



IOWA STATE UNIVERSITY

Department of Entomology

**January 2005 Newsletter
For Alumni and Friends**

O'Neal New Soybean Entomologist

Matt O'Neal was hired in spring 2004.

I was very excited to begin work as soybean entomologist in the Department of Entomology last March. I've spent most of my career in the Midwest, receiving a B.S. in biology and an M.S. in entomology from the University of Illinois, and a Ph.D. from Michigan State University. I am truly sorry for the past aggressions displayed by the MSU men's basketball team upon the hoop dreams of Cyclone fans in 2000, and I have agreed to cheer on ISU in future clashes. However, I think my graduate and postdoctoral training at MSU was very good preparation for the challenges I will face at Iowa State University. Before arriving, I completed a postdoctoral stint in the Small Fruit Entomology Laboratory at MSU. A minor perennial crop, highbush blueberry, may be about as far from soybean as one can get on the agricultural spectrum, yet the issues and research topics overlap. Recent constraints in broad-spectrum insecticide use within minor crops have precipitated a shift in interest toward more

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Matt O'Neal

From the Chair's Perspective



Jon Tollefson

This is my first message in the *Alumni Newsletter*. Because I am writing it on the day of the President's inauguration and also because it is my first, it seems fitting to think of it as an inaugural address. Joel Coats served a 5-year term as Chair and chose not to accept a second term. The department conducted an internal search; I was "elected" and began serving on July 1, 2004. I am familiar to many of you because I am approaching 30 years on the faculty, which makes me the "old gray beard" in the department. One of my Ph.D. students, now on the University of Illinois faculty, was the first to bestow this title on me several years ago. It also means that I know most of you who received a graduate degree at ISU, and I am pleased to be able to update you about our department.

Like other institutions, ISU has experienced budget reductions over the past several years, but some good news is that our budget reductions may

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Insect Zoo Adds Bug Camps for Kids

The Insect Zoo and associated educational program have experienced another record year. In total, 342 programs with 22,144 participants were presented, representing increases of 11 and 25%, respectively, from 2003. Several programs were repeat requests by teachers who now incorporate the zoo into their curricula. First-time requests for classroom visits continued to increase, as did requests for events ranging from Learnapaloosa to birthday parties.

An exciting addition to the educational program was Bug Camps. The camps embraced learning and fun by incorporating crafts and games each day as well as interactive presentations on insect diversity, ecology, and identification.

The Spring Bug Camp in March was held on campus and used the zoo display room, entomology teaching laboratory, and the main floor of Science II. The latter was the venue for the day of the Insect Olympics, where campers competed in events such as cricket jumps and hissing cockroach races.

The Summer Bug Camp was held at the Ames Izaak Walton League Park in July. In addition to the programs developed for the spring camp, summer campers collected insects (for later



Above: Rebecca Brown and a horde of bug campers take a break on the grounds of Ames' Izaak Walton League. Below: Nanette Heginger helps eager children with an aquatic insect net.



Under Abby Terpstra's watchful eye, children search for aquatic insects during the Summer Bug Camp.

release) in environments such as prairies, forests, lakes, marshes, and urban areas. The last day of camp was celebrated with a family cookout attended by more than 100 parents, grandparents, and siblings. Activities during the cookout included the insect release ceremony and presentation of a Certificate of Accomplishment to each camper.

Nanette Heginger, the Insect Zoo and Educational Program Director since 2000, left the Entomology Department in July for the position of Volunteer and Youth Program Coordinator with the United Methodist Church in Ames. Nanette, who helped build the Insect Zoo's



O'Neal, *continued from page 1*

selective, reduced-risk insecticides. As the ecosystem service provided by natural enemies is revealed, such products may play a vital role in soybean management, with research needed to address issues of secondary pest emergence and aphid resurgence. Two 2005 publications from this postdoctoral research suggest the potential benefits (*Environmental Entomology*) and limitations (*BioControl*) of these new products.

In general, my research is focused on developing sustainable insect pest management programs for soybean. Currently, my laboratory is studying soybean aphid, a new invasive pest of soybean in North America. In 2003, 7 million acres were treated with insecticides to control soybean aphid, with some populations exceeding 24,000 aphids per plant, and 40% loss in seed yield was reported. The good news is that soybean can harbor a rich community of predators that can potentially manage aphid populations.

In May, I welcomed two M.S. students: Kevin Johnson and Nick Schmidt. Kevin's thesis is directed at developing "best-practice" guidelines for management of soybean aphid. Thanks to funding from the Iowa Soybean Promotion Board, Kevin is investigating how improved

coverage, adjusting planting date—a practice recommended for bean leaf beetle management, and possible tank mixes can optimize the current soybean aphid recommendations. Nick is studying the natural enemy community that attacks soybean aphid. Preliminary work from the summer suggests that although the predator community has changed dramatically since the occurrence of several invasive species, it is responsive to increasing aphid populations. Nick's research is funded by USDA through the Risk Avoidance and Mitigation Program and is part of a collaboration with colleagues in Michigan, Minnesota, and Wisconsin to improve integrated pest management practices for soybean aphid.

My family arrived in June, and they are quickly acclimating to Iowa. Elaine recently received her State of Iowa license to practice social work and is excited about joining the Workspace to continue her interest in pottery. Our oldest son Charles is finishing his senior year at Ames High and was recently accepted at the University of Iowa in fall 2005. And our youngest, Marlys, loves to pick-up dad at work mostly so she can visit the horsies at the stables near the Insectary.

Insect Zoo, continued

educational program into one of the most highly regarded outreach programs at ISU, will be missed.

In addition, the zoo bids farewell to Abby Hade Terpstra, who joined the program last year as the Educational Program Coordinator. Abby left to take a position as interpreter for the Vermont Institute of Natural Science in Montpelier.

The zoo recently hired a new Educational Program Director, Angela Tague. During this period of transition, Dr. Mary Harris has served admirably as interim director.

Did you know?

In 2004, there were 8,104 commercial and 18,892 private participants in pesticide applicator training (PAT) programs run by the Iowa State University PAT team. The Web site containing pesticide applicator information received 447,781 hits, with 50,768 user sessions.



Chair's Perspective, continued from front page

have bottomed out; there may be funding increases from the state next year. The Board of Regents, State of Iowa has asked the legislature for a sizable increase each year for the next several years. To offset past reductions in state appropriations, we have increased student tuition by nearly 50% over the past few years. Student enrollment reached 27,000 a year ago, and then, with the tuition increases, declined by approximately 1,000 students this year. If the state appropriates the additional dollars to the Regent's institutions, the tuition increases will be held to the nationwide average annual increase in higher education costs. ISU would like to maintain a student body of 26,000–27,000, and it is hoped that capping tuition increases will maintain our competitiveness.

Student recruitment and retention are also goals of our department. There are several ways you can help to maintain or increase the number of students in our department. First, I ask that you serve as our Ambassador. Think of us every time you encounter an outstanding young biologist. Whether he or she is an intern working in your company, an undergraduate in your class, a high school student that wants to major in biology, or your son or daughter—encourage this individual to consider ISU entomology. Bring this young person for a visit and he or she will be impressed — as will you if you haven't been back in awhile to see the changes. Hickory Park is in its third building since I've been here, so you might be surprised at our facilities changes, too.

Second, tell me your opinion on how well ISU and our department prepared you for your career. There have been dramatic changes in technology and business models since I started at ISU. I earned my B.A. shortly after Watson and Crick described DNA, and now we are redesigning it. I began my research working with 20–30 major agrochemical manufacturers; now we work with fewer than a dozen. Did your education at ISU prepare you to lead these

“Think of us every time you encounter an outstanding young biologist.”

changes? Did our core curriculum give you a sound foundation and the tools for life-long learning to be successful in your career? Has our curriculum evolved with the changes? In 2006, ISU will have an accreditation review, organized around student-learning outcomes. We will have stated student outcomes and procedures in place to measure student outcomes. As part of the preparation, I will be asking you how well we achieved our student-learning outcomes in your case. In addition to the formal evaluation, I encourage you to speak to me directly and candidly. We host an alumni mixer at the ESA

meetings. Please stop by and share your opinions concerning your degree at ISU and offer suggestions for how it could have been more effective. Which of you would volunteer to work as an Advisory Council with me to evaluate our current curriculum?

Third, the rising tuition costs cited above have made it difficult for many to afford college. Through help from our friends, we provide several opportunities to encourage students to consider ISU and our department. An endowed undergraduate scholarship fund is in place to attract new undergraduates into the department. We would like to reach a goal of two very attractive scholarships awarded to incoming entomology undergraduate students each year. In addition, in remembrance of Dr. Harold Stockdale, Professor Emeritus and former Chair, his family has donated memorials to create two scholarships that are available immediately to undergraduate students (see page 14).

We also have had a very recent funds addition. This past fall, Dr. Wayne Rowley became an emeritus faculty member. In recognition of Wayne's career in teaching graduate and undergraduate students and conducting research on medically important insects, his former student Dr. John Clarke and Kathleen Clarke have generously donated funds to establish a scholarship intended to enhance recruitment of the highest quality undergraduate and graduate



From the Chair's Perspective, continued from page 4

students with preference to those specializing in medical entomology.

Finally, enough of the “State of the Department” address and a little bit of news. From Joel’s writings you may recall that five faculty have left the department since 2001: Drs. Elwood Hart, Larry Pedigo, Elliot Krafzur, John Obrycki, and Tom Baker. In Joel’s last newsletter, he introduced Dr. Matt O’Neal, who joined the department in March as the soybean pest management specialist. I can tell you Matt is here and off and running. Last semester, he taught Fundamentals of Entomology and Pest Management and co-taught the sustainable pest management course. He has recruited two graduate students and is building his grant program. (I haven’t told him yet that he is our sole hire because we expect him to be able to replace all five that left!) Be sure to welcome him as a Cyclone when you see him at meetings.

Because of the importance of insect-transmitted diseases and the strong support that Wayne Rowley received through his research program, we were given permission to fill his position (so Matt won’t have to fill this one as well). We are

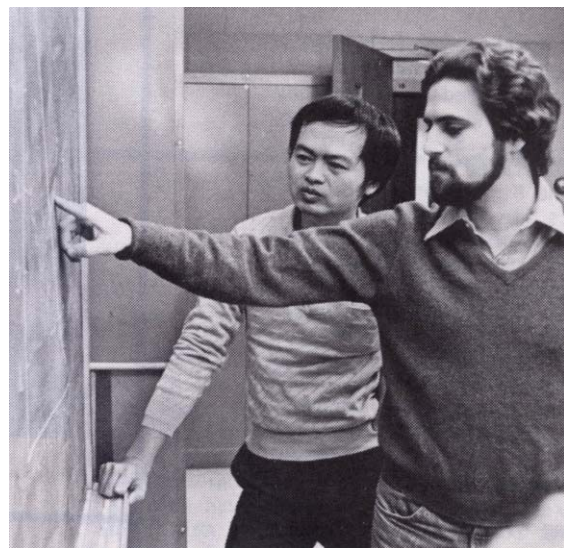
currently conducting an open search for a medical entomologist. We hired Wayne back this spring to offer his medical entomology course until the new faculty member arrives.

Dr. Mary Harris changed positions within the department. She joined us in 2002 as Curator of the Butterfly Wing of the Reiman Gardens. This semester, she is teaching Biological Control in our department, and she will teach in the Biology Program this coming fall.

I’ll finish with two admonitions that I like very much but that are not mine. The first is from the ISU Alumni Association’s comments at each of our commencements: “Remember, what you become, Iowa State becomes; what Iowa State becomes, you become.” So I applaud your successes because your successes are ours as well, and I encourage you to join with us to maintain our excellence because it will enhance the value of your degree. Finally, from Garrison Keillor, “Be well, do good works, and keep in touch!” By that I sincerely mean stop in when you get a chance; let us show you what ISU has become and relive your time among us.

Steffey President of ESA

It is a rare occasion when one of our own is elected to a position of leadership and honor by fellow entomologists. In 2004, the Department of Entomology was honored by having an alumnus, Kevin Steffey, serve as President of the Entomological Society of America. Kevin is an Extension Specialist and Professor of Agricultural Entomology in the Department of Crop Sciences at the University of Illinois. He received his Ph.D. in entomology from Iowa State University in 1979 under the direction of Jon Tollefson. In addition to his leadership skills, Kevin’s work is highly respected professionally. As an extension entomologist he was awarded the Distinguished Achievement Award for Extension Entomology at the 1996 ESA annual meeting. The last ISU alumnus to serve as ESA president was Tom Turpin (Ph.D. 1971) in 1992.



Kevin Steffey (foreground) at ISU in 1976 (see page 17 for a recent picture!).



Wayne Rowley Retires after 36 Years

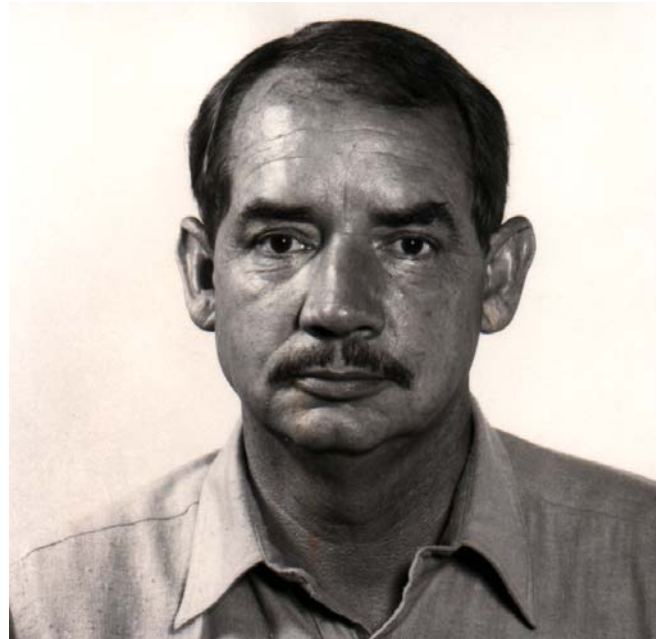
By Russell Currier and Kenneth Platt

On Monday, September 27, 2004, Dr Wayne Rowley delivered his farewell lecture to friends and students marking his “formal” retirement and summarizing a 36-year career in medical entomology at Iowa State University. Wayne’s life and career reinforce a common paradigm of success and achievement through the practice of establishing goals, expending effort and hard work, scholarly pursuit of higher education, living modestly, and seizing and capitalizing on opportunities as they occur over a lifetime.

Soon after high school, he was drafted into the U.S. Army. After completion of basic training the first of several serendipitous events occurred in his life: Wayne was assigned not to Korea but to the 4th Infantry Division in Frankfurt, Germany, a location that offered better living standards and travel opportunities. In the Army, Wayne matured and determined he wanted to get an education and ultimately teach at the collegiate level.

In 1955, Wayne returned to Utah and with assistance from Uncle Sam’s GI Bill began almost 9 years of college. He graduated in 1960 from Utah State University with a B.S. in entomology. This was immediately followed by an M.S. in entomology from the same institution. With funding from a National Institutes of Health fellowship, Wayne attended Washington State University and earned his Ph.D. in 1965 under the distinguished mentorship of Dr. Maurice T. James.

After graduation, he accepted a research scientist position with the Department of the Army’s Biological Sciences Laboratories at Fort Dietrich, MD. The road trip east was accomplished in a 1965 Chevrolet Impala, which contained his wife, Annette, and three children, Scott, Kimberly, and Val. By his own admission, besides the precious cargo of family, everything else comprising the net worth of the Rowley household was in that car!



A young Wayne Rowley.

At Fort Dietrich, Wayne worked on arboviruses and various mosquito vectors in highly classified biological warfare research. Two and a half years later, he interviewed and was offered a position as an assistant professor at Iowa State University, the job he has held for the past 36 years. The offer included extensive office and laboratory space in the yet to be constructed Science II Building. Two additional faculty members recruited at the same time were soybean insect expert Larry Pedigo and the redoubtable systematist and global flea authority, Robert E. Lewis. Dr. Lewis recognized Dr. Rowley in 1971, by naming a genus of fleas in his honor. The fleas were recovered from flying squirrels in Nepal and assigned Linnaean classification of *Rowleyella arborea*.

Wayne taught a variety of entomology and parasitology courses. He also taught freshmen biology courses for students majoring in the biological sciences and in preprofessional studies. In research he consistently secured grant funds and attracted a cadre of graduate students



Wayne Rowley at his farewell lecture.

that in turn became distinguished researchers, teachers, and leaders in entomological and related fields. Former students hold teaching and research positions in six foreign countries and in many areas of the United States.

In 1968, Wayne cofounded a collaborative surveillance system for mosquito-borne disease in Iowa that linked human and equine cases of viral encephalitis with field studies of mosquitoes and sentinel birds. That partnership continues with the University of Iowa Hygienic Laboratory, the Iowa Department of Public Health, and more than a dozen local health departments in the state. This service program has been recognized nationally for its collaborative approach, economy of operation, and advantages to community health, particularly after introduction of West Nile virus to the United States.

Dr. Rowley served on numerous ISU committees to expand and improve on both curricular offerings and extracurricular activities. For example, he was the faculty advisor for several years to the ISU Furharvesters Club. He admired these students for their discipline to rise early to work their trap lines before classes started.

For almost two decades, Dr. Rowley organized and led student field trips in Florida, Central America, and Africa. He has been an active

contributor to civic service clubs, e.g., Kiwanis, and conservation/sports clubs, e.g., Pheasants Forever, and actively supported Annette's contributions to the Ames Community Theater, College for Seniors, and the Des Moines Opera Guild, to name only a few. On a small scale, his household was a "mini-university" with the melding of "two cultures" reflecting C.P. Snow's classic study by the same name in that Wayne can explain how things work scientifically, but Annette can interpret what it all means.

Dr. Rowley's life and career reflect a paradigm of hard work, dedication to goals, and maintenance of high standards. This along with his lifelong love of hunting upland game, especially with a great hunting dog, invites an observation by Winston Churchill that captures the essence of Wayne's persona, "He had all four of the canine virtues to a remarkable degree—courage, vigilance, fidelity, and love of the chase."

In conclusion, it is perplexing to try and summarize this life of scholarship to the state, nation, and yes, even the world. He has had a profound effect on scores of serious undergraduate as well as graduate students. One of the latter offered at his retirement reception, "I can't really say Dr. Rowley is my major advisor because he is more like a father to me."

Students, former students, friends, and colleagues in attendance at his farewell lecture extended their best wishes with admiration and affection to both Wayne and his family as he embarks on retirement that (surprise) will include some additional research at ISU and perhaps even a few lectures.

Russell Currier is the Former State Public Health Veterinarian/Environmental Epidemiologist, Center for Acute Disease Epidemiology, Iowa Department of Public Health, Des Moines.

Kenneth Platt is a professor in the Department of Veterinary Microbiology and Preventative Medicine.



A Selection of Faculty Activities within the Department

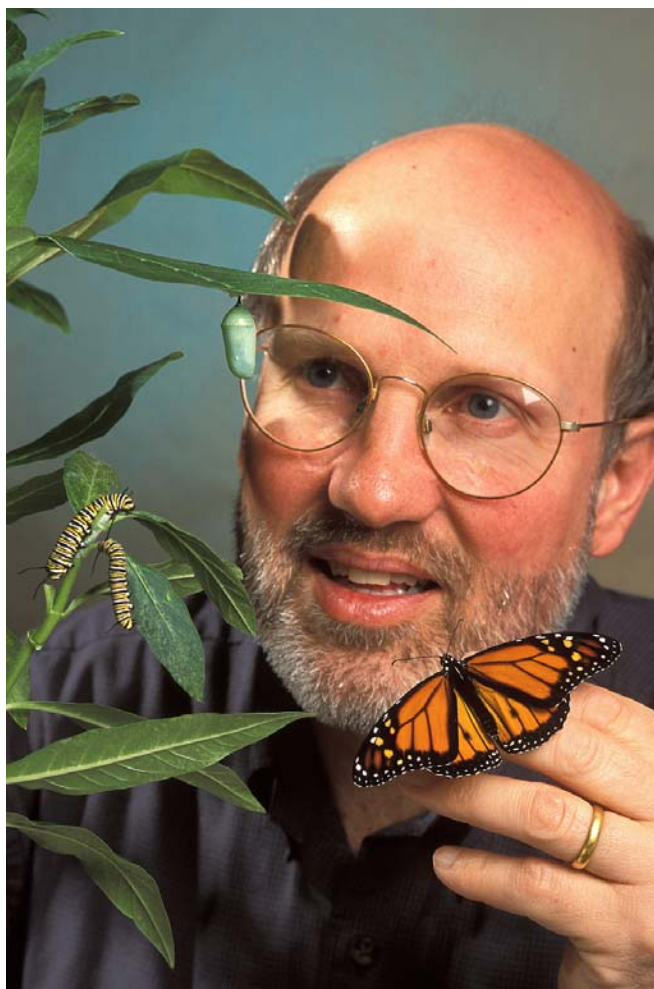
Junwei Zhu, Associate Scientist

Junwei Zhu is an associate scientist who conducts research in infochemical tritrophic interactions of economically important insect pests, host plants, and their natural enemies to develop environmentally friendly semiochemical-based control systems. Current research focuses on 1) developing pheromone/kairomone-based systems for monitoring the soybean aphid outbreak and suppressing its populations; 2) identifying repellent formulations of natural product and their practical uses in urban pest control (mosquitoes, cockroaches, flies, and ants); and 3) understanding mechanisms in mosquito repellency (behavior, electro-

physiology, and olfactory pathways). Junwei is currently funded by the National Science Foundation to study implementation of semiochemical-based systems to suppress the soybean aphid population, and the Iowa Department of Natural Resources and Leopold Center for Sustainable Agriculture to study biological control of the soybean aphid in organic and sustainable soybean production systems.



Junwei Zhu



Rick Hellmich

Richard L. Hellmich, Assistant Professor (Collaborator)

Rick Hellmich is a lead scientist in the USDA-ARS, Corn Insects and Crop Genetics Research Unit. His laboratory has focused on evaluating possible effects of transgenic corn on nontarget insects and managing insect resistance to transgenic corn. The nontarget research has been high profile, especially after a letter to *Nature* suggested pollen from transgenic corn was harmful to larvae of the monarch butterfly. Since that report, Rick has been involved with a consortium of scientists to investigate Bt corn and monarch butterflies and other nontarget issues. Following five 2001 Proceedings of the National Academy of Sciences USA papers by the consortium, two papers were published this year in *Environmental Entomology* that focused on long-term exposure of monarch larvae to Bt corn pollen and anthers. Graduate student Patti Anderson authored one of these papers, one of



Did you know?

In 2004, entomology faculty traveled to Australia, Canada, China, Croatia, England, New Zealand, Switzerland, Serbia, and Thailand.

three papers produced from her Ph.D. dissertation. Jarrad Prasifka, a postdoctoral associate, along with Rick, Les Lewis, and Galen Dively (University of Maryland) received 3-year funding from the USDA, Biotechnology Risk Assessment Grants (BRAG) Program to produce recommended protocols for field evaluations of nontarget organisms in Bt crops. Along with the nontarget research, Rick is overseeing insect resistance management research involved with

USDA, Risk Avoidance and Mitigation Program (RAMP) grant with researchers from Pennsylvania State University and University of Nebraska, and an EPA/ARS interagency agreement with 14 researchers from nine universities and a private company. This year, Rick has been invited to be an expert scientist for EPA and APHIS and to make presentations at meetings in France and Mexico.



Les Lewis with agricultural science research technician Keith Bidne.

Leslie C. Lewis, Professor (Collaborator)

Lewis is the research leader of the USDA–ARS Corn Insects and Crop Genetics Research Unit. The unit is comprised of four entomologists and six plant geneticists, and recruitment is underway for four bioinformaticists. The Lewis laboratory is investigating sampling methods to detect changes to nontarget populations caused by transgenic corn. In particular, carabid species have been extensively sampled and analyses of power and treatment effects are underway to determine whether they can be used as indicator species. Another aspect of nontarget research in the Lewis laboratory focuses on interactions between transgenic corn and the insect pathogens *Beauveria bassiana* and *Nosema pyrausta*. Current research with *B. bassiana* is an extension of the finding that *B. bassiana* forms an endophyte with the corn plant. As such, there is a potential for season-long management of the European corn borer. Preliminary results indicate that transgenic corn does not compromise this endophytic relationship. Research is in progress to evaluate the likelihood of infection with *N. pyrausta* masking resistance to Bt corn in the European corn borer.



Making an Impact: Annual Review of Entomology

Woody Hart and Elliot Krafur both have articles in the 2005 edition of the Annual Review of Entomology. Of the 70 entomological journals ranked by the Journal Citation Report, Annual Review of Entomology has the highest impact factor. The impact factor is a measure of the frequency with which the “average article” in a journal has been cited in a particular period and provides a tool for ranking journals. Below is a list of articles published in Annual Review of Entomology by our entomology faculty and staff since 1994.

David R. Coyle, T. Evan Nebeker, Elwood R. Hart, and William J. Mattson. 2005. Biology and Management of Insect Pests in North American Intensively Managed Hardwood Forest Systems. 50: 1–29.

R. H. Gooding and E. S. Krafur. 2005. Tsetse Genetics: Contributions to Biology, Systematics, and Control of Tsetse Flies. 50: 101–123.

J. K. VanDyk. 2000. Impact of the Internet on Extension Entomology. 45: 795–802.

J. J. Obrycki and T. J. Kring. 1998. Predaceous Coccinellidae in Biological Control. 43: 295–321.

W. B. Showers. 1997. Migratory Ecology of the Black Cutworm. 42: 393–425.

E. S. Krafur and R. D. Moon. 1997. Bionomics of the Face Fly *Musca autumnalis*. 42: 503–523.

B. C. Bonning and B. D. Hammock. 1996. Development of Recombinant Baculoviruses for Insect Control. 41: 191–210.

J. R. Coats. 1994. Risks from Natural Versus Synthetic Insecticides. 39: 489–515.

Beetham Lands \$1.5 Million Grant from NIH

Jeff Beetham, assistant professor, received a grant from the National Institutes of Health (NIH) for \$1.5 million for 5 years to work on complement-mediated lysis resistance genes of *Leishmania*. *Leishmania* species are insect-vector protozoan parasites that infect humans and other vertebrates. The pathogen causes leishmaniasis, a disease that afflicts about 2 million people yearly and that ranges in severity from self-healing skin ulcers to frequently fatal infections of the liver, spleen, and marrow. Parasite transmission occurs when an infected female sandfly takes a blood meal.

Once inoculated into the human (or other vertebrate), the parasite quickly gains entry into phagocytic cells in which it multiplies. During the minutes that separate inoculation into a host



Jeff Beetham

and infection of a host phagocyte, the parasite overcomes bloodborne components of the host’s innate immune system that exist for the very purpose of destroying pathogens.

Beetham’s research group seeks a clear understanding of the mechanisms by which *Leishmania* species

survive their first few minutes in humans. One study used a laboratory-derived strain of *L. chagasi* that, unlike infectious parasites, bursts when placed into human blood. Beetham



Mostly Entomological Auction, 2004

The Department of Entomology hosted an online, e-Bay style auction in November to raise funds for the Entomology Alumni Scholarship. There were 76 items in the auction, including collectors' items and holiday gifts ranging from the practical to the chic, and the bizarre. The origami butterfly pictures created by Patti Anderson and the EGSO were among the most popular



This sculpted metal fly was one of many unique items offered in the 2004 online auction.

Beetham, continued

thought that if large pieces (>30 kilobases) of *L. chagasi* DNA were placed into the laboratory strain, perhaps the genes within a few such DNA pieces might encode proteins that allow cells to survive in blood. The necessary manipulations and selections were performed over several years by postdoctoral researcher Tun-Ping Yu and entomology/genetics graduate students Rebecca Laborde and more recently Masayo Ozaki. This study identified more than 10 DNA fragments, each containing about seven genes, that allow the laboratory strain cells to survive in human blood. With funding from NIH, Beetham's group seeks to identify the critical genes within these DNA fragments and to determine how these genes act to allow the cells to survive blood exposure.

items, fetching some of the highest prices and receiving the most bids. Other popular items included Petersons' 6th edition of *Larvae of Insects*, and Pedigo's 4th edition of *Entomology and Pest Management*. We had 75 bidders who placed 251 bids, and items were shipped worldwide to destinations ranging from Dubuque, IA, to New Zealand. The auction raised about \$1,000 for the Entomology Alumni Scholarship. Special thanks to Bryony Bonning, Chair of the Student Awards Committee; Marlin Rice, Photographer; John VanDyk and Matt Westgate, Webmasters, and to all those who donated items for, or participated in, the auction.

Mostly Entomological Auction, 2005

The second online auction will be held November 7–28, 2005. Once again, items will be shipped in time for the holidays. Alumni and friends can help with this auction in two ways. First, if you have items to donate, please send them to Dr. Bryony Bonning, Department of Entomology, Iowa State University, 418 Science II, Ames, IA 50011, along with an estimate of the value of each item, if known. If you wish to claim the donation as a charitable gift, you may want to obtain an independent appraisal of the value of the item. Donors who want to receive gift credit through the ISU Foundation for their gift will need to provide the Foundation with a copy of the statement of value.

Second, place bids from November 7 to 28 at <http://www.ent.iastate.edu/auction/>. Those who purchase items through the auction can claim the portion of their purchase that exceeds the fair market value of the gift as a charitable deduction.



O'Rourke Checks Out Radar Tracking at Rothamsted

With funding from the Henry and Sylvia Richardson Research Incentive Grant, Megan O'Rourke, a M.S. student with Marlin Rice and Matt Liebman, had the opportunity to visit Rothamsted Research in England this past summer. Credited as the oldest agricultural research station in the world, established in 1846, Rothamsted Research currently supports over 400 scientists and 30 postgraduate students.

Megan's visit to Rothamsted was hosted by Dr. Juliet Osborne in the Plant and Invertebrate Ecology Division. Originally inspired to visit Rothamsted Research by the unique radar equipment available to track insect movement, she had the opportunity to get hands-on experience with their harmonic radar system, which can be



A miniature radar "tag" allows tracking of insect flight paths.

used to trace insect flight paths. She also observed their vertical-looking radar system, which collects continuous data on insects flying over Rothamsted, and she spent time assisting with a pilot study to use fluorescent dye to track insect movement between fields.

In addition to providing a stimulating academic experience, Megan's visit to Rothamsted provided great opportunities for cultural exchange. During her stay, she resided in the historic Rothamsted manor house, which hosts visiting scientists from around the world. She also had the opportunity to present a seminar about her research and Iowa's agricultural system. She even made a few excursions beyond Rothamsted visiting London, the Royal Agricultural Show, the Silwood Park campus of Imperial College, and spent many enjoyable afternoons strolling through the countryside with other students. Overall, Megan ranked her visit to Rothamsted Research as one of her most enjoyable academic experiences during graduate school.



Megan O'Rourke receives the Richardson Research Incentive Grant from chair Jon Tollefson.

By the numbers

The Department of Entomology currently has 12 faculty, four USDA collaborators, four retired (emeritus) faculty, two adjunct assistant professors, 26 staff, six postdoctoral research associates, 37 graduate students, and 18 undergraduates.



Did you know?

Bryony Bonning and Russ Jurenka contributed chapters to the recently published *Comprehensive Molecular Insect Science*. Bonning's chapter is entitled "Baculoviruses: Biology, Biochemistry and Molecular Biology" and Jurenka's chapter is entitled "Biochemistry and Molecular Biology of Pheromone Production." This book, in seven volumes, is the revised edition of *Comprehensive Insect Physiology, Biochemistry and Pharmacology* (1985, Pergamon Press, 13-volume set).

Brown Collects Insects in Madagascar

The amazing opportunity for a collecting trip to Madagascar arose very suddenly for Rebecca Brown in October 2004. Rebecca, an M.S. candidate who works with Greg Courtney, is preparing a revision of the genus *Paulianina* Alexander (Diptera: Blephariceridae) that is endemic to Madagascar. She received financial support from the Department of Entomology, and additional funding for the trip was provided by the Global Agricultural Office and the Graduate College.

Rebecca joined a group of entomologists who were already making the trip. Dr. Mike Irwin, University of Illinois; Frank Parker, former head of the USDA Bee Lab at Logan, UT; and Martin Hauser, Ph.D. candidate in Dr. Irwin's laboratory, are part of a large project to inventory the biodiversity of Madagascar that is, in part, funded by the Schlinger Foundation. Mike Irwin and Martin Hauser both study Therevidae (Diptera) and Frank Parker focuses on Hymenoptera.

Rebecca stayed at the ValBio Center for the Study of Biodiversity to collect in Ranomafana National Park located in east central Madagascar. She collected in a small fragmented forest, Reserve Speciale d'Ambositantely, located in central Madagascar. The biodiversity hot spot at Reserve Special d'Analamazaotra (Perinet) was the last stop before returning home. Although the focus at each site was collecting, some time was taken to observe the magnificent biodiversity that is present only in this country.



Above: Rebecca Brown in the laboratory.
Below: Blepharicerid larval specimen collected in Madagascar.





Harold Stockdale Memorial Donations for Entomology Scholarships

The Entomology Alumni Scholarship Fund has been slowly increasing, for eventual use for scholarships to new undergraduate entomology students. Memorial donations provided in Dr. Harold (Harry) Stockdale's name will provide two scholarships each for this year and next year. Harry was an extension entomologist for his entire 32-year career at Iowa State. Reflections on his life and career were included in last year's Alumni Newsletter. These four scholarships of \$500 each will bear the name Harold Stockdale Memorial Scholarship and will represent the first scholarships specifically designated for new undergraduate Entomology students (freshmen or transfer students). Dr. Stockdale's widow, Arliss, decided to donate the memorial funds to the department after Harry's death last



Arliss Stockdale presents scholarship check to Joel Coats.

year. We are very appreciative of her generosity, and we believe that Harry would consider this a very worthwhile use of the funds.

Paul Dahm Memorial Lecture Series

In 2004, the Department of Entomology presented the 13th Annual Paul Dahm Memorial Lecture, which has been an annual feature of our departmental seminar series since 1991. Each spring semester, a distinguished speaker with expertise in insect toxicology is invited to present the lecture in memory of Dr. Dahm, who was previously the insect toxicologist at Iowa State University. Joel Coats and Bryony Bonning coordinate this lecture. The lecture is supported through donations from Paul's widow, Betty Dahm, and their children, through the Alumni Foundation. The occasion provides a good opportunity each year to highlight recent progress in insect toxicology. This year, Professor Keith Solomon from the University of Guelph in Ontario, Canada, presented the lecture in April.

Paul Dahm was a faculty member of Entomology at Iowa State University for 34 years (1953–1987) in insecticide toxicology. He was conferred the Charles F. Curtiss Distinguished Professor of Agriculture in 1969 and served as chairman of the Department of Entomology

from 1975 to 1982. Dahm taught courses in insecticide toxicology, insect physiology, and medical and veterinary entomology. He served as major professor for 22 Ph.D. and 17 M.S. students and published widely on insecticide metabolism and environmental fate. He was conferred with honorary membership in the Entomological Society of America in 1985.



Joel Coats with Mrs. Betty Dahm and Keith Solomon.



News from Alums

Dr. Earle S. Raun, BCE, educated at Buena Vista College, University of Iowa, and Iowa State University, has been made a Fellow of the Entomological Society of America. Raun taught and carried out research on medical, veterinary, and crop insects at ISU and began the university's first insect pathology laboratory. He accepted the position of head of entomology at the University of Nebraska in 1966 and moved to extension administration in 1971. In 1974, he originated the Pest Management Company, the first independent crop consulting firm in the Midwest, specializing in research and advisory work on insect problems. He is past president of the North Central Branch, the American Registry of Professional Entomologists, the National Alliance of Independent Crop Consultants, and the Nebraska Independent Crop Consultants Association.

Wayne A. Rowley Scholarship in Entomology

On the retirement of Dr. Wayne Rowley, Dr. John Lyell Clarke III and Kathleen M. Clarke generously donated funds to establish an endowed scholarship, the Wayne A. Rowley Scholarship in Entomology. The scholarship of approximately \$750 to \$1,000 per student will go to graduate and undergraduate students majoring in entomology with preference given to those with an interest in medical entomology. This scholarship will serve to enhance the recruitment of quality students to the department, increasing the stature of the entomology program at Iowa State University. Dr. Clarke is a former student of Dr. Rowley's medical entomology program. To contribute to this scholarship, please see page 18 for information.

Mitsuo Ishida (1962–1964) writes:
Thank you very much for sending me a copy of the *ISU Entomology Newsletter*, which makes me renew my knowledge about the activities on campus and recall my good old days there as well. I found a tiny but important error in the last newsletter. The explanation for the meaning of a Japanese word, Origami, is reverse. ORI means to fold, while GAMI(=KAMI) means paper.

Our mistake! Thank you for the correction. -Eds.

Matt Murphy (M.S. medical entomology, 1999), presently a doctoral student in the University of Iowa's Public Health Program, has been awarded the prestigious American Industrial Hygiene Foundation Clyde Berry scholarship to support his Ph.D. research.

Keep in Touch!

Please let us know whether 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.

ISU Entomology Newsletter for Alumni and Friends is produced by the entomology faculty and staff at ISU. Editor: Dr. Julie Todd; layout: Dr. John VanDyk. This newsletter and previous issues are online at <http://www.ent.iastate.edu/alumni>.

Visit our departmental Web site at <http://www.ent.iastate.edu>.



Faculty and Staff Awards

Joel Coats was recognized by the Iowa State University Dean of Students Office for his 8 years of “encouraging, positive, and supportive” advising of the Entomology Club at Iowa State University.

Marlin Rice received four awards for his extension efforts. The soybean aphid CD for crop advisers won an Award of Excellence in the American Society of Agronomy Educational Materials Program and an Entomology Educational Project Award from the Board Certified Entomologists of Mid-America. A soybean aphid management workshop in cooperation with University of Illinois received the Educational Program Award from the American Distance Education Consortium. He and Jeff Bradshaw won the Outstanding Extension Display at the Entomological Society of America Annual Meeting in Salt Lake City. Their poster was on a decision guide for managing bean leaf beetles and bean pod mottle virus. Marlin received a Recognition Award as Linnaean Games Master, for years of dedicated service from past and present NCB-ESA students.

West Des Moines Schools received the Governor’s Iowa Environmental Excellence Award for their leadership and innovation in managing Iowa’s natural resources. Part of the management process was implementing integrated pest management in their schools instead of traditional pest control services. Mark Shour and Carol Pilcher have worked with West Des Moines in the planning and implementation phases of this program.

John VanDyk received the Award of Merit from the North Central Branch of the Entomological Society of America. The purpose of this award is to recognize individuals making outstanding contributions to NCB-ESA.

Student Awards

Megan O’Rourke received the Department of Entomology Henry and Sylvia Richardson Research Incentive Grant for 2004. Megan received \$2,500 for research costs associated with the project entitled “A study of insect dispersal.” Students write research proposals to compete for this grant. Megan used the funds to conduct research at Rothamsted Research in England (see article on page 12).

The Department of Entomology Herbert Osborn Awardees for Professional Performance 2004 were Kate Kronback (M.S. category) and Betsy Matos (Ph.D. category).



Kate Kronback

The Entomology Student Award for Outstanding Service was presented to Dianna Wilkening (below) in December 2004. This award is presented in recognition of service at Veishea and the Insect Horror Film Festival and for work with the Insect Zoo.



Diana Wilkening and Jon Tollefson.



Awards from Iowa State University

Patti Anderson received a Teaching Excellence Award in spring 2004. These awards recognize the top 10% of graduate student teaching assistants.

Matt Cummings and **Johnson Odera** were both recipients of Research Excellence Awards this year at the M.S. and Ph.D. levels, respectively. This award is given to the top 10% of graduate students for their research accomplishments. Matt and Johnson both conducted research in the Krafzur laboratory. In addition, **Bryan Clark** received a Research Excellence Award through the Interdepartmental Toxicology Program. Bryan graduated with an M.S. from the Coats laboratory.



Jon Tollefson with Johnson Odera.

David Dorhout, a senior in entomology, was one of 10 ISU students enrolled in entrepreneurial programs who received \$1,000 scholarships from the John and Mary Pappajohn Scholarship Fund. Student winners were selected based on their involvement in Iowa State's entrepreneurship programs, including academic courses, extracurricular activities, and their experience and aspirations in business ownership.

Awards from national societies

Patti Anderson was awarded the 2004 ESA Student Activity Award, sponsored by Monsanto



Patti Anderson and ESA President Kevin Steffey.

Company. This award recognizes an ESA student member for outstanding contributions to the Society, his/her academic department, and the community, while achieving academic excellence. In March, Patti received the North Central Branch ESA Graduate Student Scholarship Award at the NCB meeting in Kansas City, and she received first place for her talk (Ph.D. paper) entitled "Effects of Bt-corn anthers on monarch butterfly larvae." Patti also won a first place President's Prize for the same talk at the national ESA meeting held in Salt Lake City, UT.

Brad Coates received second place for his talk "Geographic and voltinism differentiation among North American *Ostrinia nubilalis* using mitochondrial DNA analysis" at the NCB meeting.

Keri Henderson received first place in the Student Platform Competition at the Joint Regional Meeting of the Ozark-Prairie and Midwest Chapters of SETAC held in LaCrosse, WI, in March, and a \$500 travel award to the Society of Environmental Toxicology and Chemistry (SETAC) World Congress in Portland, OR, in November. Keri also received second place in the Student Poster Competition, and 1-year paid membership with SETAC.

Rebecca Laborde, Ph.D. student under the direction of Jeffrey Beetham, received the Eli Lilly and Co. Chester A. Herrick Award for the best poster/demonstration of parasitological research at the 56th Annual Midwestern Conference of Parasitologists held June 10–12 at Minnesota State University at Mankato. The award consisted of a certificate and \$300.



After Hours: A Fervor for Fitness, Food and Friends

In keeping with the recent Olympic gold medal of ISU alumnus Cael Sanderson, we decided to feature our entomological athletes in this edition of the newsletter. Did you know that another ISU alum (civil engineering), Mel Larsen of Ames, is the fastest runner in the world for his age group of 80?

Have you ever contemplated running a marathon, participating in a century (100-mile) bike ride, or perhaps both, back to back? This is Greg Courtney's idea of fun! Greg enjoys these activities because they offer opportunities for "fitness," "food," and "friends." Running, cycling, and swimming are excellent ways to increase aerobic fitness, build muscle strength, provide

cardiovascular benefits, and alleviate stress. But many endurance athletes, Greg included, torture themselves to eat! In his training group, they run or bike somewhere to enjoy special treats at the end, either prepared by the group members or local specialties at the final destination. But the camaraderie is the greatest reward of participation for many endurance athletes. Part of their

Student Awards, continued from page 17

Megan O'Rourke was awarded an honorable mention in the 2004 National Science Foundation graduate fellowship competition. Her proposal was entitled "The effects of landscape structure on insect flight behavior and population dynamics." Three entomology graduate students in the country received the fellowship and seven received honorable mentions. Recipients of honorable mentions are awarded the

opportunity to use one of NSF's supercomputing facilities within the next 5 years.

Mandi Lingren, an undergraduate research assistant in the medical entomology laboratory, was recognized as outstanding student employee of the year and also was elected into the Society of Sigma Xi as an undergraduate research scholar.

Opportunities to Give: Department of Entomology Donations

With the ongoing budget constraints at Iowa State University, the Department of Entomology is increasingly dependent upon the generosity of alumni and friends. To support the department, please fill out this page and return it with your check or money order (made out to ISU Foundation) to the Department of Entomology, Iowa State University, 110 Insectary, Ames, IA 50011-3140.

My support this year is in the amount of _____

Please designate my gift to the area(s) in the amount(s) shown below:

- _____ *Entomology Alumni Scholarship* for undergraduate scholarships
- _____ *Wayne A. Rowley Scholarship in Entomology* (see related article on page 15)
- _____ *Fred Clute Memorial Entomology Fund* for general support for the Department of Entomology
- _____ *Entomology Memorial Fund* for various expenses including graduate student travel and awards
- _____ *Entomology General Account*
- _____ *Other*

For more information about these funds, please contact us at the departmental address above or call (515) 294-7400. For more information about other gift designations, please contact Richard Bundy, III, at (515) 294-9088 (rbundy@iastate.edu).



After Hours, continued

fellowship may come from common interests, time spent together on training runs or rides, or shared successes and disappointments. Running, biking, duathlons, triathlons, and comparable events also are favored pastimes of other ISU Entomology faculty. Bryony Bonning is a recent convert to such physical torment. Jeff Beetham has run the New York City and Twin Cities marathons, and he and Bryony have run several races in California.

Bryony is a former rower. These days, running and swimming prove more compatible with her other commitments, but while in England, she rowed for Kingston Rowing Club in London and the City of Oxford Rowing Club. Her height (6 feet) gave her a competitive advantage at this sport, which is commonly described as the ultimate team sport. Something akin to getting eight guys to run a 4-minute mile in step.



Above: Greg Courtney rides in a Colorado duathlon. Right: Bryony Bonning is fourth rower from front of picture.



At the 2004 ESA Alumni Mixer

Left: Betsy Matos-Carrion (Iowa State), Wilmar Morjan (Monsanto Co., Waterman, IL), Colothdian Tate (USDA-ARS, Tifton, GA), David Coyle (University of Wisconsin-Madison). More photographs from the mixer are on the back cover (photographs by Marlin Rice).



Scenes from the ISU Alumni Mixer at the 2004 ESA Annual Meeting

Below: Todd DeGooyer (Monsanto Co., St. Louis, MO), Tim Nowatzki (Pioneer Hi-Bred Intl., Johnston, IA), Wilmar Morjan (Monsanto Co., Waterman, IL).



Above: Paula Davis (Pioneer Hi-Bred Intl., Johnston, IA), Rayda Krell and son Dmitri (University of California-Riverside).



Above: Kevin Johnson (Iowa State), Yong-Lak Park (University of California-Riverside), Gretchen Schultz (Iowa State), Nicholas Schmidt (Iowa State).



Above: Jon Tollefson (Iowa State), Mpho Phoofolo (Oklahoma State University, Stillwater), Joseph Munyaneza (USDA-ARS, Wapato, WA).



Left: Megan O'Rourke (Iowa State), Tim Johnson (Ecogen Inc., Langhorne, PA), Phil Mulder (Oklahoma State University, Stillwater), Von Kaster (Garst Seed Co., Slater, IA), Jeff Bradshaw (Iowa State), Tad Hardy (Louisiana Department of Agriculture and Forestry, Baton Rouge).