unable to read normal print, drive use microscope for 5 months. An infected right leg required me to be hospitalized twice.

My grandson, his wife (an MD working on HIV), and 2 great-grandchildren visited me this summer; they all living in Capetown S. Africa. Our youngest daughter married 3 years ago and husband died of leukemia after second year of marriage.

My wife Betty Slater is still keeping me organized since our marriage in Illinois in 1943.

Earl A. Stadelbacher (Ph.D. 1964): Except for our bouts with arthritis, my wife Anita Jeanne (Baggott) Stadelbacher (age 75), a Bronze Tablet Recipient in 1951 of the University of Illinois, and I (age 76) are doing fine and enjoying our retirements. We now have five grown children, eight grandchildren, and seven great-grandchildren.

Mike Toliver (M.S. 1977, Ph.D. 1979): Hello to all my friends from Entomology! I saw a number of you at Jim Sternberg's 80th birthday party (thanks for the heads-up, May!). It was great to see the "old stomping grounds."

Professionally, I've become the Editor of the *Journal of the Lepidopterists' Society*, and in that capacity have already "bugged" a number of you to help review articles. I just got back from Washington, D.C., where the annual meeting of the Lepidopterists' Society was held. In addition to hearing lots of interesting papers and re-connecting with old friends (I've been a member of the Society for over 40 years), I got to visit my brothers and sisters at the Vietnam Memorial and see the "new" Korean War Memorial and the WWII Memorial.

At the rate we're going, we'll soon have lots more memorials to be built.

Last March, I invited Mike Jeffords over to give the annual Jackson Day lecture at Eureka. This was the 50th lecture, making the Jackson Lecture (named in honor of a former Chemistry professor at Eureka), the longest, running named lectureship at the College. Mike spoke on "Connecting with Nature" and showed his appreciative audience a number of his gorgeous photos, while informing them of the importance of saving the tiny bit of "natural" Illinois that we have left. Previous speakers have included May, Will Provine, and two Nobel laureates (Salvador Luria and George Beadle).

Personally, Peg (whom many of you may remember from her time in the entomology office) has been working at the Peoria Art Guild, where she gave a gallery tour of the "Picasso to Pollock" show to a tour group from Krannert which included our very own Stanley Friedman and his wife. She will soon be managing the Guild store, in addition to continuing her own work in digital photography.

Colleen just turned 16, so dad is dealing with driving lessons and the possibility of boys. So far, she's been much less interested in them than they are in her. She did well in her first year in high school, particularly on Speech Team, where she was the only freshman to earn a varsity letter. So, life in Eureka moves on. We wish you all good health and happiness.

John Tooker (Ph.D. 2003): My experience with *Kinsey*

In July 2003, I was contacted by the property manager of Prok Pictures, Inc., a production company in New York City established to create *Kinsey*, a feature film based on the life of Alfred C. Kinsey. Kinsey was trained as an entomologist at Harvard, working on biology and taxonomy of oak gall wasps (Hymenoptera: Cynipidae, Cynipini). He continued to be one of the leading authorities on gall wasps as an assistant professor at Indiana University at Bloomington; however, Kinsey's interests drifted away from gall wasps and he gained much wider acclaim by founding the Institute for Sex Research at Indiana University (now called the Kinsey Institute for Research in Sex, Gender and Reproduction) in 1947 and by publishing in 1948 the *Sexual Behavior in the Human Male* (aka *The Kinsey Report*) and in 1953 *Sexual Behavior in the Human Female*.

The property manager needed some pinned gall wasps and images of gall wasps to use as props. They contacted me after finding me on the web as someone that studies gall wasps and asked me if I would be willing to help them. I gladly signed on, providing them with the caveat that the wasps I studied did not form galls on oaks. Fortunately for me, this was not a concern for them because they thought the average person would not be able to tell an oak gall wasp from a non-oak gall wasp. I provided them with 500 or so gall wasps (*Antistrophus rufus* Gillette) in ethanol, 20 pinned gall wasps, and ten digital images of different stages of gall wasp life history. If these items are used in the making of the film, they may be used as props in scenes depicting Kinsey's life as a new professor, including presenting a lecture on gall wasps to undergraduates, where some of my images may appear projected as slides.

Filming began near the end of July 2003 and the completed film is scheduled to be released by Fox Searchlight Pictures in 2004. It is directed by Bill Condon, produced by Francis Ford Coppola, and stars Liam Neeson, Laura Linney, and Chris O'Donnell. Unfortunately, my contribution will not appear in the credits.

On a personal note, my wife and I moved to central Pennsylvania, where we are enjoying hills and trees after several years in the Midwest. I am a postdoc in the lab of Consuelo De Moraes in the Department of Entomology at Penn State. Our lab studies the chemical ecology of herbivory. My research focuses on the response of plants to gall formation, including the volatile chemicals that plants emit and the plant defensive pathways triggered by galls with the goal of providing insight into the adaptive significance and evolution of insect galls.

Charles R. Vossbrinck (Ph.D. 1987): I am still working mostly on Microsporidia but I hope to branch out this fall, perhaps again into insect physiology. I have just returned from a Microsporidia meeting in the Czech Republic (where they invented beer). I had one week of a non-Bohemian life style in Southern Bohemia.

Alice, our eldest daughter, has completed one year of college at St. Mary's College of Maryland, located on Chesapeake Bay (her dorm was right on the water). She really loves it. Kate is into the social aspects of high school (going into her Senior year) and Madeline is into the academic aspects of high school (going into her sophomore year). I made Madeline go out for track and field two years ago and now she really likes it. She is a sprinter and last night she challenged me to a race (200 feet) in front of our house for \$10. I was moving as fast as I could and we tied. Henry is starting middle school this fall, a big change for him but he will come through smiling (hopefully). My wife, Bettina, stopped working at Yale University Department of Pathology, as a technician in a molecular biology lab, to spend more time at home with the kids. Everyone at "the station" was happy Governor Rowland got kicked out because he openly hated state employees. Personally I wish he got the boot for breaking the law rather than having a bunch of politicians declare that his actions were.

In Memoriam: Professor Walter James Harman, Ph.D. (1928-2002)

Dr. Walter James Harman passed away on 1 April 2002, in Baton Rouge, Louisiana, USA. He was a long time faculty member at Louisiana State University (LSU) in Baton Rouge. Dr. Harman is survived by his wife of 47 years, Dorothy Brewster Harman, two daughters, Dea and Nan, three grandsons, Colin, Andrew, and Bennett, and his mother, Colvis Lovette. Dr. Harman was born on February 25, 1928 in Strong, Arkansas. After completing primary and secondary education in Arkansas, he attended Louisiana Polytechnic Institute in Ruston, receiving his Bachelor's degree in 1948. He then enrolled in graduate school at The University of Arkansas in Fayetteville, receiving his Master of Arts degree in 1950. In January 1950, Dr. Harman became an instructor in the Zoology Department of Louisiana Polytechnic Institute. After serving in the U.S. Marine Corps from 1952-1954, he again joined the faculty of Louisiana Polytechnic Institute as a zoology professor. In 1955, Dr. Harman enrolled in a doctoral program at the University of Illinois at Urbana-Champaign. After completing class and research requirements for his doctoral degree, he returned to Louisiana Polytechnic Institute to teach while writing his PhD thesis on the taxonomy and nomenclature of the earthworms of central Illinois. His doctoral degree was awarded in 1959. In 1961, he took a zoology position at Louisiana State University, and in 1963 was appointed Chairman of the Department of Zoology and Physiology. He served as chairman of that department until 1977, then continued as a professor until his retirement in 1989. Dr. Harman's research focused primarily on the taxonomy, systematics, and ecology of terrestrial and aquatic oligochaetes. He was the author or co-author of over 50 peer-reviewed publications, book and book chapters, and popular articles. Although the majority of his publications focused on the Naididae and Opistocystidae of North, Central, and South America, his research interests also included other annelid groups, nemerteans, mollusks, and cycads. Terrestrial oligochaete specimens used in his doctoral work here in Illinois are deposited in the INHS Annelida Collection, Champaign; his aquatic oligochaete collection is deposited in the Division of Worms, U.S. National Museum-Smithsonian Institution, Washington, DC. Dr. Harman was a member of several professional organizations, including the American Association for the Advancement of Science, American Microscopical Society, American Society of Zoologists, Louisiana Academy of Sciences, and the Society of Systematic Zoology, and was the founding father the Cycad Society. He was a regular participant in the North American and international symposia on aquatic Oligochaeta, and served as host for the 4th International Symposium on Aquatic Oligochaete Biology in Baton Rouge in 1988. Dr. Harman will best be remembered by his colleagues, students, and friends as a gentleman, and for his love of teaching, his subtle yet humorous wit, a constant gentle charm, a love for books and plants, and the worship of God through the uniqueness, diversity, and beauty of the zoological and botanical worlds in which we live.

Author: Mark J. Wetzel, Research Scientist, and Curator of the INHS Annelida Collection, Illinois Natural History Survey Center for Biodiversity, Champaign, IL 61820-6870 USA

Karen McClellan: (Ph.D. Entomology 2000) Mrs. McClellan died at 5:45 p.m. Tuesday, January 7, 2003 from injuries suffered in a traffic accident on Ohio 235 near Mount Cory. She was born July 14, 1966 in South Bend, Ind. to Dwight and Jean (Jagielski) Wallington. Her father survives in Austin, TX, and her mother and stepfather, Doug Guernsey, survive in Maumee. She married Steve McClellan on March 28, 1988, and he survives. Also surviving are a daughter, Hannah Rose McClellan, at home; and brother, Steve Wallington, Perrysburg.

Mrs. McClellan was a biology professor at Ohio Northern University, Ada. She also had taught at Owens Community College in Toledo and at Bowling Green State University; and was a lab assistant at Toledo Area Sanitary District.

She was a U.S. Army Reserves veteran, serving from 1984-1990 as a combat medical specialist, achieving the rank of sergeant, E-5. She was a 1984 graduate of Maumee High School. She attended Kent State University, and received bachelor's and master's degrees in biology from BGSU. She earned a doctorate in entomology from University of Illinois at Urbana-Champaign in 2000.

Mrs. McClellan was a member of First Evangelical Lutheran Church and its Hannah Circle, and had been head of the local chapter of Depression and Bipolar Support Alliance. She also had volunteered with Read for LIFE; Hancock County Alcohol, Drug Addiction and Mental Health Services Board; and was a tutor for Ohio Reads.

Dorothy Nadarski: Secretary Department of Entomology. Mrs. Nadarski died at 6:10 a.m. Monday (Feb. 24, 2003) at Carle Foundation Hospital, Urbana. She was born Oct. 25, 1950, in Harrisburg, a daughter of Raymond and June Tucker Debes. She married Robert Nadarski on Aug. 20, 1983, in Champaign. He survives. Also surviving are two daughters, Mary Nadarski and Kathy Nadarski, both of Champaign; and two sisters Sue Anderson of Annandale, Va., and Betty Dick of Harrisburg. She was preceded in death by her parents.

Mrs. Nadarski attended Harrisburg High School and graduated from Southern Illinois University in Carbondale. She was a secretary in the Department of Entomology at the University of Illinois. She was member of St. Matthew Catholic Church in Champaign and enjoyed traveling. (Champaign-Urbana *News Gazette*, 2003)



Dottie Nadarski came to the Department of Entomology as a clerk-typist III in January 5, 1993. Although she was technically only a half-time secretary, Dottie's commitment to the department was never less than one hundred percent. She worked mornings and brightened every one with her relentless good cheer, irrespective of the workload; she was a warm and caring maternal presence without any of the maternal baggage (e.g., admonitions to clean your room) and she brightened many days with home-made treats (as well as Girl Scout cookies, when her daughters were of that age). Resourceful, energetic, and familiar with both the town and the campus, Dottie was so unobtrusively efficient that it was easy to underestimate the amount of work she took on—far more than the halftime appointment ever reflected. The only times I ever recall see her express anger or frustration was when she felt that the department had not been fairly dealt with; her loyalty was so deep that, during one miserably lean budget year when we were given only a half-line to replace a departing fulltime secretary, Dottie volunteered to sacrifice her half-time line and put her name on the transfer list so that we could look for a full-time person instead of a half-time person for afternoons only. Of course, such a solution, although expedient, was unthinkable; at the time I couldn't imagine a morning in the office without Dottie.

Sadly, we were deprived of our mornings with Dottie in February 2002, when she died from a malignancy that wore away her body with alarming swiftness. Her spirit, however, remained undiminished by her illness; during her last week at work, Dottie, on her own initiative, despite the usual short notice and her declining health, suggested, designed, ordered, and delivered a plaque honoring Bert I. Gordon, the Hollywood director who was our special guest at the 20th Insect Fear Film Festival. Dottie was our good friend and an important part of our department; we miss her very much.

May Berenbaum

Births

Omar and Marianne (Ph.D. 2001) **Alleyn:** Willem Andrew, born March 17, 2004, 8 lbs 10 oz

Michael (Ph.D. 1991) and **Susan Cohen:** Noah, born on July 8, 2004, 7 lbs 2 oz

Yehuda Ben-Shahar (M.S. 1999, Ph.D. 2002) and **Sarah Hurtz:** Itai Sidney, born July 4, 2004

Tugrul (M.S. 1993, Ph. D. 1997) and **Clara Giray:** Suat Martin, born June 27, 2003, 6 lbs 12 ½ oz

Christopher (Ph.D. 2003) and **Kelly Pierce:** Eliza Grace, born May 13, 2004, 8 lbs, 8 oz

Claus (Ph.D. student Cameron Lab) and **Iris Rasmussen:** Melissa, born September 19, 2004, 8 lbs

Steve and **Sheila Lyons** (Ph.D. 2003) **Sobaski:** Grace Marie, born September 22, 2004, 8 lbs. 6 oz

John (M.S. 1999, Ph.D. 2003) and **Megan Tooker:** Quinn Sears, born August 9, 2004, 9 lbs, 9oz

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Department of Entomology

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