



From the Chair's Perspective

The year 2001 was good for the Department of Entomology at Iowa State University. Extramural funding for research and extension increased to a record level again—\$3.2 million, compared with \$1.2 million 5 years ago. Our publishing productivity has remained the highest in the College of Agriculture, and student enrollment in classes that we teach has been steadily increasing over the past several years. Several students graduated and we are proud of our new alums. Our Entomology Seminar Series hosted many outside speakers, including several distinguished alumni.



Our departmental Web site enjoyed enormous popularity this past year. Designed and maintained by John VanDyk, our Web site receives more than 2 million hits per month, over twice as many as any other Web site in the College of Agriculture. Nationally, it is the most frequently visited entomology Web site and has won numerous awards.

The department's Insect Zoo had a banner year both off campus at schools, libraries, nursing homes, and various organizations, and on-campus at Science II. At the Iowa State Fair last August, 45,000 people visited the ISU Extension booth where the Insect Zoo was on display. The zoo has become a wonderful educational tool for our department and the university. Laurels go to Greg Courtney, Nanette Heginger, and Nathan Brockman for their excellent work.

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Insect Zoo Serves More Than 65,000 People in 1 Year New Butterfly House to be in Reiman Gardens Conservatory

The Insect Zoo had an incredible year of growth and success! The last newsletter reported on our activities for 1999, which included programs to more than 5,000 participants. Little did we know that in two short years, that number would increase more than 13 times, to more than 65,000! Elementary and secondary school groups continue to make up our largest audience. Other groups included adults with

disabilities, 4-H, Scouts, church groups, Rotary Clubs, Master Gardeners, and many other private organizations. We also visited with the Botanical Center of Des Moines, Blank Park Zoo, the Science Center of Iowa, The Science Station (of Cedar Rapids), University of Northern Iowa Museums, county conservation boards, and Iowa State University Extension offices throughout the state.

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Please let us know if you have information to share with friends and alumni of the ISU Department of Entomology. Items could include job changes, honors and awards, and personal notes. Please direct information to Dr. Bryony Bonning, Department of Entomology, Iowa State University, 418 Science II, Ames, IA 50011-3222; Fax: 515-294-5957; e-mail: bbonning@iastate.edu.

Visit our Web Site:
<http://www.ent.iastate.edu>

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Visiting students investigate a cage of live Madagascar hissing cockroaches in the Insect Zoo Encounter Room.

The Insect Zoo has initiated a fee scale to help defer the costs of travel and insect care. These funds have been a major contributing factor in the increased number of species reared and maintained on campus, and they allow the zoo to continue to create innovative programs and displays for students, educators, and the public.

At the zoo

The award winning “Zoo Cam” also has been a great success. Our Web site at <http://zoocam.ent.iastate.edu> received 2,214,232 hits in September. That’s 28,866 page views per day! Comments stream in from all over the world complimenting the site and its information.

With the support and backing of the Department of Entomology and Iowa State University, the Insect Zoo hopes to continue its current success in the upcoming years by reaching new audiences with novel programs and displays, and through cooperative efforts with the new Butterfly House in the Reiman Gardens Conservatory.

Construction of the Butterfly House is underway and it is scheduled to open in August 2002.

Did you know?

The Insect Zoo rears more than 75 species of insects and other arthropods.

Chair’s Perspective, continued

A major facilities upgrade in 2001 involved replacing the screenhouse attached to the back of the greenhouse with a metal building that serves as a headhouse and an insect rearing and containment facility. This building also houses incubators, freezers, a walk-in cold room, a bathroom with a shower, and a general storage room. Funding for the building was provided by Fire Safety (the old building was a firetrap), the College of Agriculture, the department, and the research projects of six professors. Construction has begun on the Conservatory at Reiman Gardens (near the stadium). The Conservatory complex will include a 2,500-sq. ft. Butterfly House, plus laboratory and greenhouse support space. Two new entomology staff have been hired to develop the rearing, management, and educational aspects of this new facility and program.

Challenges for 2002 include facing life in the department without two of our stalwarts who are retiring: Larry Pedigo and Woody Hart. Both have served the

department well for so long that their shoes will be extremely hard to fill, and with the major budget cuts this year, it will probably not happen right away. A move to restructure the College of Agriculture has resulted in heavy pressure on our department to merge with one or more other departments. So far, we have not seen the advantages for our students, stakeholders, or programs of such a merger. We have a Comprehensive Review of our department and programs coming up in the spring, which will give us further opportunities for self-evaluation.

We saw many of our alumni at the ESA national meeting in San Diego, where we had our usual Alumni Social Mixer, as well as at the North Central Branch ESA meeting, and numerous other professional meetings. We hope you will visit or at least stay in touch with us this coming year. Best wishes for a great 2002.

Joel Coats
Professor and Chair



Larry Pedigo with five of his students in 1974. Back row: Jeff Scott, Larry Pedigo, Fred Poston. Front row: Ron Hammond, Milgar Loreiro, Tom Myers.

Pedigo Retires after 34 Years of Service

Larry Pedigo, University Professor of Entomology, retired from the Department of Entomology on October 9, 2001. Larry had an extremely productive career at ISU. He started as an assistant professor in 1967, was promoted to associate professor in 1971, and then to professor in 1975. In 1999, he was recognized as a University Professor for his significant impact on the department and university during his career.

Larry graduated 19 students with M.S. and 28 students with Ph.D. degrees. In addition, he influenced hundreds of other students in the College of Agriculture with the classes that he taught.

Larry wrote or edited six books: *Insect Ecology and Population Management: Readings in Theory, Technique and Strategy*; *Manual of Entomology and Pest Management*, with Leon Higley and Laura Karr; *Handbook of Sampling Methods for Arthropods in Agriculture*, with David Buntin; *Analyses in Insect Ecology and Management*, with Mike Zeiss; *Economic Thresholds for Integrated Pest Management*, with Leon Higley; and *Entomology and Pest Management*, which is in its 4th edition. Larry and his students have published 156 refereed publications.

Larry was recognized for his research and teaching with a plethora of professional awards. Some of the most significant include the John V. Osmun Professional Achievement Award in Entomology (Purdue University); Outstanding Service Award, Entomological Society of America; Burlington Northern Foundation Award for Career Achievement in Graduate Teaching (Iowa State University); North Central Branch Entomological Society of America Achievement Award in Teaching; Margaret Ellen White Graduate Faculty Award for Excellence as a Mentor of Graduate Students (Iowa State University); Faculty Citation for Outstanding Service (Iowa State University); J.E. Bussart Memorial Award for Outstanding Achievements in Crop Protection Entomology, Entomological Society of America; and C.V. Riley Award for Outstanding Contributions to Entomology, North Central Branch, Entomological Society of America.

Larry recently stated, "I am most proud of my graduate students and their achievements. No one could have had a better collection of students than I. Any professional recognition I have received, I owe to them." The Department of Entomology wishes Larry a long and healthy retirement.



Of Bt Corn and Monarch Butterflies

Richard Hellmich and Leslie Lewis, USDA Corn Insects and Crop Genetics Research Unit, along with John Obrycki, Frankie Lam, and Laura Hansen Jesse, were among the authors of six articles that were published back-to-back in the highly prestigious journal *Proceedings of the National Academy of Sciences USA* (volume 98, pp. 11908–11942). These articles address concern over the potential deleterious effects of pollen from transgenic corn on the monarch butterfly. The following abstract from the final manuscript [*Impact of Bt Corn Pollen on Monarch Butterfly*



John Obrycki

Populations: A Risk Assessment. PNAS (2001) 98:11937–11942], of which Hellmich is a coauthor, provides a synopsis of the research.

“A collaborative research effort by scientists in several states and in Canada has produced information to develop a formal risk assessment of the impact of Bt corn on monarch butterfly (*Danaus plexippus*) populations. Information was sought on the acute toxic effects of Bt corn pollen and the degree to which monarch larvae would be exposed to toxic amounts of Bt pollen on its host plant, the common milkweed, *Asclepias syriaca*, found in and around cornfields. Expression of Cry proteins, the active toxicant found in Bt corn tissues, differed among hybrids, and especially so in the concentrations found in pollen of different events. In most commercial hybrids, Bt expression in pollen is low, and laboratory and field studies show no acute toxic

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Wilson Retires from Plant Introduction Station

Richard (Dick) Wilson, retired from the USDA–ARS North Central Regional Plant Introduction Station (NCRPIS), Iowa State University, in December, 2000. He was an Adjunct Professor of Entomology and Agronomy at ISU.

Dick was mentor to one M.S. entomology student and two Ph.D. students from 1987 to retirement. In addition, his Plant Introduction project employed more than 70 undergraduate students throughout the years.

Dr. Wilson joined the ARS in 1971 as a Research Entomologist in Stillwater, OK, where he worked on host plant resistance of cotton pests. He developed techniques to evaluate cotton lines for insect resistance and identified morphological characteristics associated with resistance. He also developed laboratory diets for rearing insects, which enabled scientists to successfully evaluate germplasm grown in multiple locations. In 1977, he relocated to Stillwater where he worked on host plant resistance in small grains for 3 years; his projects included development of new sources of oats resistant to greenbugs and proso millets resistant to fall armyworm.

Dick began work at the NCRPIS in 1980, and his significant accomplishments there included identifying common pests of amaranth and educating growers at annual amaranth meetings,

developing an evaluation method for sunflower moth resistance in cultivated sunflower, and developing an evaluation method for green peach and cabbage aphid resistance in brassica crops. Dick was



the first entomologist to work with amaranth pests. He evaluated more than 5,000 accessions of maize for resistance to European corn borer and corn earworm. Dick was instrumental in establishing an insect pollination manager position at the station, and assisted the second person in this position in expanding the insect pollinators primarily from only *Apis* (honey bees) to several nonstinging solitary bees (including *Osmia*) and bumblebees and flies. Dr. Wilson also served as acting Research Leader of the NCRPIS unit for 2 years.

From 1971 to 2000, Dick authored or coauthored 144 publications. Upon retirement, Dick indicated how much he would miss all of his colleagues, at ISU and abroad, and what a great pleasure it had been to be part of building a successful team and working unit.



Aquatic Collecting in Southern Appalachians

As part of the Aquatic Insects course (ENT/A ECL 425/525) last spring, Dr. Greg Courtney and eight students traveled to the southern Appalachian Mountains. The Spring Break trip focused on



Greg Courtney

aquatic habitats in western North Carolina and northwestern South Carolina, especially streams in Coweeta Hydrological Laboratory (CHL) and Great Smoky Mountains National Park (GSMNP). The former is a Long-Term Ecological Research site

managed jointly by the U.S. Forest Service and University of Georgia. Research at CHL involves scientists from several institutions and encompasses many topics, including long-term hydrology, nutrient cycling, and productivity in response to management practices and natural disturbance (drought, flood, insects); and effects of climatic change on ecosystem productivity and biodiversity. The region's numerous cool, high-gradient streams contain one of the world's most diverse aquatic biotas and have been a focal point for the ongoing All Taxa Biodiversity Inventory of GSMNP and for numerous projects based at CHL (latter including projects conducted by Courtney). Because of its diverse insect fauna, including many taxa not present in Iowa, the southern Appalachians was an ideal location for an aquatic insects field trip. For 6 days, Courtney and students visited aquatic habitats at CHL, GSMNP, and various piedmont and lowland areas to the south (Georgia and South Carolina). The class also visited Clemson University in South Carolina, touring Issaqueena Experimental Forest and the "aquatics" lab of Dr. Peter Adler, Department of Entomology. This trip will be a regular part of the Aquatic Insects course. A similar trip was led by Courtney during Spring Break 2000, as part of a course in Ecology and Evolutionary Biology (EEB 585). Courtney will lead another EEB 585 during 2002, but the trip will be to the Pacific Northwest.

Of Bt Corn and Monarchs, continued

effects at any pollen density that would be encountered in the field. Other factors mitigating exposure of



Rick Hellmich and Les Lewis

larvae include the variable and limited overlap between pollen shed and larval activity periods, the fact that only a portion of the monarch population utilizes milkweed stands in and near cornfields, and the current adoption rate of Bt corn at 19% of North American corn-growing areas. This 2-year study suggests that the impact of Bt corn pollen from current commercial hybrids on monarch butterfly populations is negligible."

Did you know?

A new minor in emerging global diseases (EGD) is designed for undergraduate students interested in international dimensions of emerging human and animal diseases, and the underlying biology and ecology of disease agents. This minor is offered through the Departments of Entomology, and Zoology and Genetics and involves faculty from 10 departments and four colleges. Four of the more than 20 participating faculty are from entomology, reflecting the importance of entomology and the study of vector biology to the EGD minor.



Out with the Old, In with the New: Insectary Greenhouse Addition

The old shed /headhouse (left) was demolished in 2001 to make room for a new headhouse (below). The new building has space for insect rearing and containment, incubators, and freezers as well as a bathroom and shower facilities.



News from ISU Entomology Alumni

In response to the article about Edward Knipling in the 2000 Alumni newsletter, **Alfred H. Baumhover** writes: "In August 1997, I had the honor to participate along with Dr. E.F. Knipling, in the Pioneer Lecture Series sponsored by the *Florida Entomological Society* to commemorate eradication of the screwworm from Florida 1958–1959. At their request I prepared an article entitled *A Personal Account of Programs to Eradicate the Screwworm in the United States and Mexico with Special Emphasis on the Florida Program*. The article is available at <http://www.flaentsoc.org/archives.htm>

The USDA publication *Agricultural Research* published a story on screwworm eradication in Panama in their March 2001 issue. Panama remains the final bastion of the screwworm in North America. It is ironic that in the final days of screwworm eradication in Florida that three of the southernmost counties, Palm Beach, Broward and Dade,

presented a serious problem, and did so again 42 years later, in the presidential election."

Don Fronk, who graduated with a Ph.D. in entomology from ISU in 1953, sent an article from the *Fort Collins Coloradoan* to illustrate that old ISU grads can learn new tricks. Don, a retired Colorado State University Professor of Entomology, volunteers at the Barton Early Childhood Center to work with autistic children. He began volunteering at the center through his membership in the Poudre Golden K. Kiwanis, and enjoyed it, so stayed. Autism is a neurological disorder that becomes evident at 18 months. It affects children's speech and sensory input.

Clinton Pilcher, a recent graduate in entomology from ISU, took a different position within Monsanto as a Technology Product Manager for Corn States Hybrid Service LLC. He and his wife Carol moved back to Johnston, IA, from Illinois.



Alumnus Receives ESA Award for Excellence in IPM

Randall A. Higgins was recognized at the 2001 Entomological Society of America annual meeting in San Diego as the recipient of the ESA Award for Excellence in Integrated Pest Management (IPM). Randy received his M.S. in entomology (1978) and Ph.D. in entomology and agronomy (1982) from ISU. Larry Pedigo was his major advisor. Randy currently is a professor and state entomology extension leader at Kansas State University. His research has focused on sampling and cultural control of alfalfa weevils, blister beetles, and hay contamination with cantharidin; resistance management of corn borers in Bt corn; and management and abundance of soybean stem borers. He has participated in hundreds of extension presentations and numerous media interviews; coauthored several handbooks, journal articles, and extension bulletins; and delivered more than 200 presentations and posters. He has served on USDA and EPA expert panels, CSREES review teams, and editorial boards. He also has been

a college ombudsperson and interim department head. Higgins' professional excellence has been recognized with awards from USDA-ARS, the American Society of Agronomy, the American Society for Agricultural Engineers, and Kansas State University.

Did you know?

Entomology faculty participate in five interdepartmental programs: Ecology and Evolutionary Biology (EEB); Molecular, Cellular, and Developmental Biology (MCDB); Genetics; Neuroscience; and Toxicology. Approximately 30% of the graduate students in entomology are enrolled in these interdepartmental programs.

School IPM Pilot Program in Progress

A pilot program for school integrated pest management (IPM) is in progress in Iowa's public schools.



Dr. **Mark Shour**, Pest Management and the Environment program, has been working with four public school districts and their current pest control operators to encourage a shift from monthly, preventive insecticide treatments to implementation of IPM techniques for pest problems.

Through Mark and his colleagues, each district has received 10 hours of formal training on pesticides, pesticide safety, IPM principles and techniques, and pests commonly found on school properties. Districts also received training videos, detailed pest briefs, and classroom IPM lesson plans for grades 1-12. School facilities were audited to determine repairs needed and an inventory of pesticides and disinfectants present. Caulking around pipes, replacing worn weather stripping on entry doors, and fixing leaky plumbing (i.e., minor structural repairs), improving sanitation, and decreasing clutter were common areas needing attention.

Before the pilot work, Dr. Shour sent a survey to the 374 public school districts in Iowa requesting information about their pest control practices. This survey revealed that schools were not well informed about pesticide labeling and regulations or about pest management techniques. Most schools relied on independent contractors to make pest management decisions and to apply pesticides (primarily insecticides) for indoor pest problems. Pest management decisions and pesticide applications (primarily herbicides) for outdoor pests were made by school personnel and independent contractors. A separate workshop addressing outdoor pest management issues for grounds maintenance workers and their supervisors is scheduled for early spring 2002.

For more information, contact Mark Shour (e-mail: mshour@iastate.edu or by phone 515-294-1101) or visit the Web site at <http://school.ipm.iastate.edu>



Faculty and Staff Awards 2000–2001

Tom Baker received the 2000–2001 Silverstein-Simeone Award from the International Society of Chemical Ecology (ISCE) at their annual meeting in Lake Tahoe, CA, on July 11. He will write a review article for the *Journal of Chemical Ecology* and deliver the Silverstein-Simeone Plenary Lecture at the 2002 ISCE annual meeting in Hamburg, Germany.

Greg Courtney was promoted to Associate Professor with tenure.

Marlin Rice received the 2001 Outstanding Achievement in Extension Award from the Iowa State University College of Agriculture.

The *Integrated Crop Management* newsletter received a Certificate of Excellence at the American Society of Agronomy annual meeting, Minneapolis, MN, in 2000. **Marlin Rice, Julie Todd, Joyce Hornstein, Larry Pedigo, Rayda Krell, Frankie Lam, and Rich Pope** received certificates for contributions that they made in the first half of 2000. The newsletter also received a Gold Award in 2000 from Agricultural Communicators in Education, an international society of ag communicators and educators.

Student Awards 2000–2001

National Awards

Gretchen Schultz and **Erica Simbro** were awarded Undergraduate Scholarships by the Entomological Society of America in 2000 and 2001, respectively. These scholarships are sponsored by the Entomological Foundation.

Jason Belden was awarded second place in the 2000 Society of Environmental Toxicology and Chemistry best Student Poster Presentation Competition for his poster *Comparison of Biological and Chemical End-points for Evaluating the Success of Phytoremediation of Pesticide-Contaminated Soil*, with coauthors Joel Coats and Todd Phillips.

Tim Nowatzki was awarded first place prize in the 2001 North Central Branch Entomological Society of America Student Oral Presentation Competition (Ph.D. category). Tim presented *The Ultimate Model for Predicting Corn Rootworm Emergence in Iowa*, with coauthor Jon Tollefson.

Yong-Lak Park was awarded first place prize in the Student Poster Presentation Competition (Ph.D. category) at the 2001 North Central Branch Entomological Society of America meeting for his poster *Spatial and Temporal Distribution of Corn Rootworm Beetles and Correlations with Biotic and Abiotic Factors*, with coauthor Jon Tollefson.

Iowa State University Awards

Anthony Boughton and **Brad Coates** were awarded Iowa State University Research Excellence Awards in May and December 2001, respectively. Research Excellence Awards are given to the top 10% of graduate student researchers.

Iowa State University Teaching Excellence Awards were awarded to **Laura Weiser** (Fall 2000), **Wilmar Morjan** (May 2001), and **Rayda Krell** (December 2001). These awards are presented to the top 10% of teaching assistants for their outstanding contributions.

Susan Chapman was awarded a Caine Bogle Family Graduate Fellowship from the College of Agriculture for the 2001–2002 academic year.

Entomology Awards

Joel Gibson was awarded the 2001 Department of Entomology Henry and Sylvia Richardson Research Incentive Grant. The award of \$1000 supported Joel's field research in Thailand.

Entomology Alumni Scholarship Fund

We are almost halfway to our goal for creation of the first endowed scholarship in the Department of Entomology, from the *Entomology Alumni Scholarship Fund*. We hope that this fund will provide one or two scholarships annually for incoming undergraduate students in entomology, thereby increasing the profile of entomology at ISU by strengthening undergraduate enrollment. Entomology alumni and friends may send checks directly to the ISU Foundation, 2229 Lincoln Way, Memorial Union, Ames, IA 50014. Please indicate on your check that your gift is for the *Entomology Alumni Scholarship Fund*.



Student Awards, continued

The Department of Entomology Herbert Osborn Awards for Professional Performance 2000 were presented to **Amy Wiebe** (M.S. category) and **Chris Peterson** (Ph.D. category). Awardees for 2001 were **Joel Gibson** (M.S. category) and **Wilmar Morjan** (Ph.D. category).

The Entomology Student Award for Outstanding Service was presented to **Nathan Brockman** in December 2000 and to **Erica Simbro** in December 2001. This award is presented in recognition of service at Veishea and the Insect Horror Film Festival, and for work with the Insect Zoo.

Foreign Visitors to the Department

Dr. Mitko Subchev worked in the laboratory of Russ Jurenka for 2 months on pheromone biosynthesis in moths. Mitko was a visiting scientist from the Bulgarian Academy of Sciences in Sofia.

Dr. Marija Ivezic', Fulbright Scientist and Professor of Entomology, Plant Protection, University of J.J. Strossmayer, Osijek, Croatia, worked with Jon Tollefson during the summer and fall. She works on insects and nematodes, and the European corn borer in particular. She has been monitoring and conducting research on the western corn rootworm since its arrival in Yugoslavia in 1992 and its spread into eastern Croatia by 1996. While in the United States, Marija worked on a cooperative international research project to screen Croatian corn germplasm for tolerance to corn rootworm.

Jumnongjit Phasuk (Ph.D. student) and **Korrakot Damrak** (M.S. student) arrived on August 15 to work in the Courtney laboratory. Both are visiting from Kasetsart University, Thailand. Damrak, who is working on Thai Plecoptera, returned to Thailand on September 19. Phasuk, a co-advisee of Courtney, working on Thai Simuliidae, remained at ISU until January 2002.

Competitive Grants, Patents

Bryony Bonning was awarded \$318,000 by the National Science Foundation for the project *Function of Juvenile Hormone Esterase Binding Protein in Insects*.

John Hill, Larry Pedigo, and Marlin Rice were awarded \$1,342,056 by the North Central Soybean Research Program for a period of 5 years for *Development and Strategies to Control Major Soybean Virus Diseases in the North Central States*.

Greg Courtney received \$299,957 from the National Science Foundation (Biotic Surveys and Inventories) for research entitled *Biodiversity of Lotic Aquatic Insects of Northern Thailand*. Funding is for 3 years and the research is a collaboration between systematists from the Slovene Museum of Natural History, Kasetsart University (Thailand), Chiang Mai University (Thailand), and six North American universities.

Russ Jurenka was awarded \$145,000 by the USDA-NRI for *Biosynthesis of the Sex Pheromone Disparlure in Gypsy Moths*.

Wayne Rowley and Kenneth Platt received \$572,061 from the Department of Health and Human Services, Center for Disease Control, to study the vector competence of *Ochlerotatus trivittatus* for West Nile virus.

Jon Tollefson received \$282,000 from the USDA for *Development of Corn Rootworm Area-wide Management Program in Iowa*.

The patent Biopesticides Related to Natural Sources (U.S. Patent No. 6,207,705) was awarded on March 27, 2001, to **Joel Coats, Chris Peterson, R. Tsao, A.L. Egger, and G.L. Tylka**.

The Department of Entomology Newsletter for Alumni and Friends is produced by entomology faculty and staff at Iowa State University.

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This newsletter and previous issues are online at <http://www.ent.iastate.edu/alumni>



Alums Visit the Department

Some of the alumni that visited the department during fall 2001 are listed below. They presented seminars as part of the departmental seminar series.

Dr. Richard Andre, Professor, Department of Preventative Medicine and Biometrics, Uniformed Services University of the Health Sciences, Bethesda, MD, presented his research on the epidemiology of malaria in Belize. Dr. Andre is the son of a former dean of the ISU College of Agriculture. Dr. Andre is a former student of Dr. Wayne Rowley and received his Ph.D. in Entomology in 1981. Dr. Andre served as Chief of the Entomology Department at the Armed Forces Institute of Medical Research in Bangkok, Thailand, for 5 years. His final command as an entomologist in the U.S. Army's Medical Service Corps was as chief of the Entomology Department at the Walter Reed Institute of Medical Science in Washington, DC.

Dr. John Lyell Clarke III, President of Clarke Mosquito Control Products, Inc., Roselle, IL, visited the department in late October to provide an overview of the role of his company in mosquito management. Dr. Clarke and Clarke Mosquito Control Products, Inc., played a leading role in suppression of the spread of West Nile virus. Dr. Clarke, a former student of Dr. Wayne Rowley, received his Ph.D. in 1988. The West Nile virus, which is transmitted to birds by culicine mosquitoes, can infect humans and

can be fatal. The virus was detected in 1999 in New York City. In response to several human fatalities, Mayor Giuliani contacted Clarke to help with mosquito management in New York City. This massive effort involved spraying pyrethroid insecticide for adult control, and application of the biological control agent *Bacillus sphaericus* for control of mosquito larvae. Mosquito breeding sites were located in used tire dumps, in ditches along railways, and beneath metro lines. Surveillance programs were initiated with breeding site traps and sentinel chickens. Chickens were bled periodically to test for the presence of West Nile virus. In the past 2 years, the virus has spread to the Midwest, resulting in increased funding for mosquito surveillance programs. The presentation featured clips of the overly sensational news coverage after detection of the virus in New York, and David Letterman's hilarious observations on these events.

Dr. Kris Giles, Assistant Professor, Department of Entomology, Oklahoma State University, Stillwater, OK, presented his research on tritrophic interactions among host plants, aphids, and Coccinellidae. Dr. Giles is a former student of Dr. John Obrycki, and graduated with his Ph.D. in 1996. Dr. Giles met with graduate students and discussed the value of his graduate studies at ISU in his current faculty position.



Photos from the 2001 Iowa State University Alumni Mixer at the Entomological Society of America in San Diego: Left: Paula Davis,



Scott Hutchins, and Bob Peterson. Right: Carol Pilcher, Carlos Bogran, Robyn Rose, John VanDyk, and Clint Pilcher.