

FINDING A BALANCE BETWEEN ENVIRONMENTAL CONSERVATION AND SOCIAL NEEDS

EEB professor **John Silander** has spent his career studying and conserving plant communities all over the world.

During the course of that career, he noticed large international conservation efforts often neglect to gain the support of local residents. In many parts of the world, conservation “hot spots” are juxtaposed with communities that rely on the surrounding land for survival. “Unless you engage the local community, you’re not going to be successful,” says Silander.

Early in the 1990s, Silander and a graduate student worked at a field site in a coastal reserve in Madagascar, in one of the few sections of coastal forest left on the island. The remaining large, old trees growing in the forest were being extracted by locals for lumber because, Silander says, one tree might bring in several hundred dollars at a furniture factory — a sum that could support a Malagasy resident for a year or more.

At about the same time, Conservation International had set up a reserve in the mountains nearby but their efforts didn’t extend to the coast. “They didn’t have grassroots support,” says Silander. “On the coast, near the villages, we knew this approach was not going to work.”

As a result, Silander set about setting up what he calls a “mini” integrated conservation and development project. He and his student approached people in the villages to find out what needs they could help meet. The villagers’ response was a surprise.

He found that the villagers were curious and willing to learn new ways to meet their needs without exploiting the forests. He and his students took residents to other villages in the region where they exchanged ideas on how best to live off the land. “This peer exchange was critical in learning how to use the minimum amount of resources to address each village’s needs,” Silander said.

Fifteen years later, Silander was living in South Africa, directing a UConn Student Abroad program in Cape Town. Nearby lies the Macassar Dunes Conservation Area which is home to several globally threatened species. According to Silander, the Macassar dunes along with the other areas in the Cape Floristic Region contain a level of biodiversity equivalent to that found in comparable areas of tropical rainforests like the Amazon.

The dunes are sandwiched between an urban township and a 200-year-old indigenous community, and the residents of both live in extreme poverty. Silander noted that conservation efforts were doing little to ameliorate the locals’ use of the dunes for sand extraction, garbage dumping, and shelter for vagrants.

One of Silander’s undergraduate students decided to try to determine what the people in the surrounding communities thought of the conservation area and the means used to protect it. With funding from the College of Liberal Arts and Sciences Honors Program, his student, J. Stephen Ferketic, surveyed local residents and conservationists to determine their opinions about the dunes and what should be done to protect them.

To the surprise of the scientists, the local residents were in favor of erecting a fence around the conservation area to deter access. “The local people liked the fence idea because they thought it would cut down on other people dumping garbage there,” says Silander. Conservation groups had rejected building a fence because of potential negative connotations although they never actually asked the residents for their opinion.

Silander attributes this new direction of his research to his students driving him to think in new and different ways. “My students and their interests drew me into this,” he says. “I’m not happy unless I’m forced to learn new things.”

—Adapted from *UCONN Today*
article by Christine Buckley

NSF AWARDS \$3 MILLION GRANT TO STUDY PLANT ADAPTATION

A collaboration of scientists, including four EEB professors, has been awarded a \$3 million grant by the National Science Foundation to study how plants adapt to climate change. The study, based in South Africa, will lead to predictions about which plant communities are likely to survive man-made climate change, and which are not.

According to EEB professor **Carl Schlichting**, the study's principal investigator, "Humans may be changing the climate faster than at any other time in the past. This study will help us to understand how resilient plant communities are to change."

The grant, one of only 14 funded nationally, provides \$2 million to the UConn group which consists of, in addition to Schlichting, professors, Kent Holsinger, Cynthia Jones, and John Silander, and about \$500,000 each to collaborators Justin Borevitz at the University of Chicago and EEB alum, Andrew Latimer (Ph.D. 2006) at the University of California, Davis.

The group's research will take place in the Greater Cape Floristic Region of South Africa, which is home to two worldwide biodiversity "hot spots" — the shrub-filled fynbos and the desert karoo. These biomes are among the most biologically diverse regions on Earth, says Schlichting, containing as much plant diversity as the Amazon rainforest in South America.

The habitats of the native *Pelargonium*, which includes garden-variety geraniums, and *Protea*, have historically experienced significant and rapid warming and drying events, yet these plants have survived and even diversified over the past 15 million years. To understand the key to these plants' success, Schlichting and his colleagues will measure many of the shrubs' physical features such as leaf characteristics and rates of photosynthesis. In addition, they will sequence most of the genomes of 200 of the 260 species across the two groups. According to Schlichting, no studies of plants have ever sequenced so much of the genome in so many related species.

"This is one of the largest plant genome projects ever undertaken," says Schlichting. "We will have millions of nucleotides for hundreds of species, which will not only be useful for us, but will be able to be used in future studies." The scientists will combine this genetic information with the plants' physical traits to find genes that are likely to be responsible for different traits which Schlichting says is key to estimating how fast evolution has occurred.

By connecting historical climate changes to models of past plant characteristics, it can be determined what effects previous climate change has had on the plant species diversification. This information can then be used to predict what the plants will look like under different climate scenarios in the future. Using climate projections created by John Silander's graduate student, Adam Wilson, for South Africa for the next 100 years, the group can "connect the dots" explains Schlichting.

Ultimately, the scientists will combine information on all 260 species to create a profile for different plant communities based on their resident species. These data will help them predict whether entire natural communities will survive future climate change. "This is a very ambitious project, and we see it as a test case," says Schlichting. "Our hope is that if it can be done in this richly diverse area, it can be done anywhere."

—Adapted from UCONN Today
article by Christine Buckley

EEB LOSES A FRIEND, COLLEAGUE AND AVID NATURALIST

On December 22, 2010, **Les Mehrhoff** died suddenly at his home in Willington, CT. He was 60 years old.

Les Mehrhoff was born on March 16, 1950 in Morris Plains, NJ. He received his BS from New England College, his MS and Ph.D. from EEB. After working for many years for the Connecticut Department of Environmental Protection, he joined the Department of Ecology and Evolutionary Biology where he was the curator of the George Safford Torrey Herbarium and later the scientific collections manager, research associate and Director of the Invasive Plant Atlas of New England (IPANE). Les retired in July 2009.

Les was involved in organizations including the Connecticut Botanical Society, New England Wildflower Society, and the Torrey Botanical Club. He was also a member of various committees such as the Arnold Arboretum at Harvard University, the Connecticut Chapter of The Nature Conservancy, and the Connecticut Invasive Plant Working Group.

Mehrhoff was an avid naturalist and champion of all living things, releasing insects found indoors to the safety of their natural habitat and working to eradicate invasive species through his teachings and field work. His legacy will be carried on by the many people he inspired and befriended.

Les is survived by his wife, Olga, and daughter, Jessie, and field dog, Moxie. A celebration of his life was held in Storrs on Saturday March 12, 2011. On Friday, May 27, 2011 a one-day seminar entitled, "The Future of Biodiversity in the Northeast: Building on Les Mehrhoff's Legacy" was held at UCONN honoring Les' life and career. More than 160 friends and colleagues from across the country attended the all-day event.

EEB COLLECTIONS HOUSES THOREAU SPECIMENS

A student, looking for old grass samples for a project asked Robert Capers, plant collections manager at EEB's George Safford Torrey Herbarium, for assistance. As Capers was looking through samples for suitable material, he came across a sample of *Panicum virgatum*, a common switchgrass, with Henry David Thoreau's name attached to it. Dated August 28, 1859, it contained a penciled note in Thoreau's scrawl that read "Dangleberry Swamp edge in prime."

After finding the first specimen, Capers plugged Thoreau's name into the search engine of the newly digitized database of plant specimens to find that another specimen had been digitized, *Cladium mariscoides*, a sedge common in the marshes and wet meadows of New England.

Thoreau collected approximately 900 plant specimens during his lifetime. When he died in 1862, Thoreau willed 100 of his specimens to friend and fellow naturalist Edward Hoar. The other 800 specimens eventually made their way to Harvard via the Concord Free Public Library. The two specimens in the EEB Collections were given to UConn in 1948 by the New England Botanical Club where Hoar's specimens were originally housed before going to Harvard.

The herbarium is in the process of digitizing 180,000 plant specimens using high-resolution scanners to capture detailed images of each plant specimen in the collection. These images, along with information on the specimen—collector's name, date the specimen was collected, and the site from where it was collected—are uploaded to a database that can be accessed from any computer with internet capabilities. This "evidence of occurrence" information allows botanists to track the rise or decline of a certain species over time and study effects of global warming. In 2009, Capers and herbarium director Don Les, received a three-year, \$430,000 NSF grant to finish the digitizing process.

—Adapted from UCONN Today article
by Tim Stobierski

ROBERT COLWELL ELECTED TO AMERICAN ACADEMY OF ARTS AND SCIENCES

Robert Colwell is one of the newest members of the American Academy of Arts and Sciences. The Academy, founded in 1780 by John Adams and other scholar-patriots, recognizes accomplished “thinkers and doers” from each generation. George Washington, Benjamin Franklin and Albert Einstein were members.

Colwell is being recognized for his contributions to his field, tropical biology. In recent years, he has studied the potential effects of global warming on Costa Rican plant and animal species. Much of his research has been conducted in Costa Rica.

In a 2008 article in *Science* magazine, he and his research team identified potential effects of global warming on tropical plants and animals. His research indicated tropical temperatures warmed more than 1.4 degrees Fahrenheit since 1975. However, because tropical forests from Mexico to Brazil vary little in temperature, latitude range shifts are unlikely. Species that move up from the tropical lowlands into the mountains are unlikely to be replaced.

Working in the forests on the Barva volcano in Costa Rica, Colwell and his team collected data on the altitude ranges of nearly 2,000 species of plants and insects. Some of those data was used in his study last year, while he was on sabbatical leave at the Center for Macroecology, Evolution, and Climate at the University of Copenhagen, modeling the distribution of species on mountainsides in the tropics over the past 800,000 years.

Using ice core climate record data and translating it to the last eight glacial cycles, Colwell and his collaborator, his former Ph.D. student **Thiago Rangel** (Ph.D. 2010), now an assistant professor at the Universidade Federal de Goiás in Brazil), are building computer models to analyze how repeated cold and hot cycles have affected species in the tropics.

The findings confirmed Colwell’s prediction that tropical species in high elevations are threatened as temperatures rise and they have nowhere to go in warm interglacial periods like those of the present time. The same fate may have sent lowland tropical species to extinction during cold glacial periods. Those living halfway up the mountains survive better than those at the top or bottom elevations.

“Chance events have long-lasting results when it comes to biogeography,” said Colwell as their findings also confirm that happenstance has a significant role in which species survive.

Their paper on the work was presented by Colwell at the Royal Society in London in October, and published the same month in the *Philosophical Transactions of the Royal Society*. He and his wife, EEB Professor Robin Chazdon, who studies regrowth of the rain forests on former agricultural land in Costa Rica, both participated in a Royal Society working group conference last fall at the Royal Society Kavli Center in the UK.

The Academy will induct its new fellows at a ceremony in October in Cambridge, Mass. Among the others awarded this year in the sciences, arts, public affairs, and humanities, are some well-known names: jazz icon Dave Brubeck; folk icon, Bob Dylan; filmmaker Ken Burns; actors Daniel Day-Lewis and Helen Mirren; author and Nobel Prize winner Mario Vargas Llosa; singer-songwriter Paul Simon; and Nobel laureates Ei-Ichi Negish (chemistry) and H. David Politzer (physics).

—Adapted from a UCONN Advance
article by Cindy Weiss

BIRDING IN THE AGE OF TECHNOLOGY

Twitter, as many of us know, is an internet social networking site that fosters communication between members in 140-character messages. It is the use of this technology that makes EEB professor **Margaret Rubega's** approach to teaching ornithology novel; and one that has her students "talking" about bird sightings from all over the world.

Before taking EEB4260, most students are unable to tell a swallow from a sparrow. However, when they leave Rubega's class, they have a better understanding of birds' lives and continue to see birds everywhere they go, largely because of using Twitter for an assignment.

"I decided to use Twitter for an assignment because birds are literally everywhere. Students can see the bird life around them and connect it to what they've learned," says Rubega. Rubega set up a Twitter account (@proRubega) in 2009 and decided to use the site in her class asking students to record bird sightings and "tweet" about their findings.

Rubega instructed students initially to post five tweets per semester; because of the response from her students she increased the number of tweets to 10; students were to post where they were, what bird they saw, and to connect the bird life around them to the course content.

"The assignment succeeded beyond my wildest dreams," says Rubega. "In a lecture class it's easy to lecture at students without making what you're lecturing apply to the outside world. The Twitter assignment forced students to observe for themselves."

And the students didn't limit their observations to campus. They tweeted on Spring Break and during weekend trips. Students who gave Rubega the impression they were not all that interested in birds ended up correcting others on Twitter who were confused about bird species. And, they wrote about birds on Twitter long after the assignment ended.

"I had hoped they would be enthusiastic about it," says Rubega. "Some of what students shared was, dare I say, inspiring." One post Rubega calls "all the evidence you need of a liberal arts education in fewer than 140 characters." Referring to the protagonist of *Catcher in the Rye*, it read: "Holden Caulfield once asked where the ducks go in winter and never really got his answer. He should walk by Mirror Lake at UConn today."

Rubega's creative and practical use of Twitter for instruction purposes is something she's happy to share with others. In 2010 she led a workshop about using Twitter at a meeting of the American Ornithologists' Union and was invited to speak on "Using Social Media in Science Education" at the April 2011 Social Learning Summit at American University.

"You have a misconception about who's sitting there in the lecture hall," she says. "There's a mythology about how this current generation of students is fully wired, that they know everything about any electronic device and all the social networking tools. It's not true." As was evidenced in her 2009 class — when the 100 students in her class were asked to raise their hands if they had a Twitter account. Not one hand went up. In her 2010 and 2011 classes, there were more hands but certainly not a majority.

Dr. Rubega is an associate professor in EEB and the Connecticut State Ornithologist.

—Adapted from a UCONN Advance
article by Cindy Weiss

FACULTY NEWS

In February 2011 four members of the department, **Drs. Janine Caira, Gene Likens, John Silander, and Michael Willig** were elected to the Connecticut Academy of Science and Engineering.

The Connecticut Academy of Science and Engineering is a private, nonprofit, public-service institution patterned after the National Academy of Sciences. The Academy identifies and studies issues and technological advances that are or should be of concern to the people of Connecticut, and provides unbiased, expert advice on science- and technology-related issues to state government and other Connecticut institutions.

For additional information, about the Connecticut Academy of Science and Engineering, please visit: <http://www.ctcase.org/>

Drs. Louise and Paul Lewis, together with co-principal-investigators Dr. Kenneth Karol (New York Botanical Garden), Dr. Juan Lopez-Bautista (University of Alabama), Dr. Richard McCourt (Academy of Natural Sciences Philadelphia), and Dr. Charles Delwiche (University of Maryland), were awarded a National Science Foundation AToL (Assembling the Tree of Life) grant.

This 5-year grant will produce DNA sequence data from multiple genes for several hundred species of green algae and will use state-of-the-art methods to infer the phylogeny (genealogy among species) of this group of organisms from the DNA sequences. Green algae represent a diverse group of photosynthetic organisms that are important ecologically and evolutionarily.

Ecologically, they are important primary producers in both freshwater (including soil) and marine environments. Evolutionarily, green algae are important components of lichens, and the ancestors of familiar land plants (such as mosses, ferns, pines and other gymnosperms, and the flowering plants) were green algae, so having an accurate and detailed phylogeny of this group will help in interpreting the significant evolutionary changes that allowed plants to cover the earth.

Dr. Charles Yarish, at the Stamford Campus, a seaweed expert, is collaborating with a Maine company that sells seaweed cut as noodles, salads, and slaw.

Seaweed is widely cultivated and consumed in Asia — in North America, not so much. For Dr. Yarish and others who study seaweed, this is an unfortunate oversight considering as a crop, it can clean the water in which it grows, needs no arable land, and provides a nutritious food.

“You have to remember in Western countries, people say ‘seaweed’ and they think of the glop found on our beaches,” says Yarish.

For more than a millennium, seaweed has been a staple of the Chinese and Japanese diet. Both countries produce and consume seaweed in huge quantities.

Yarish notes, “we have no Burpee seed company. No companies provide the seed stock for any seaweeds,” so starting a crop of seaweed involves harvesting young plants from ocean beds and transplanting them. Yarish and his colleagues are working on a solution with small-business innovation funds from NOAA as well as a Connecticut Sea Grant.

There are two stages of seaweed says Yarish — a tiny one and the familiar large one. Dr. Yarish and his graduate student, Sarah Redmond, are working with the tiny, microscopic stage of seaweed to cultivate young kelp plants which eventually will be placed in open water.

Seaweed is high in fiber and there is evidence that seaweed fiber can dramatically reduce the body’s fat uptake. Research has shown that some compounds derived from seaweed have antibacterial, anti-tumor, antiviral, and antioxidant effects.

With these benefits comes caution, seaweeds can absorb heavy metals including arsenic. A thickener and stabilizer derived from seaweed, carrageenan, has been shown to damage the digestive tract.

— Adapted from *msnbc.com* article
by Wynne Perry

GRADUATE STUDENT NEWS

At the Fall 2010 Botanical Society of America meeting, **Jessica Budke** received the Katherine Esau Award for the best student presentation in the Developmental and Structural Section.

Jessica Budke was also awarded a Doctoral Dissertation Fellowship Award from the University of Connecticut in Fall 2010.

At the Fall 2010 American Bryological and Lichenological Society meeting, **Juan Carlos Villarreal** received the Sharp Award for best student presentation.

Frank Smith was one of 18 recipients of the inaugural Rosemary Grant Research Award from the Society for the Study of Evolution. UCONN was one of only two schools to receive multiple grants (2) surpassing Harvard, Duke, Berkeley and Cornell for that honor.

Justin Davis received a Stoye Award for the best student presentation in the conservation biology category at the 90th Annual Meeting of the American Society of Ichthyologists and Herpetologists in July.

Beth Timpe was awarded the 2010 Caudata.org research grant to support her work.

Geert Goemans and **Chris Owen** received Systematics Research Fund grants. There were 261 applications, 23 received funding.

In April, 2011 **Kevin Burgio** was awarded a National Science Foundation Predoctoral Fellowship.

In January, 2011 **Cory Merow** received the best student poster award at the 5th (Biennial) Conference of the International Biogeography Society in Crete, Greece. Cory was also the recipient of the IBS Student Travel Award to attend the conference.

Hugo Martinez-Cabrera was presented the award for the best student poster from the Developmental and Structural Section at the Fall 2010 Botanical Society of America meeting.

In April, 2011 **Vanessa Boukili** and **Diego Sustaita** received NSF Doctoral Dissertation Improvement Grants.

EMERITI PROFESSORS WORK PUBLISHED

Dr. Gregory Anderson's previously published paper has been selected for *The Journal of Agricultural, Biological, and Environmental Statistics* (JABES) showcase session. The selected paper is:

Lan Huang, Ming-Hui Chen, Paul R. Neal and Gregory J. Anderson. 2008. On Modeling Repeated Binary Responses and Time-Dependent Missing Covariates. *Journal of Agricultural, Biological and Environmental Statistics* 34(3): 270-293.

In 2010, **Dr. Carl Schaefer** published two papers: Taxonomic notes on the Alydidae (Hemiptera: Heteroptera) from Guam and surrounding areas. Carl W. Schaefer and Richard S Zack. *Annals Entomological Society of America* 103: 706-710. His second paper was: Comment on the proposed conservation of the specific name of *Callidea lateralis* Guérin-Méneville, 1838 (currently *Lamprocoris lateralis*; Insecta, Heteroptera). *Bulletin of Zoological Nomenclature* 67: 1 page

ALUMNI NEWS

Dr. Chris Martine (Ph.D. 2006), Assistant Professor, SUNY Plattsburgh, was in Costa Rica during spring break co-running a course on the Political Ecology of Costa Rica. He compiled a 6-day series of student video journals during the trip which were posted on YouTube at: <http://www.youtube.com/watch?v=gsOaU2KVXLw&feature=relmfu>.

For his novel approach to educating students and the public alike, Chris received funding from the Botanical Society of America for filming a pilot for an "Adventures in Botany" TV show. The intention is to find the most rare and/or unusual plants on Earth, with an expert on each species as a "guide" — think Kratt Brothers do plants! In June Chris will be in the Louisiana swamps with Dr. Maggie Koopman filming the 10 minute pilot.

Last fall, Martine was awarded the Charles Edwin Bessey Teaching Award by the Botanical Society of America. This award honors Dr. Charles Bessey, who was one of the great developers of botanical education in the United States of America.

In receiving this award, Dr. Martine's efforts to create the first student chapter of the Botanical Society of America, his active membership of the Education Committee, and his successful integration of undergraduate research into his department were recognized.

According to Chris' Department Head at SUNY Plattsburgh, he "has utterly transformed the teaching of botany at our school and vastly increased research and learning opportunities in botany for our students."

Chris is involved with community outreach. He has developed inspirational YouTube videos, student video journals like those from his Costa Rican trip, as well as his "Chlorofilm" botanical education series, which teach children botanical principles in fun ways. They can be viewed at <http://www.botany.org/botany-without-borders.php>!

Dr. David Taylor, (Ph.D. 1987) Assistant Professor, University of Portland, OR was one of those curious kids — that curiosity continues to this day and is very well suited to someone who chose ethnobotany as his career.

"I'm fascinated with the world around me," says Dave. When working on a plant classification project for his doctorate, he observed several specimens he collected in Cuba, Grenada and elsewhere in the Caribbean didn't match the accepted physical description of the member of the genus *Chione*.

After intense study, Dave discovered a new genus of plants and named it *Colleteria*. This genus belongs to the same plant family as coffee and gardenias.

Currently Dave is working with a team of electrical engineers from the University of Washington to export the use of maple trees to power batteries measured on the nano scale. "Suppose, says Taylor, that you have installed some remote environmental monitoring equipment in a very wild and distant forest location. Perhaps wind or moisture or temperature sensors. Obviously changing the batteries in these sensors is a major effort — so why not use the trees themselves to provide the power through the phloem stream?"

This is very early research, and you won't be plugging your iPad into a tree anytime soon, but the possibilities are fascinating.

— Adapted from an article by
Todd Schwartz in the SPRING 2011
University of Portland Magazine

ALUMNI NEWS

Dr. Juliana Barrett (Ph.D. 1995) of UCONN's Sea Grant Extension, and her colleagues received an APEX Awards for Excellence in Publications in the Green Publications category for *Salt Marsh Plants of Long Island Sound* by R.S. Warren (Connecticut College), Juliana Barrett, and Margaret Van Patten (CT Sea Grant College Program).

APEX Awards are based on excellence in graphic design, editorial content and the ability to achieve overall communications excellence. There were more than 3,700 entries.

Richard Piacentini (M.S. 1984), Executive Director of the Phipps Conservatory and Botanical Gardens, received a 2010 Leadership Award from the U.S. Green Building Council during the 2010 Greenbuild International Conference and Expo in Chicago, IL.

The 2010 awards recognized individuals who exemplify vision, leadership and commitment to the evolution of green building design and construction in the private, public, and non-governmental organization categories.

In 2009 Phipps was the site of the Pittsburgh G-20 Summit and Welcome Dinner which showcased the conservatory as a model of environmental sustainability.

Dr. Nirvana Filoramo, (Ph.D. 2007) has accepted a tenure-track position at Worcester State University in Worcester, MA.

Dr. Roberto Ibáñez, (Ph.D. 1991) is the local director of a frog rescue project in Panama City, Panama. He is also a scientist at the Smithsonian Tropical Research Institute.

The Panama Amphibian Rescue and Conservation Project's goal is to rescue amphibian species that are in extreme danger of extinction throughout Panama. It is the first project of it's kind to successfully breed the critically endangered La Loma tree frog, *Hyloscirtus colymba*. The project is a joint venture between the Smithsonian's National Zoo, the Smithsonian Tropical Research Institute, Africam Safari, Panama's Autoridad Nacional del Ambiente, Cheyenne Mountain Zoo, Defenders of Wildlife, El Valle Amphibian Conservation Center, Houston Zoo, Summit Municipal Park, and Zoo New England.

The project current has 28 adult La Loma tree frogs and four tadpoles at the Summit Municipal Park in Panama City, Panama. The frogs, up to this point, were notoriously difficult to care for in captivity. In addition, to the La Loma tree frog, the project also has successfully bred the endangered Limosa harlequin frog, *Atelopus limosus*.

Nearly one-third of the world's amphibian species are at risk of extinction. The rescue project aims to save more than 20 species of frogs in Panama, one of the world's last strongholds for amphibian biodiversity.

Dr. Susan Letcher (Ph.D. 2008) has accepted a tenure-track position at Purchase College.(SUNY) in Purchase, NY.

Dr. Piotr Naskrecki (Ph.D. 2000) was part of the Conservation International Rapid Assessment Team that, discovered 200 new species in Papua New Guinea in 2009. Among the finds were 24 frog species, scores of spiders and around 100 insects including ants and dragonflies that appear to have never been described in scientific literature before.

They tell us how little we still know about the world," said research team leader Stephen Richards. "There's a lot of concern, quite rightly, about biodiversity loss and climate change and the impacts on biodiversity and what biodiversity means to us. ... Then we do projects like this and we discover, 'Hey - we don't even know what biodiversity is out there.'"

EEB STUDENT NEWS

CENTER FOR CONSERVATION AND BIODIVERSITY ANNOUNCE 2011 RESEARCH AWARDS

EEB undergrads **Jason Lech** and **Justin Benavidez** were awarded CCB awards in 2011. In addition two graduate students, **Beth Timpe** and **Sarah Treanor Bois** were granted awards in 2011 to assist with their dissertation research.

CCB ANNOUNCES THE 2011 A.I. AND A.N. SILANDER AWARD RECIPIENTS

The Center for Conservation and Biodiversity granted the first A.I. and A.N. Silander awards in June, 2011.

With a matching grant from the CLAS Dean's Office, CCB selected two outstanding graduate students for this award. **Cory Merow** and **Lily Lewis** each received \$1,500 to continue their dissertation research.

Candidates for this award must meet the following criteria: (a) be an academically outstanding graduate student enrolled full time and (b) demonstrate an interest in conservation and biodiversity. From the eligible candidates, priority consideration is given to students with an interest in botany or plants.

Funding for this award is distributed through the Center for Conservation and Biodiversity Endowment Fund. For additional information about this Fund, or how you might contribute, please contact **Dave Wagner** at david.wagner@uconn.edu or **John Silander** at john.silander@uconn.edu.

2011 DEPARTMENTAL RESEARCH AWARDS AWARDED

The following graduate students have been granted awards from the EEB Department for research in their fields of study listed below. Since 1999, EEB has granted more than \$180,000 in research awards to undergraduate and graduate students. These awards are made possible through the generosity of EEB donors who contribute to funds listed here.

Botany: Awards are made possible through the **Bamford and Andrews Endowment Funds**.

Awardees: **Cory Merow, Manette Sandor, Amanda Wendt**

Invertebrates: Awards are made possible through the **DeCoursey, Penner, and Slater Endowment Funds**.

Awardees: **Frank W. Smith, Elizabeth Wade**

Vertebrates: Awards are made possible through the **Clark, Manter, Rankin, Trainor, Wetzel and Whitworth Endowment Funds**.

Awardees: **Jessie Rack, Alejandro Rico-Guevara, Maria Rosa, Bill Ryerson, Kat Shaw, Diego Sustaita, Beth Timpe, Jonathan Velotta**

For information about these Funds, or how you might contribute, please contact Pat Anderson at pat.anderson@uconn.edu.

EEB STUDENT NEWS

UNDERGRADUATES WIN PRESTIGIOUS AWARDS

Two biological science majors, **Bryce Klein Perler** and **Chelsea Willet** were inducted into Phi Beta Kappa in April 2011. Both students were advised by EEB faculty. Bryce's major advisor was Dr. Ted Taigen; Chelsea was advised by Dr. Elizabeth Jockusch.

James Bernot (Dr. Janine Caira), **David Fryxell** (Dr. Eric Schultz), **Christina Natale** (Dr. Carl Schlichting), **Nikisha Patel** (Dr. Gregory Anderson) were awarded Paul L. Drotch Undergraduate Biology Scholarships in May, 2011. The scholarships are offered in memory of Lt. Paul L. Drotch, Class of 1957.

In April, 2011 UCONN junior Colin Carlson was awarded a Goldwater Scholarship which is given for academic merit in sciences, engineering, mathematics and computer sciences. The scholarship grants \$7,500 toward the completion of the recipients undergraduate degree.

Carlson was also awarded a Truman Scholarship which acknowledges college juniors for their leadership abilities and dedication to careers in public service. The scholarship provides \$30,000 toward graduate study. Carlson is the fourth UCONN student to win the award since its inception in 1975.

Carlson, an honors student and University Scholar, is earning a dual degree in ecology and evolutionary biology and in an individualized major, environmental studies. EEB faculty, including Eric Schultz, and Carl Schlichting, have worked with Carlson on research projects .

Carlson has also been engaged in outreach and public service, helping found a climate change action group in his hometown of Coventry, CT, a national network of student environmental groups called the Keep US Cool Initiative, and the Connecticut Youth Activist Network.

Carlson plans to continue his education with a Ph.D. in ecology and evolutionary biology, and eventually a degree in law.

SUPPORT NEEDED FOR STUDENT RESEARCH

You can help EEB students conduct research by contributing to one of the funds listed below. These funds provide annual student research awards. To date, the Department has granted more than \$180,000 in awards to EEB undergraduate and graduate students.

All gifts should be made payable to The University of Connecticut Foundation, Inc. The Foundation is a nonprofit, tax-exempt 501(c)(3) corporation designated by the University to raise and administer private gifts and grants that support the pursuit of excellence in teaching, research, and public service. Donors to the Foundation have the right to request in writing their gifts remain anonymous.

Ecology and Evolutionary Biology Collections Endowment Fund

Ecology and Evolutionary Biology Endowment Fund

Center for Conservation and Biodiversity Endowment Fund

Ecology and Evolutionary Biology Operating Fund

Center for Conservation and Biodiversity Fund

Henry Andrews Fund (plant biology)

Ronald Bamford Fund (botany)

George Clark, Jr. Fund (ornithology)

Russell and Betty DeCoursey Fund (entomology)

Introductory Biology Teaching Assistantship Award (excellence in teaching)

Jerauld A. Manter Fund (ornithology)

Lawrence Penner Fund (parasitology/invertebrate zoology)

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