



IOWA STATE UNIVERSITY

Department of Entomology

Newsletter

May-August 2006

Personnel News

M. Felicitas Avendano joined the Soybean Entomology laboratory as a post-doctoral researcher. Felicitas is exploring the impact to soybean quality and potential interaction between soybean cyst nematodes and soybean aphids with Drs. Matt O'Neal and Greg Tylka.

Anastasia Bodnar conducted research with Sijun Liu on insect resistant transgenic plants as part of a rotation in the Bonning lab through the interdepartmental Genetics program.

Two new undergraduates, **Brendan Dunphy** and **Brienne Simonsen** joined the Bartholomay lab.

Lisa M. Fraser began work as Biological Science Aid with USDA, ARS. Lisa transferred from DMACC to ISU to study microbiology. She will be assisting Dr. Kim in his population genetics studies.

Amy Rohlfig, an undergraduate from the University of Iowa, conducted an internship with Bryony Bonning through the PWSE program. Amy worked with Wendy Sparks on baculoviruses –host interaction.

INCOMING STUDENTS

Jessica Davis entered a Ph.D. program in Entomology / Ecology and Evolutionary Biology. Jessica will work in Greg Courtney's lab, conducting research on crane flies (Diptera: Tipuloidea).

Ashley Jessick is a new graduate student conducting a rotation in the Coats lab this semester. She received a B.S. with a double major in Chemistry and Biochemistry from Wartburg College, Waverly, IA.

Nina Richtman joined the Bonning lab to work on development of aphid resistant transgenic plants.

Matthew Wihlm and Joseph Rowlett entered M.S. programs in Entomology. Both will work in Greg

Courtney's lab, conducting research on various aspect of Diptera systematics.

DEPARTURES

Betsy Matos has been appointed Biosafety Officer with Environmental Health and Safety at ISU.

GRADUATIONS

Amanda Jacobson successfully defended her M.S. thesis in June. Her thesis was titled, "Phylogenetic analysis of Nearctic *Blepharicera* Macquart (Diptera: Blephariceridae)." Amanda is now working on a Ph.D. at the University of Tennessee.

Laura Jesse graduated and is working as Assistant Scientist with Mark Gleason in Plant Pathology.

Kevin Johnson graduated in August with a M.S. from the Department of Entomology. His thesis was titled, "Management of the soybean aphid, *Aphis glycines* Matsumura (Hemiptera: Aphididae), in Iowa".

Brendon Reardon graduated in May with his Ph.D. in Entomology. On Aug. 15, he began a postdoctoral appointment in the Department of Entomology, University of California-Riverside, working in Dr. Elaine Backus' laboratory at the USDA San Joaquin Valley Agricultural Sciences Center at Parlier, California. He will be conducting research on feeding behavior of the glassy-winged sharpshooter.

Nina Richtman graduated with a Masters degree for her work on "Larval feeding behaviors of black cutworm (*Agrotis ipsilon*) on Herculex™ I". Nina has is now working toward a Ph.D. in the Bonning lab.

Meghan Smith and Darryl Reed graduated with undergraduate degrees in Entomology.



Awards and Honors

Nathan Brockman, butterfly wing curator at Reiman Gardens received the Professional and Scientific Outstanding New Professional Award. This award recognizes a P&S staff member who has demonstrated outstanding accomplishments unusually early in his or her professional career at Iowa State. A \$1,500 award is granted.

Joel Coats was recipient of a major American Chemical Society award: the International Award for Research in Agrochemicals. Joel received the award at the ACS annual meeting that was held in Atlanta.

Brendan Dunphy was awarded the first Wayne A. Rowley scholarship in Entomology. This scholarship provides \$1,500 to students with preference given to applicants concentrating on medical entomology.

Zhiyan Liu received a USDA CSREES fellowship waiver of the registration fee for attendance of the Molecular Insect Science meeting held in Tucson, Arizona in May.

Dan McCoy, a junior in Entomology was awarded the William F. Helms Memorial Scholarship. This scholarship provides \$5,000 along with paid employment during the summer and career opportunities with the USDA APHIS-PPQ department after graduation. Dan will be working in Iowa monitoring Pine shoot beetle (*Tomicus piniperda*). APHIS-PPQ recently put the entire state of Iowa under quarantine for this new, invasive pest.

Kelsey Prihoda was awarded runner-up for the Young Scientist Research Recognition Award from the Agrochemicals Division of the American Chemical Society National Meeting in Atlanta, Georgia.

Nicholas Schmidt won the outstanding M.S. student award given by the International Organization of Biological Control for his study of the natural enemy community within soybeans and their impact on soybean aphids.

Wendy Sparks was awarded an Iowa State University Teaching Excellence Award in May. This award recognizes the accomplishments of the top 10% of teaching assistants.

Recently Published

Beerntsen, B.T., Bartholomay, L.C., and Lowery, R.J. Blood-isolated *Brugia pahangi* and *B. malayi* microfilariae maintain their infectivity characteristics following inoculation in the mosquito, *Armigeres subalbatus*. *Veterinary Parasitology*. (in press)

Choi, M.-Y. and Jurenka, R.A. 2006. Role of extracellular Ca²⁺ and calcium channel activated by a G protein-coupled receptor Regulating Pheromone Production in *Helicoverpa zea* (Lepidoptera: Noctuidae). *Annals of the Entomological Society of America* 99, 905-909.

Clark, B.W. and J.R. Coats. 2006. Subacute effects of Cry1Ab *Bt* corn litter on the earthworm *Eisenia fetida* and the springtail *Folsomia candida*. *Environ. Entomol.* 35:1121-1129.

Clark, B.W., K.R. Prihoda, and J.R. Coats. 2006. Subacute Effects of Transgenic Cry1Ab *Bacillus Thuringiensis* Corn Litter on the Isopods *Trachelipus Rathkili*

and *Armadillidium Nasatum*. *Environ. Tox. and Chem.* 25(10): (in press).

Curler, G.R., J. Phasuk, J. Chanpaisaeng, and G.W. Courtney. 2006. A new species of *Horaiella* Tonnoir (Diptera: Psychodidae) from Thailand. *Proceedings of the Entomological Society of Washington* 108: 519-524.

Gibson, J.F. and G.W. Courtney. 2007. Revision of the net-winged midge genus *Horaia* Tonnoir and its phylogenetic relationship to other genera within the tribe Apistomyiini (Diptera: Blephariceridae). *Systematic Entomology* (in press).

Henderson, K.L.D., J.B. Belden, S. Zhao, and J.R. Coats. 2006. Phytoremediation of pesticide wastes in soil. *Z. Naturforschung* 61c:213-221.

Jehle, J.A., Blissard, G.W., Bonning, B.C., Cory, J., Herniou, E.A., Rohrmann, G.F., Theilmann, D.A., Thiem, S.M., and Vlaskovits, J.M. 2006. On the classifica-



tion and nomenclature of baculoviruses: A proposal for revision. *Arch. Virol.* 151(7): 1257-66.

Krafsur, E.S. and Endsley, M.A. 2006. Shared microsatellite loci in *Glossina morsitans sensu lato* (Diptera: Glossinidae). *Journal of Medical Entomology* 43: 640-642.

Marquez, J.G., Malele, I.I., Ouma, J.O., and **Krafsur, E.S.** 2006. *Glossina swynnertoni* Austen: effective population size and gene flow estimated by mitochondrial diversity. *Bulletin of Entomological Research* 96: 353-360.

Mihok, S., Carlson, D.A., **Krafsur, E.S.,** and Foil, L.D. 2006. Performance of the Nzi and other traps for biting flies in North America. *Bulletin of Entomological Research* 96: 387-397.

Ouma, J.O, **Marquez, J.G.,** and **Krafsur, E.S.** 2006. Patterns of genetic diversity and differentiation in the tsetse fly *Glossina morsitans morsitans* Westwood populations in East and southern Africa. *Genetica* (published online in May).

Ouma, J.O, **Marquez, J.G.,** and **Krafsur, E.S.** 2006. New polymorphic microsatellites in *Glossina pallidipes* and their cross amplification in tsetse fly taxa. *Biochemical Genetics* 44:(in press).

Prasifka, J.R., N.P. Schmidt, K.A. Kohler, R.L. Hellmich, M.E. O'Neal, and J.W. Singer. Effects of living mulches on predator abundance and predation on sentinel prey in a corn-soybean-forage rotation. *Environ. Entomol.* (In Press)

Prater, C.A., Redmond, C.T., Barney, W., **Bonning, B.C.,** and Potter, D.A. 2006. Microbial control of the black cutworm (Lepidoptera: Noctuidae) in turfgrass using a naturally occurring baculovirus. *J. Econ. Entomol.* 99(4): 1129-37.

Reardon, B.J., D.V. Sumerford, and T.W. Sappington. 2006. Impact of trap design, windbreaks, and weather on captures of European corn borer (Lepidoptera: Crambidae) in pheromone-baited traps. *Environ. Entomol.* In press.

Sappington, T.W., B.D. Siegfried, and T. Guillemaud. 2006. Coordinated *Diabrotica* genetics research: accelerating progress on an urgent insect pest problem. *Amer. Entomol.* 52: 90-97.

Schultz, G., C. Peterson, and **J.R. Coats.** 2006. Natural insect repellents: Activity against mosquitoes and cockroaches. Chapter in *Natural Products for Pest Management*, A.M. Rimando & S.O. Duke, eds. American Chemical Society, Washington, DC. pp. 168-181.

Thamsenanupap, P., P. Chantaramongkol, and **G.W. Courtney.** 2005 (2006). Diversity and seasonal occurrence of rheophilic caddisflies in mountain streams in Chiang Mai, Northern Thailand. pp. 421-427 in K. Tanida & A. Rossiter (editors). *Proceedings of the 11th International Symposium on Trichoptera.* Tokai University Press, Kanagawa, Japan.

Tollefson, J.J. Evaluating Maize for Resistance to *Diabrotica virgifera virgifera* LeConte (Coleoptera: Chrysomelidae). Maydica. In Press.

EXTENSION, EDUCATIONAL, TECHNICAL PUBLICATIONS

Marlin Rice, Matt O'Neal and **Palle Pedersen** published an update of their fact sheet (SP-247, "Soybean Aphids in Iowa"). This 10-page, color publication includes several detailed photographs and features the recent advances in soybean aphid IPM, including several tools developed through research conducted by Dr. O'Neal's Soybean Entomology Laboratory.

Out-of-state Travel

Lyric Bartholomay traveled to Fort Collins, CO, and met with colleagues at the Centers for Disease control.

Lyric Bartholomay and **Huarong Li** traveled to Madison, WI, July 9 – 11 to speak at the UW Symposium on Innate Immunity in Mosquito Vectors.

Bryony Bonning traveled to Tucson, AZ, to present at a CSREES USDA Awardee Workshop, May 20 and the 5th International Symposium on Molecular Insect Science, May 20-24. **Zhiyan Liu** presented a poster at the Symposium.

Joel Coats traveled to Lubbock, TX, to serve on a review team of the Department of Environmental Toxicology at Texas Tech University, May 10-12.



Joel Coats participated in the first annual James McKim Ecotoxicology Workshop at the US EPA Mid-Continent Ecological Research Lab in Duluth, MN, June 26-27.

Joel Coats, Lindsey Gereszek, Dingfei Hu, Hirofumi Kosaki, and Kelsey Prihoda traveled to Stilwell, KS, to Bayer Crop Science to pick up donated equipment and tour the facilities, July 12.

Greg Courtney traveled to Anchorage, AK, from 31 May to 19 June, to attend a meeting of the North American Benthological Society. Courtney presented two invited papers titled "Taxonomy and identification of aquatic Diptera" and "Studies of aquatic flies in the 21st Century: A renaissance in dipterology?"

Dingfei Hu, Vera Williams, Hirofumi Kosaki and Joel Coats attended the Ozark Prairie Society of Environmental Toxicology and Chemistry meeting in Columbia, MO, May 22-24.

Laura Jesse and Donald Lewis attended the National Conference on Urban Entomology in Raleigh, NC, May 20-24.

Russ Jurenka traveled to Washington, DC, to attend a USDA-NRI Competitive Grants panel in July.

Matt O'Neal and Wayne Ohnesorg attended a workshop 15-16 May at the Richardson Wildlife Foundation in West Brooklyn, IL, to discuss a classical biological control program targeting the soybean aphid. Researchers and graduate students from Illinois, Wisconsin, Indiana and Iowa developed a program for monitoring and assessing the potential non-target impacts from such a program.

Matt O'Neal presented a seminar at the University of Nebraska-Lincoln for the Department of Entomology on 17 April. He traveled to Oak Lake Field Station near Brookings, SD, for the Midwest Biological Control Institute's Summer Short Course. This year's Institute, titled "The Natural History and Taxonomy of the Carabidae" was hosted by Jonathon Lundgren of the USDA-ARS laboratory at Brookings. Dr. O'Neal was an instructor, leading a workshop on the conservation of Carabidae within an agroecosystem. The workshop was conducted from 25-28 June and included students and researchers from across the North Central Region. Nick Schmidt also attended the workshop.

Beth Minner and Carol Pilcher traveled to Fargo, ND, to attend the NCR Pesticide Education and Certification Workshop, August 13-16.

Marlin Rice attended the Summer Governing Board Meeting of the Entomological Society of America June 12-15 and will serve as the secretary/treasurer for the national meeting to be held in Indianapolis, IN.

Marlin Rice attended a meeting of the Entomological Society of America elected officers in Madison, WI, August 1-2.

Tom Sappington served on a FIFRA Scientific Advisory Panel to discuss "A Set of Scientific Issues Being Considered by the Environmental Protection Agency Regarding: Analysis of a Natural Refuge of Non-cotton Hosts for Monsanto's Bollgard II Cotton" held on June 12-15 in Arlington, VA.

Kyung Seok Kim presented a poster, "EST-derived microsatellites from western corn rootworm and their potential as population genetics markers", at the Evolution 2006 Conference held June 22-27, in Stony Brook, NY.

Angela Tague and Matt Wihlm attended the 2006 Invertebrates in Captivity conference in Rio Rico, AZ, July 26-30.

Jon Tollefson participated in the Alvreno Institute Connecting Student Learning Outcomes to Teaching Assessment and Curriculum Workshop in Milwaukee, WI, June 18-21.

Jon Tollefson participated in discussions between EPA and FMC concerning the reregistration of Furadan (carbofuran) applications to corn in Washington, DC, July 18-19.

International Travel

Bryony Bonning traveled to the University of Durham, England on May 31 to give a research presentation and meet with Dr. John Gatehouse to discuss ongoing collaborative research.

Rebecca Brown traveled to Antananarivo, Madagascar to conduct research and collect insect specimens, June 6 to July 4.



Joel Coats traveled to Vancouver, British Columbia to serve on the Scientific Advisory Panel of EcoSmart Technologies, Inc., and present research results, June 14-18.

Joel Coats attended the 11th International Congress of Pesticide Chemistry in Kobe, Japan August 4-12. He served as an organizer/moderator for natural products chemistry session and presented a poster. **Hirofumi Kosaki** also attended.

Elliot Krafur traveled to the United Kingdom to plan and coordinate further research in Africa on an NIH supported project, "Ecology, genetics, and physiology of insect vectors."

Other

The Medical Entomology website, which provides up-to-date information on mosquito and tick-borne disease surveillance in Iowa, is now up and running. See www.ent.iastate.edu/medent.