Greetings From Cornell

Merger – or metamorphosis? The biggest news from the last year is that the two Cornell Entomology departments on the Ithaca and Geneva campuses, each with more than a century of proud history, are in the process of becoming a single academic and administrative unit with a presence on both campuses. This effort is part of a much larger University-wide process of “reimagining” Cornell by addressing current budget constraints and positioning us for strategic growth in the future. By the time you read this, a faculty merger planning committee will have submitted their recommendations to the CALS administration, new department leadership may have been selected, and we will have some idea about when Cornell Entomology will be a single department.

Integrating two academic cultures and the long-held practices of two campuses and two Experiment Stations will pose inevitable challenges over the next year, but the faculty are excited and energized by the prospect of the strengthening of the undergraduate major and graduate field through increased involvement by Geneva-based faculty, more opportunities for collaborative research, and a strong and unified voice for Entomology within CALS and the entire University.

It has been another busy and productive year in the departments. Through a concerted effort, our number of undergraduate majors has grown and now they outnumber our graduate students for the first time in our history. Our graduate students continue to excel and made an especially outstanding showing at the national ESA meetings where five students won awards! The Sarkaria Institute of Insect Physiology and Toxicology continues to grow and is rapidly establishing Cornell as a center of excellence in these disciplines. Change continues to be a major issue at the University as we have had several budget cuts. In addition, in the Ithaca department there were four retirements and we now have completely new administrative staff.

We hope that you enjoy reading about our activities for the last year. As always, we hope to see you at the Cornell mixer at this year’s ESA meeting in San Diego (December 12-15). Also, we would love to hear from you and learn what new and exciting things you are doing. Finally, please remember to stop by and visit us on either campus the next time you have an opportunity.

Dave Soderlund and Jeff Scott
On July 1, 2010, the Departments of Entomology at Geneva and Ithaca will formally merge to become one unit. Preserving tradition, the name of the new department will be the Department of Entomology. Many people at the two campuses are excited about the new opportunities for the consolidated department. The unification of Entomology at Cornell represents a prospect to strengthen our department and discipline as a whole. This is a unique time when, concomitant with the college and university-level planning process, we can scrutinize our strengths and weaknesses and creatively and expansively plan for our future. In spite of budgetary constraints, we hope that with a strong and unified vision, we will garner college support and resources for executing this plan. This support may not be available later once the reimagining of Cornell process is completed.

There are three scientific areas in which the department must continue to remain strong. “Evolution, Ecology and Diversity” (including Systematics and Behavior), “Physiology and Molecular Biology” (including Toxicology, Genomics and the Sarkaria Institute for Physiology and Toxicology) and “Applied Entomology” (including IPM). Priorities for future faculty hires must consider how to strengthen these areas while maintaining cohesive, active scientific groups on both campuses.

There are certainly some challenges with merging two historically separate units that are over an hour’s drive apart from each other. We are committed to create a fair and transparent governance structure that will ensure the thriving of the department as a whole as well as people working at both locations. To build the best possible structure for the new department, a merger committee consisting of 3 faculty members located at Geneva and 3 faculty located at Ithaca have been intensively working since December. This committee has spoken individually with most faculty, staff and students. There was also a whole department retreat on January 22nd where we shared information and a vision for the new department and started discussing some of the potentially difficult issues faced by a unified department. The retreat started with an overview of the accomplishments of the department over the last year and was followed by 8 wonderful talks by graduate students. After lunch, the faculty broke into small discussion groups to brainstorm on sensitive topics.

The current chairs, merger committee, and all members of the Department of Entomology encourage comments and discussion about this important transition. Entomology will emerge stronger and we look forward to your input and visionary thinking.

Author: Jennifer Thaler
Last summer, rising junior Avery Russell (‘11) was awarded a Rawlings Cornell Presidential Research Scholarship (RCPRS), as were incoming students Emily Bick (‘13) and Micah Freedman (‘13). They join four other entomology majors, Jordan Perlman (‘10), Jeff Petracca (‘11), Elena Olsen (‘11) and Sean Griffen (‘11) as recipients of this prestigious honor that supports undergraduate students pursuing research projects. There are currently 198 RCPRS scholars spread across campus in all disciplines, including arts and humanities. Having seven among our 40 entomology majors speaks highly of the quality of our majors and their dedication to research. The RCPRS program was started in 1999 to provide financial, intellectual and collegial support for incoming undergraduate students who were interested in pursuing research at Cornell. After a few years the program was broadened to accept very competitive applications from sophomores. Students receive funds for supplies, stipend, travel, and other expenses necessary for their research project up to $8000. Past entomology RCPRS scholars have traveled to Chile to collect beetles and to the British Museum of Natural History in London to examine type specimens. Most students stay closer to campus to conduct their research, although they can use the funds to travel to meetings to present the results of their work. The current RCPRS scholars are working with faculty from three colleges on a variety of projects from evolution of mechanosensory organs in flies and thermoregulation in honey bees to plant defenses against herbivores and host immunity to pathogens.

One of our recent RCPRS graduates, Juliane Deacutis (‘07), who is now in the Ph.D. program at the University of Kentucky, finished her undergraduate career as a co-author on four publications. Juliane says of the RCPRS program, “RCPRS was an incredible opportunity for me. It immersed me in research right from freshman year and afforded me the opportunity to learn from my mentor, post docs and graduate students. It gave me an appreciation for the amount of work needed for publication and was certainly very influential in my decision to continue entomological research in graduate school. Looking back at it now, I think it is a rare and unique opportunity for undergraduates anywhere to be able to shape their own independent research project over a three year period.”

Author: Cole Gilbert
Bugs may not be so creepy after all, many visitors learned at this year’s Insectapalooza. Thousands of people showed up at Comstock Hall on Oct. 3 to see and hold giant millipedes, tarantulas, cockroaches, grasshoppers, scorpions and other critters. The annual event, hosted by Cornell’s Department of Entomology, featured a smorgasbord of displays and activities to acquaint the public with the wonderful world of insects.

In the butterfly room, visitors got up close and personal with a fluttering rainbow of butterflies, letting them land on their hands, backs and even noses. At the cockroach races, children cheered roaches on as they scurried down a track. Kids scooped up water bugs out of a pool, took a peak at baby aphids through a microscope and made their own bugs out of paper.

Cornell owns the largest insect collection of any land-grant university – more than 5 million specimens. Among those on display were butterflies collected by former English professor and novelist Vladimir Nabokov, who was also a distinguished lepidopterist.

Several rooms were filled with displays of live specimens, with entomology professors and student volunteers stationed to answer questions and let visitors hold some of the bugs. Linda Stephens, a senior in animal science, held a vinegarroon (“whip scorpion”) in her hands to give people a closer look. “A lot of people mistake this guy for a scorpion because of the pinchers on its forearms,” Stephens explained, “but he’s not harmful at all. This species is actually best known for its ability to shoot acetic acid – the chemical that gives vinegar its smell – out of its tail.”

Lily Elana Joseph, a 6-year-old from Ithaca with a large bumblebee painted on her cheek, said her favorite part of the insect zoo was seeing the tarantulas “because they’re so big and hairy.” For arachnid fans like her, Mexican red rump tarantulas were available to take home for $15 each. These pets can turn out to be a big commitment for an impulse buy, however; female tarantulas can live to be more than 15 years old.

While most bugs were on display for viewing, some had been prepped for eating. Lori Moshman, a sophomore entomology student volunteer, handed out dry-roasted crickets and cricket cookies to the more adventurous attendees. “Some kids have been eating these like popcorn today,” she said, “and the funny thing is, the crickets actually sound like popcorn when they’re in the oven.” Those who overcame the heebie-jeebies enough to try one said they weren’t bad – they even tasted a bit nutty.

Author: Melissa Rice
Reprinted from the Cornell Chronicle by permission of the author.
The serendipitous discovery of Emerald ash borer (EAB) in New York: How the events unfolded

On Sunday morning, June 14, 2009, adjunct professor and entomologist John VandenBerg (USDA-ARS) and fellow USDA entomologist Mike Griggs were in route to Michigan for their continuing studies of the Emerald ash borer (EAB). While driving along the southern tier expressway (US Rte. 86), Mike wanted to check out some suspicious looking trees along one of the exits of the highway (Exit 16 at Randolph, Cattaraugus Co.). His hunch paid off as they found a thriving population of EAB infesting a number of ash trees at this exit. After spending some time at this site – looking for other nearby trees with signs of beetle infestation and collecting a few specimens – they hit the road again to resume their travel to Michigan. John immediately – while in route – called Ann Hajek to tell her about the discovery (he did not have my telephone number) and Ann in turn contacted me on my cell phone. It so happens that at that exact time, I was in transit from Buffalo to Ithaca – bringing my mother-in-law’s car back to Ithaca (she passed away in early January). My wife Maureen was driving our other car. I received Ann’s call on my cell while we were arriving in Geneva. Upon hearing the news, I told Maureen to go on home to Trumansburg and I turned around and headed back to the site at Randolph using John’s directions (I called John on his cell while in route). I had no collecting gear with me at the time (big mistake not to have collecting gear in one’s vehicle) so I stopped at a CVS store in Geneva and purchased some zip-lock plastic bags, nail polish remover (it contains acetone and serves as a killing agent), and another cup of ‘Joe’ for the long trip back. Three hours later, I arrived at the site and observed everything that John and Mike had seen earlier that morning. I, too, made some collections of specimens (pretty easy as they were quite abundant on the foliage), drove around the area looking for further tree damage, and was able to confidently confirm their identification of EAB. On the next morning (Monday, June 15), I notified the USDA and state regulatory officials of the discovery of this dreaded tree-killing exotic in New York. I guess you can say - “the rest is history!” Now the state prepares for the further arrival and probable spread of this invasive species!

Author: E. Richard Hoebeke

Cornell Hosts International Meeting Cooperation: Self-Interest and Mutual Interest

"The individual is not enough" is an aphorism most vividly exemplified by the social insects. Other disciplines are beginning to catch up with entomology, discovering that the traits of individuals can only be explained in the context of their membership of a cooperative group. In a nutshell, individuals from bacteria to insects and people respond to inadequate resources or other threats by forming cooperative groups, in which the participants exchange benefits and share costs.

With these issues in mind, Angela Douglas and co-organizers, Mary Alice Coffroth (Buffalo State University) and Anne Clark (Binghamton University), arranged a meeting on Cooperation: Self Interest and Mutual Interest, held at the Cornell Laboratory of Ornithology on October 16 2009. Our goal was to provide a venue for researchers from different disciplines to meet, explore common problems and share solutions in the analysis of cooperation. Nearly 100 colleagues from various disciplines, including evolutionary biology, ecology, suborganismal biology, psychology, anthropology, economics and English, joined us to discuss our common understanding and outstanding problems in the study of cooperation.

Four graduate students, Angela Early, Stephen Mondo, Eric van Fleet and Gaylord Desurmont, prepared excellent summaries of the oral presentations at the meetings. Their summaries, the program of talks and posters, and some pictures of the event are available at http://www.angeladouglaslab.com/news/story/cooperation-self-interest-and-mutual-interest-1.html. This meeting was supported by SUNY Conversations in the Disciplines, The Cornell Center for a Sustainable Future and The Sarkaria Institute of Insect Physiology and Toxicology.

Author: Angela Douglas
Administrative Staff Keep the Departments Buzzing Along

Alicia Caswell

Alicia joined the Ithaca department in March 2009 as the Student Services Representative. Alicia provides a large number of services to our faculty, undergraduate and graduate students, such as keeping our course information up to date, making sure grades are turned in, administration of the graduate field, etc. In addition, she created our new web site (http://www.entomology.cornell.edu/). Alicia comes to the department with 10+ years of experience at Cornell. She is a native of the Ithaca area. In her spare time she enjoys spending time with her son (Dylan) and husband (Rob), gardening, scrapbooking and riding motorcycle.

Cheryl Gombas

Cheryl joined the Ithaca department in September 2009 as our Administrative Manager. She is responsible of supervision of other administrative staff in Ithaca, keeping our accounts balanced and making sure grant proposals are prepared properly. Cheryl comes to the department with 8 years experience at Cornell, serving as an Administrator in the University’s Investment Office. Prior to that she was a Health Care Administrator for 9 years. Her earlier career was spent as a legal assistant and office manager for a local Ithaca litigator. When not working, Cheryl enjoys her family, reading and gardening. As a California native, she says “Ithaca’s winters are not her favorite!”

Nancy Reissig

Nancy is the administrative assistant to the Geneva Department Chair, David Soderlund, and also to the rest of the members of the department. She has worked for the Department of Entomology at the NYS Agricultural Experiment Station for 19 years, and says “I can’t believe that it actually has been that long!” Previously, she worked for the Department of the Army at Seneca Army Depot and the Army Headquarters, Department of Nursing in Heidelberg, Germany. Her hobbies include reading, traveling, wine tasting, trying to golf, bike riding and, most recently, cross country skiing.

Jason Ward

Jason joined our administrative team in June 2009 as a financial reporting specialist. He is responsible for financial transactions, helping faculty with their accounts and working with faculty on grant proposals. Jason previously worked at the Lab of Ornithology, where he was an administrator for the Information Science group and later worked with their business service center. Before that he was accounting and IT manager for the Mirbeau Inn and Spa in Skaneateles, having left the Statler Hotel here at Cornell after almost a decade of service in the front office, reservations, and accounting departments there. We all feel safer with Jason here as a NYS Firefighter and nationally-certified Fire Instructor I.

Lisa Westcott

Lisa started in August 2009 as administrative assistant to the Ithaca Chair, Jeff Scott. Her duties are numerous, as she basically is the person that keeps all the non-financial parts of the Ithaca department running. She comes to the department with 18 years experience at Cornell where her career was mainly focused at the executive level of the university. Lisa graduated from Elmira Business Institute, Elmira, NY, with a diploma in Business Administration. In her spare time she attends her children’s numerous and various extracurricular activities, including basketball, and soccer.
Retirements

Marian Hartill served as the Chair’s Assistant in the Ithaca department for 40 years. Marian retired (for the first time) in 2002, but was hired back (part time) to keep the Chair’s office operational. Marian retired (for good this time) in August 2009 after having worked with 13 different Chairs. We are very grateful to Marian for all of her years of service, and her friendly personality that helped make everyone feel welcome. Marian is currently enjoying her time traveling (and escaping the Ithaca winters).

Janice Waller, the Ithaca department’s Administrative Manager for 21 years, retired in July 2009. She was instrumental in keeping the department budget balanced and helped several chairs deal with numerous budget cuts that came our way. Janice and her husband are planning to enjoy retirement traveling the world in their sailboat.

Carolyn Klass retired after 38 years in the Ithaca department, most recently serving as the director of the Insect Diagnostic Lab. Carolyn has been a tremendous resource to the department, college and university. She worked closely with the NY IPM program, Pesticide Management Education Program, 4H, and Master Gardener Program, to name but a few. Her knowledge of insects, their biology and control options, was second to none. Carolyn will be returning part time and will be enjoying her free time with her family.

Carol Hunter retired after 11 years as an administrative assistant in the Ithaca Department. Carol provided excellent assistance to the Insect Diagnostic lab and department. She fielded phone calls from homeowners and others who had questions (some of them very unusual) about insects with great poise and we will greatly miss her smiling face and great sense of humor.

Photo Credit: Jim Liebherr
(See story on page 13)
Undergraduate Entomology Club - Snodgrass and Wigglesworth

Snodgrass and Wigglesworth had weekly meetings, and most of them included interesting presentations offered by alumni, professors, or grad students. We also went on a trip to New York City for a behind-the-scenes visit to the American Museum of Natural History, and to sight-see in the city since many of us had never seen such a large metropolis. We did outreach events at several venues around Ithaca, including the Science Center and the Plantations. We have also had several collecting and camping trips, including a bitterly cold winter overnighter. Nevertheless, we piled together to stay warm and winter active insects were collected. We also have an annual spring barbecue to honor our seniors before they graduate.

Author: James Kopco

Jugatae - the entomology graduate student organization

Jugatae continues to engage graduate students in departmental, social, and extracurricular activities. Highlights of the year so far include: creating a unique and identifiable t-shirt design for Insectapalooza 2009, hosting and entertaining graduate student prospects during recruitment weekend, and providing recreational and bonding opportunities through intramural sports. We’re also looking forward to hosting a Bug Zoo in the upcoming Expanding Your Horizons (EYH) event for 7th and 8th grade girls, which will hopefully spark a love of bugs in the next generation of would-be scientists.

In addition to these traditional activities, we’re embarking on new and exciting ways to broaden our impact in and out of the department. Last year we added a new position, Service Coordinator, to our executive board with the commission to organize opportunities for community service. As a result, we’ve volunteered several times for the Books Through Bars program, providing inmates with books to enrich their lives and provide educational opportunities. We also contributed to a book drive sponsored, in part, by the African Library Project with the goal of opening a community library in Menkhoaneng, Lesotho. Currently, several of our members are founding a Comstock Greening Project to improve resource utilization and reduce the carbon “footprint” of our department and beyond. Finally, we’ve recognized the need for greater visibility of the graduate students in the department. Therefore, we’ve decided to create a complete website that will present a cohesive and professional group identity for the graduate students as well as provide resources for those seeking information about one of the departments most valuable assets - the graduate students.

Author: Leo Stellwag, Jugatae President
Have you thanked a bug today?!

The Eickwort Lab is slowly being converted to a multiuse teaching and outreach room that houses the new Department of Entomology ‘Arthropod Museum’. The room is being redesigned to be an educational and appealing venue suitable for both entomology laboratory classes and for visiting K-12 classes. The Arthropod Museum will eventually have displays all along the south wall with illustrated arthropod phylogenies on the back wall. The first two professional quality exhibits - a display case highlighting the benefits of arthropods and a live animal case - were installed in time for Insectapalooza 2009.

The beneficial arthropods display case highlights the importance of insects to pollination, controlling pests, recycling nutrients, feeding the food chain, and foods and fibers. The exhibit includes a lively diorama of an old-growth field full of predatory insects, bees, butterflies, dung beetles, and blow flies. We are especially proud of our fake dung pats. Below the diorama are four drawers with additional information about different beneficial groups. The goal of the exhibits is to stimulate questions and investigation into entomological issues.

Another display case which will illustrate crypsis and mimicry in arthropods will be installed later this year thanks to the generous donations of Pamela Marrone (B.S. 1978). In order to use real insects in the displays, we are soliciting donations of any pinned insects that can be used to illustrate camouflage, startle, mimicry rings, etc. Contact Linda Rayor (lsr1@cornell.edu) for further information.

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Author: Linda Rayor

Congratulations to our Award Winners!

Undergraduate Students
Eric Denemark (B.S. ’09) won the 1st Outstanding Undergraduate Teaching Assistant Award in Entomology in 2009.

Jenna DeNicola (B.S. ’09) won the Cornell University, College of Agriculture and Life Sciences Student Employee Recognition Award 2008-2009: Best student employee at Cornell University for the year. This was in recognition for her exceptional work in the spider lab, involvement in outreach, and leadership.

Christina Monk was selected to receive the 2009 Paul Schreurs Memorial Award. This award from the Ho-Nun-De-Kah Honor Society was in recognition of excellence in undergraduate research.

Jessica Walden (B.S. ’09) won the CALS Academic Excellence Award for highest GPA in our major.

Graduate Students
Sarah Braun won the George Gyrisco Award for outstanding applied research and also won the President’s Prize for her talk (PIE Section) at the 2009 ESA meetings.

Lauren Cator was awarded an American Committee of Medical Entomology Travel Award to attend the American Society of Tropical Medicine and Hygiene meetings where she presented her research and won a Society Young Investigator award.

Gaylord Desurmont took first prize in the student poster competition at the ESA eastern branch meetings.

Punita Juneja and Margarita Lopez-Uribe were awarded Palmer fellowships.

John Diaz-Montano won President’s Prize Runner-Up (PIE Section) for his poster at the 2009 ESA meetings.

George Lin won the ESA President’s prize winner (IPMIS Section) for his talk at the 2009 ESA meetings, and was awarded a Palmer Fellowship.

Anuar Morales took a second place prize in the student poster competition at the ESA eastern branch meetings.

Masa Seto received the Paul J. Chapman Graduate Student Fellowship award for 2009.

Sarah Short was awarded first prize for the best student poster at the annual meeting of the Royal Entomological Society (UK).

Erik Smith won ESA President’s prize winner (PIE Section) for his talk at the national ESA meetings, took second place in the student oral competition at the ESA eastern branch meetings and was recipient of the 2009 Michael G. Villani Graduate Student Research Award.

Xiaozhao Song (Swecy) won ESA President’s prize winner for her (IPMIS Section) poster at the 2009 ESA meetings.

Susan Villarreal was selected as Entomology’s Outstanding Graduate Teaching Assistant in April 2009.
News from the Sarkaria Institute of Insect Physiology and Toxicology

We have had an exciting year at the Sarkaria Institute, with research activity involving 7 postdoctoral associates, 10 graduate students, 6 undergraduate students and 3 technical staff across the three laboratories of Drs Douglas, Scott and Wang. The research highlights of 2009 have included two studies that have identified novel targets for controlling agricultural insect pests, and new insight into the persistence of insecticide-resistant insects. Ping Wang and colleagues demonstrated that the cabbage looper *Trichoplusia ni* can counter a key plant defense, cysteine proteases, by releasing a cysteine protease inhibitor into the midgut; and the group of Angela Douglas has identified an aphid gut water channel that, when disrupted, causes aphids to literally shrivel as they feed. Research in Jeff Scott’s group has revealed previously-unsuspected diversity in genes coding for the nicotinic acetylcholine receptor in the red flour beetle *Tribolium castaneum*, and – encouragingly - that permethrin resistant *Culex* mosquitoes are less fit than susceptible individuals under insecticide-free conditions.

The annual Patton Lecture in honor of Dr. Robert L. Patton (1914-2008) is an important event for the Institute. Professor Bruno Lemaitre, École Polytechnique Fédérale de Lausanne, Switzerland presented the Eighth Annual Patton Lecture on October 26, 2009. His lecture, entitled “*Drosophila* intestinal response to bacterial infection: activation of host defense and stem cell proliferation,” described exciting new research on the interaction between the insect immune system with commensal and pathogenic bacteria in the gut, including evidence that the bacteria activate gut stem cell division.

The Sarkaria Institute continues its support of graduate students, with George Guan-Hua Lin, Adam Wong and Eric van Fleet being supported in 2009. George is finishing his Ph.D. in the lab of Dr. Jeff Scott (see Student Focus 2010 on page 11). Adam Wong received his B.Sc. in Molecular and Cell Biology from the University of York, UK and M.Sc. in Pathology at the University of Hong Kong, and is researching the interactions between *Drosophila* and its gut microbiota. Eric van Fleet received a B.S. in Biochemistry at Ithaca College, Ithaca N.Y, and is investigating the interactions between aphids and their bacterial endosymbionts.

Our students have benefited greatly from the support from the Sarkaria Institute of Insect Physiology and Toxicology. Frank Rinkevich (2007-8) presented his research on the acetylcholine receptors of *Tribolium* to the national meeting of the Society for Neuroscience (Chicago, August 2009), and Adam Wong (2009) presented his research on the gut microbiota of *Drosophila* at the Sixth International Symbiosis Congress (Madison, WI, August 2009). George Guan-Hua Lin (2008-9) and Xiaozhao Song (2007-8) presented their research at the 2009 Annual Meeting of the Entomology Society of America (Indianapolis, December 2009), and both were awarded the President Prize for their research. Our congratulations to them both for this unprecedented achievement!

More information about the activities in the Sarkaria Institute of Insect Physiology and Toxicology is available at http://www.sarkaria-institute.org/. We are deeply indebted to Drs. Daljit S. and Elaine Sarkaria for their great generosity.

Author: Angela Douglas

Opportunities to Give

- Support graduate student travel to attend meetings or conduct research by making a contribution to the Rawlins Endowment.
- Purchase new collection equipment for the infamous Introductory Entomology Lab Collection - $2000
- Fiber optic light sources are needed for the Insect Physiology lab - $4000.
- Purchase additional display cabinets for the Eickwort Teaching Laboratory - $5000 each
- Sponsor the Snodgrass and Wigglesworth Undergraduate Club Collection trip - $1200
- Sponsor ESA mixer 2010 - $3,000

Please contact Jeff Scott (JGS5@cornell.edu) if you would like more information or to discuss other giving opportunities.
Student Focus 2010

Undergraduate Seniors

Anthony Auletta

Anthony Auletta is a senior entomologist/classicist who entered Cornell in 2006, bringing with him a lifelong interest in arthropods which was fortified during his four years in the entomology department. As a freshman, he entered the laboratory of Dr. Linda Rayor, where he has worked ever since on the social behavior of Australian huntsman spiders. His current research project focuses on the individual and group benefits of prey sharing for these spiders. He also became heavily involved in Snodgrass & Wigglesworth, for which he eventually became president in 2008 and through which he formed many lifelong friendships. In addition, he served as a teaching assistant in two entomology courses and took on a leadership role for multiple Insectapaloozas. He feels extremely fortunate to have worked with such an amazing group of students, faculty, and staff in Cornell Entomology and is thankful for all of the invaluable experiences that the department has afforded him. After graduation, Anthony plans to pursue a Master’s degree in entomology, studying the social behavior of webspinners (Embiidina), before moving on to a Ph.D. in the field.

Whitney Larsen

Whitney Larsen didn’t discover entomology until taking Chemical Ecology her sophomore spring, but has been an insect fan ever since. This past summer, she got an REU at Mountain Lake Biological Station in Virginia studying the mating behavior and social networks of the nocturnal forked fungus beetle. Of course that meant going out into the woods every 2 a.m. to 7 a.m. with a headlamp to observe beetle interactions. Aside from studying entomology, Whitney is the former president of the Sustainability Hub, a student group working on projects for a more sustainable campus. Recently she has been working to add new, vibrantly-decorated trash and recycling cans to the streets of Collegetown. Next year she’ll be pursuing her environmental interests as an organizer and political advocate for Environment America, focusing on clean air, clean water, and open space issues.

Michael Orr

Michael Orr grew up with a continual interest in insects, which eventually led to his decision to pursue entomology as a career. At Cornell, he has found himself in the Danforth lab. The primary focus of Michael’s work has been the Apple Pollinator Project, for which he has collected and identified thousands of bees. In addition to this and his contributions to the molecular work in the Danforth lab, Michael has also served as the treasurer of the Snoddwigs for two full terms, during which he secured a great deal of equipment for the club’s use. In the future, Michael plans to continue his work on the Apple Pollinator Project this summer, before taking a year off to build his base of experience before applying to graduate programs.

Jordan Perlman

Jordan has gained several valuable experiences during his time at Cornell University. He volunteers with the campus EMS agency, as well as Dryden Ambulance, and the Freeville Fire Department. He spends most of his free time in Dr. Losey’s lab breeding aphids and measuring ladybeetles. He hopes to become a physician and study vector-borne illnesses.

Rob Schintzius

Throughout his undergraduate years, Robert was involved in research in the Department of Science and Technology through the direction of principle investigator Trevor Pinch. He also worked in the Cornell University Insect Collection under the guidance of Rick Hobeke and Jim Liebherr. He was a teaching assistant for the Sustainable Development course for two semesters and was an active member of the Naturalist Outreach Speakers Bureau, the Cornell Mushroom Club and Snodgrass and Wigglesworth: Cornell’s Undergraduate Entomology Club. After graduation, Robert is taking a gap year to apply to graduate schools and will eventually obtain a career in the medical field with the goal of combining all of his varied interests in his future profession. In his spare time he snowboards, travels to unique destinations and hikes to find new and exciting places.
Student Focus Continued

Laura Seeholzer

Laura is graduating with a double major in Entomology and Biological Sciences, a concentration in Neurobiology and Behavior and a minor in Global Health. She is very interested in medical entomology, infectious diseases and insect behavior. For the past two years she has studied sperm dynamics in the Harrington Lab and last summer she had the opportunity to study the malaria vector in Tanzania. In her free time she plays Ultimate Frisbee for the Cornell Roses and participates in Snodgrass and Wigglesworth. She also enjoys running, cross country skiing, and playing the string bass. Any sunny day she can be seen on the Arts quad throwing with the other ultimate players.

Diane Wang

Diane is a senior in CALS, double majoring in Entomology and Biology (Molecular and Cell Biology). She got hooked into entomology during her junior year after volunteering at Insectapalooza as part of Linda Rayor’s outreach class. Diane decided she wanted to add the major in order to learn more about the bizarre lifestyles of insects and be around a group of people so passionate about their work. So far, her favorite part about being an entomology major is getting to play outside on field trips, the most memorable being the weekend trip to Huyck Preserve with the Insect Phylogeny class last fall. Other than insects, Diane’s interests are in plant genetics (she has been doing research in a rice genetics lab since freshman year), teaching rock climbing for Cornell Outdoor Education, and teaching genetics to inmates at a maximum security prison in Auburn, NY.

Graduate Students (recent or soon to be graduating)

John Diaz-Montano

John’s Ph.D. research (major professor Tony Shelton) was to find onion resistance to onion thrips (Thrips tabaci Lindeman), and to study the role of onion thrips as a vector of Iris yellow spot virus (IYSV). His research involved onion host plant resistance not only to onion thrips but also to IYSV, onion thrips behavioral studies and the relationship between color of onion leaves and resistance.

George Guan-Hua Lin

George is working towards his Ph.D. (major professor Jeff Scott) He studies metabolism-mediated insecticide resistance related to cytochrome P450s, and xenobiotic induction of P450s. His studies the first evidence of transcription factors regulating xenobiotic induction in insects and identified the involvement of xenobiotic induction pathway in causing insecticide resistance. Besides his scientific pursuits, he enjoys life in Ithaca with his wife with two little boys.

James Hayden

James completed his Ph.D. requirements in December 2009 (major professor, Jim Liebherr) with a dissertation entitled “Phylogenetic classification of the eurrhypine Odontiinae and revision of the major Neotropical genera (Lepidoptera: Crambidae).” He is thankful for receiving the Palmer Fellowship in spring 2009 and hopes that at least the length of the dissertation reflects that support. He has moved to Pittsburgh, PA to accept the Rea Postdoctoral Fellowship at the Carnegie Museum of Natural History, where he will diversify his research on pyraloid moths in collaboration with John Rawlins (Ph.D. ’82).
Anuar Morales

Anuar completed his M.S. (major professor Daniel Peck). He is now working towards his Ph.D. at Montana State University.

Erik Smith

Erik is working towards his M.S. (major professor, Brian Nault). His research has focused on onion thrips, Thrips tabaci. Onion thrips are the sole vector of iris yellow spot virus (IYSV), a yield-reducing pathogen of onions. Specifically, he studied weed hosts of onion thrips in an effort to better understand how weeds impact the epidemiology of IYSV. Identifying IYSV-susceptible weed species that are hosts of onion thrips will hopefully lead to effective and sustainable management strategies for both onion thrips and IYSV. Eric plans to continue working towards his Ph.D. with Brian Nault.

Masa Seto

Masa’s doctoral research (major professor, Daniel Peck) focuses on spatial ecology and phenology of Listronotus maculicollis, a major insect pest of golf courses in the Northeast. He has detected strong spatial associations between insect injury and several environmental factors, which might lead to novel non-chemical management strategies of the insect. Also, he developed practical research techniques, such as mass rearing method and artificial diet. He was the organizer of the annual “Geneva-Ithaca student social event held in Geneva.” Masa has been very involved with Student Association of Geneva Experiment Station (SAGES) and has helped to raise thousands of dollars for SAGES Agricultural Scholarships for local high school seniors, and is currently the president of SAGES. After completing his Ph.D., Masa would like to keep working on insect ecology and insect-plant interactions, preferentially in the context of turf insects.

A Piece of Lint

Last July 4th, I was busy doing Saturday chores at home in Ithaca. We’d been going inside and out, when I noticed a fuzzy black piece of lint on a white linoleum floor. Our dog is black and furry so he was my first hunch as the source. But, this lint looked just a little bit odd, so I found my hand lens to take a look. As an undergraduate at the University of California, Berkeley, I’d done invertebrate surveys and worked as a teaching assistant for a field entomology course taught by Dr. Evert Schlinger, an acrocerid expert. To my surprise, the ‘lint’ turned out to be a member of the Acroceridae, a small family of peculiar-looking flies uncommonly collected in the northeast (See image on page 7). Acrocerids have a large humpback and a small head, hence the common name small-headed flies. To show how uncommon they are, the Cornell Insect Collection contains approximately 13,000 drawers of insects and only one of these drawers houses acrocerids. This species keyed out as Pterodontia westwoodi, with no other specimens of this species and only one other species of the genus in Cornell’s collection. Pterodontia flies have a tooth on the front edge of the forewing, which explains the genus name Ptero-dontia; the flies are pretty hairy and the short wings and thick body suggest that they aren’t strong fliers. P. westwoodi was first described in 1848 from Georgia and, since then, it’s only been reported from 4 other locations in the eastern US (Long Island, Woods Hole, Beltsville and now Ithaca). The larvae of acrocerids are endoparasitoids of spiders. Other species of Pterodontia have been reported as depositing eggs while flying by flicking them onto vertical surfaces. The first instars are planidia that locate hosts. We don’t know why this species is so rare; perhaps it is common but just not located where and when entomologists are looking for specimens. So, be on the lookout and you too could come up with rare insect specimens when you should instead be doing Saturday chores.

Author: Ann Hajek
Will Silver Carp, an imported species from Asia, make its way to the Great Lakes and devastate a 7 billion dollar sport fishery? Will ash trees in the northeast suffer the same fate as American chestnut and elm and disappear from the landscape, a casualty of an invasive wood boring beetle? Will newly introduced disease vectors like the Asian tiger mosquito lead to outbreaks of emerging or re-emerging diseases? Why is it that humans recognize the threats and financial losses caused by invasive species yet seem incapable of effectively confronting and managing the problem? These are some of the topics covered in “Invasions”.

Three years ago a process was begun to revise the introductory biology curriculum at Cornell. For biology majors a set of core courses has replaced the year-long introductory course. For non-science majors, the requirement for a year of introductory biology was replaced by a life sciences distributional requirement. This change led to the call for new courses to be developed that taught biological concepts within the context of a subject or theme that was relevant and of interest to students who were not majoring in a science field. These new courses were intended to incorporate ‘active learning’ and have modest student enrollments to allow for the best possible learning environment.

The need for non-biology major courses led to the new “Invasions” course, taught by Ann Hajek and Jan Nyrop, both of whom have worked extensively with invasive species. Due to globalization, invasive species pose significant problems, especially to the environment, the economy, public health and New York State is experiencing a large influx of invasive species. On a very regular basis invasive species are mentioned in the media and are the subjects of books and research reports in peer-reviewed journals. This subject provided an excellent venue for teaching biological concepts within the context of broad public interest and importance.

Ann and Jan created and began teaching Invasions in January 2009. This 3-credit course includes 2 lectures and one 2-hour ‘active learning’ labs each week. Lectures provide information about many different types of invasive species, including discussions about how invasives arrive, get established, spread, their impact and how invasives are managed. Examples of the general concepts that are covered include biodiversity, evolution, natural selection, comparative physiology, population and community ecology and climate change. The laboratory provides hands’ on experience, with students keying and dissecting insects, running experiments with demographic and epidemiological simulations on computers, analyzing data from biological control of weed projects, and visiting the insect collection and the ornithology laboratory, to name a few examples. During the class, students can get extra points by turning in new information on invasive species that they’ve found in the media. At the end of the semester, groups of students present information to the class on an invasive species of their choice. The last lab, a ‘scavenger hunt’ for invasive weeds, ends in a feast of pesto made from garlic mustard (Hint: only try this with new plants in spring). At present, Ann and Jan and graduate student teaching assistant Leo Stellwag are teaching the course for the second time, with an enrollment of 36 students from a variety of non-biology and biology majors. They plan to add another laboratory section next fall but will not allow the course to grow larger; their goal is to interact with each student and as class sizes grow larger, such interactions can become difficult.

Author: Ann Hajek and Jan Nyrop
We are deeply saddened to report the passing of the following alumni and faculty

Louise M. Russell (B.S. '26, M.S. '27, Ph.D. '31) died in Maryland on May 15, 2009 at the age of 104. Louise was an Entomological Scientist working for USDA in insect identification and parasite introduction at the branch in Beltsville, MD. She formerly retired at 70, after 48 years of service, only to continue to work another 20 plus years for the department without pay. She authored countless important research papers and discovered more than three dozen insects, most of which are named after her. A well noted aphidologist, she served as past president of the Entomological Society of America.

Haruo Tashiro, retired Cornell University Professor of Entomology at the New York State Agricultural Experiment Station, died in Golden, CO, on December 8, 2009 at the age of 92. “Tash,” as he was affectionately called by many of his friends and colleagues, was a world leader in the biology and management of insects and mites on turfgrass and woody ornamentals. Tashiro received his B.S. (1945) in botany and zoology from Wheaton College in Illinois and his M.S. (1946) and Ph.D. (1950) in entomology from Cornell University. He was a research entomologist with the U.S. Department of Agriculture (USDA) in Geneva, NY, from 1950 to 1963, before becoming the investigations leader and research entomologist with USDA at Riverside, CA. In 1967, he returned to Geneva to serve as professor of entomology until his retirement in 1983. Throughout his active scientific career, Tashiro produced numerous publications on the biology, ecology and management of insects affecting horticultural crops and turfgrass.

James E. Dewey, retired Cornell University Professor of Entomology, died in Ithaca, NY, on August 25, 2009 at the age of 92. He received his B.S. degree in Entomology from Cornell University, his M.S. from the University of Tennessee, and his Ph.D. from Cornell University in Entomology (Insect Toxicology). In the 1950s he conducted pioneering research on the use of Daphnia magna as an environmental biomarker and for use as a means of determining pesticide levels in water and on food crops. He served as director of the Pesticides Program in the College of Agriculture and Life Sciences from 1964-1973. His major duties, in addition to research, included teaching courses and supervising graduate students in insect toxicology. Later in his career, he devoted considerable effort to preparation of educational programs and manuals for the safe application and handling of pesticides in agriculture. Dr. Dewey continued to offer his expertise to various state and federal committees that were formulating rules for the safe use of pesticides with emphasis on avoidance of residues in food and milk. His impact on the formation of state and federal pesticide legislation was significant.

Edwin Harold “Ed” Feinberg (Ph.D. ’62) and resident of Philadelphia, PA, died on April 6, 2008 at the age of 80. Ed was an avid scientist, environmentalist and gardener.

Rossiter “Ross” Henry Crozier (Ph.D. ’69) died in Townsville Australia on November 12, 2009 at 66. Ross began his career at the University of Georgia, returning to Australia in 1975 as a lecturer at the University of New South Wales, rising through senior lecturer and associate professor to a personal chair which he held from 1989 to 1990. He then moved to La Trobe University as Professor of Genetics, also serving as head of school from 1990 to 1995 and 1998 to 1999. In 2000 he took up a personal chair in evolutionary biology in the School of Tropical Biology at James Cook University and in 2006 was awarded an ARC Professorial Fellowship. Professor Crozier was a broadly based evolutionary biologist who made major contributions to sociobiology, phylogeny of birds and insects and to understanding the evolution of social behaviour. He developed the first quantitative genetic models for kin recognition and was a world leader in studies of the variation in numbers of mates among social insects. In 2006 his work was recognised internationally with the inaugural Hamilton Award, presented by the International Union for the Study of Social Insects at their world congress.
## 2010 Calendar

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<th>Event</th>
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<tr>
<td>May 30, 2010 Cornell University, Ithaca, NY</td>
<td>NY 14853 or by email to <a href="mailto:LEW1@cornell.edu">LEW1@cornell.edu</a></td>
<td>Party of the Department of Entomology, 2130 Comstock Hall, Cornell University, Ithaca, NY</td>
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<tr>
<td>October 23, 2010 Cornell University, Ithaca, NY</td>
<td>NY 14853 or by email to <a href="mailto:LEW1@cornell.edu">LEW1@cornell.edu</a></td>
<td>Party of the Department of Entomology, 2130 Comstock Hall, Cornell University, Ithaca, NY</td>
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<td>June 12-13, 2010 Cornell University, Ithaca, NY</td>
<td>NY 14853 or by email to <a href="mailto:LEW1@cornell.edu">LEW1@cornell.edu</a></td>
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<td>ắn 13, 2010 Cornell University, Ithaca, NY</td>
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## Acknowledgements

Many thanks to everyone who helped with the production of this newsletter. Design and production was provided by CMCreative Designs and everyone who helped with the production of this newsletter.

## Editorial Board

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