

PETER RAVEN RECEIVES WORLD ECOLOGY AWARD

Dr. Peter H. Raven, President, **Missouri Botanical Garden** received the 2007 World Ecology Award from the Whitney R. Harris World Ecology Center at a gala dinner held at the Missouri Botanical Garden on May 4, 2007.

Described by TIME magazine as a *Hero for the Planet*, Raven champions research around the world to preserve endangered plants and promotes the cause for biodiversity conservation and sustainable development. He is the recipient of numerous prizes and awards, including the prestigious International Prize for Biology from the government of Japan; Environmental Prize of the Institute de la Vie; Volvo Environment Prize; the Tyler Prize for Environmental Achievement, and the Sasakawa Environment Prize. He has held Guggenheim and John D. and Catherine T. MacArthur Foundation Fellowships.

Piper is a pan-tropical plant genus of mostly shrubs, but including a few vines, herbs, and small trees. The most famous species is *Piper nigrum* from which black and white pepper are derived. *Piper* species are hardy plants with numerous medicinal properties that have made them important to humans throughout the world. At least 1,000 species are known, mostly from the New World and Asian tropics. The fruits are an important food for many bat species.



*Dr. Peter H. Raven, President,
Missouri Botanical Garden
(Photo: August Jennewein).*

In 2001, he received from the President of the United States the National Medal of Science, the highest award for scientific accomplishment in this country. He is a member of the academies of science in Argentina, Brazil, China, Denmark, India, Italy, Mexico, Russia, Sweden, the U.K. and the Pontifical Academy of Sciences.

For over 35 years he has guided the Missouri Botanical Garden to become a world-class center for botanical research, education, and horticulture display. The Garden is a leader in botanical and ecological research in Latin America, Africa, and Asia, with strong programs in North America as well.

He has written numerous books and scientific publications and is the Engelmann Professor of Botany at **Washington University in St. Louis**. He received his Ph.D. from the University of California, Los Angeles, in 1960 after completing his undergraduate work at the University of California, Berkeley.



Anna Harris, Whitney Harris and Peter Raven at the World Ecology Award dinner held at the Missouri Botanical Garden on May 4, 2007 (Photo: August Jennewein).

PETER H. RAVEN WORLD ECOLOGY RESEARCH SCHOLARSHIP

The Whitney R. Harris World Ecology Center has established a new endowed scholarship in recognition of the significant contributions of **Dr. Peter H. Raven** in promoting botanical and ecological research and conservation in many parts of the world. The fund has been established through the generous support of sponsors and attendees at the World Ecology Award gala dinner held at the **Missouri Botanical Garden** on May 4, 2007. In particular, the Center acknowledges the lead gifts received from **Anheuser Busch Companies Inc., Leo and Kay Drey, Jane Buchan and Jim Driscoll, Whitney and Anna Harris, Diane Herndon, David and Dotty Kemper, Hal and Carole Kroeger, Monsanto Inc., Stephen and Jenny Trampe and Sage and Lee Wightman (Dula Foundation).**

WORLD ECOLOGY CENTER TO RECRUIT DIRECTOR

The Whitney R. Harris World Ecology Center has embarked on an international search for a senior scientist to lead the Center as Director. The successful candidate will be an excellent scientist pursuing active research in tropical biology, ecology, systematics or conservation. The Director will provide visionary leadership for the Center, raise funds from a variety of sources and generally promote the Center by developing its teaching, research and outreach programs.

In partnership with the Missouri Botanical Garden and the Saint Louis Zoo



HARRIS CENTER AWARDS

Kenneth and Nancy Kranzberg, passionate supporters of artistic, educational and cultural organizations throughout the St. Louis region, received the eighth annual **Jane and Whitney Harris Saint Louis Community Service Award** at a ceremony at the Harbison House on February 20, 2007. Their prize, a \$50,000 cash gift, will be distributed to six non-profit organizations of their choice. The award is the gift of the late **Jane Freund Harris** and **Whitney Harris**. Kenneth Kranzberg chairs the Whitney R. Harris World Ecology Center Council.

Patrick Osborne, Executive Director of the Whitney R. Harris World Ecology Center, received the **2007 Science Educator Award** from the **Academy of Science of St. Louis**. The annual award is given to an individual for dedication to the academy's mission of increasing the understanding and appreciation of engineering and science. The award was presented April 24 at the 13th annual Outstanding St. Louis Scientists Awards dinner.

NEW FACULTY IN THE DEPARTMENT OF BIOLOGY

Dr. Amy Zanne will join the Department of Biology in August 2008. She is currently a Postdoctoral Research Associate at the **National Evolutionary Synthesis Center, Duke University**. She is working in collaboration with **Mark Westoby, Ian Wright and Huw Morgan (Macquarie University, Australia), David Ackerly (University of California, Berkeley), Peter Rich (University of Minnesota), Lawren Sack (University of Hawaii), David Coomes (University of Cambridge, England)** and **Rob Jackson (Duke University)**. She has been examining relationships between traits in plant physiology and plant anatomy and currently investigates hydraulic efficiency in Australian woody angiosperms between sites contrasting in nutrients and rainfall. She is also comparing species from global databases of wood anatomy traits related to hydraulic efficiency. Amy completed her B.A. at **Dartmouth College** and her M.S. and Ph.D. at the **University of Florida, Gainesville**. She will be an excellent addition to the faculty bringing both tropical and temperate experience, a fine record in plant ecology research and collaboration with a wide variety of institutions and organizations throughout the world.

NEW ENDOWMENTS FOR THE HARRIS CENTER

Through the terms of his fellowship from the **Howard Hughes Medical Institute, Dr. Alan Cohen (Ph.D. graduate, 2007)** was able to establish the **Harris Center International Student Award** endowment. Awards from this endowment will support students who live in developing countries and intend to return home following the completion of their education at UM-St. Louis. The fund will facilitate the recruitment of these students to the Whitney R. Harris World Ecology Center and the Ecology, Evolution and Systematics program within the Department of Biology at the **University of Missouri-St. Louis**.

The Center also received a generous gift in recognition of **Chancellor Tom George's** sixtieth birthday and funds from this will be used to support undergraduate participation in ecology research programs at the University of Missouri-St. Louis.



2007 JANE AND WHITNEY HARRIS LECTURE

Dr. John N. Thompson, Professor, Department of Ecology and Evolutionary Biology, **University of California, Santa Cruz** delivered the 2007 *Jane and Whitney Harris Lecture* on April 5 in the Shoenberg Auditorium at the **Missouri Botanical Garden**. His lecture was entitled: *Coevolution on Our Rapidly Changing Earth*.

Dr. Thompson completed his B.A. at Washington & Jefferson College, Pennsylvania and his Ph.D. at the University of Illinois, Urbana. His research, focused on how coevolution between species organizes the earth's biodiversity, aims to understand how these interactions are genetically and ecologically linked across broad geographic landscapes and how they connect biological communities. He is also Director of the **STEPS Institute for Innovation in Environmental Research**. This interdisciplinary group was established to facilitate environmental research and investigate human impacts on the global environment that have occurred over the past century. He has published widely on coevolution, plant-animal interactions and biodiversity conservation including his recent book: *The geographic mosaic of coevolution* (University of Chicago Press, 2006).

DOCTORAL DISSERTATIONS IN 2006-2007

The following students successfully defended their doctoral dissertations in the 2006-2007 academic year:

Mark Beilstein, (USA), *Phylogeny and trichome evolution in the plant family Brassicaceae* (Current position: Post-Doctoral Fellow, Harvard University).

Daniel Cadena, (Colombia), *Biogeography of Buarremon brush-finches (Aves, Emberizinae): Integrating ecology, evolution, and systematics* (Current position: Assistant Professor, Departamento de Ciencias Biológicas, Universidad de los Andes, Colombia).

Alan Cohen, (USA), *The role of antioxidants in the physiology, ecology, and life histories of wild birds* (Current position: Postdoctoral Fellow, School of Public Health, John Hopkins University).

Cintia Cornelius, (Chile), *Genetic and demographic consequences of human-driven landscape changes on bird populations: The case of Aphrastura spinicauda (Furnariidae) in the temperate rainforest of South America*.

Teresa (Paty) Feria, (Mexico), *Understanding the geographic distribution of species: An evaluation of different methods for modeling species distributions and a test of the niche characteristics hypotheses* (Current position: Post-Doctoral Fellow, Missouri Botanical Garden).

Juan Martinez-Gomez, (Mexico), *The relationship of genetic distance with pre- and postmating isolation, geographic overlap and fitness in the estrildid finches (Aves: Estrildidae)* (Current position: Island Endemics Foundation, Mexico).

Jill Preston, (United Kingdom), *Duplication, conservation and diversification of MADS-box transcription factors involved in grass inflorescence and floral development*. (Current position: Post-Doctoral Fellow, University of Kansas).

Beto Vicentini, (Brazil), *Pagamea Aubl. (Rubiaceae), from species to processes, building the bridge*.

Noah Whiteman, (USA), *Evolutionary epidemiology of endemic Galápagos birds and their parasites* (Current position: Post-Doctoral Fellow, Harvard University).



NEWS OF HARRIS CENTER FACULTY, STUDENTS AND ALUMNI

Dr. James H. Hunt (Professor and Chair, **Department of Biology**) has published *The evolution of social wasps* (Oxford University Press, New York, 2007). In his book, Hunt details the evolution of social behavior in wasps of the family Vespidae from two perspectives, one that focuses on phylogeny and life history and one that focuses on individual ontogeny, colony development, and population dynamics. More importantly, the book has been described as “the most serious attack yet on behavioral ecology in general and on inclusive fitness and kin selection in particular.” By means of the book, in combination with articles in journals such as *Proceedings of the National Academy of Sciences* (see PNAS 2007 104: 3295-3299); Hunt has revolutionized the paradigm and research approaches by which animal sociality is understood and studied.

Renata Durães won second prize in the best student oral presentation competition at the VIII Neotropical Ornithological Congress in Maturin, Venezuela. Her talk was entitled *Costs, benefits, and the dynamics of lekking in the blue-crowned manakin* *Lepidothrix coronata* (*Pipridae*).

Corneille Ewango (M.S., 2006) of the Democratic Republic of the Congo was named to the 2007 class of **National Geographic Emerging Explorers**. This program supports gifted and inspiring adventurers, scientists, photographers and storytellers who are making a significant contribution to world knowledge through exploration while still early in their careers. Emerging Explorers each receive an award of \$10,000 to assist with their research and to aid further exploration.

HARRIS CENTER SCHOLARSHIP RECIPIENTS

BriAnne Addison (Canada): **Jane and Stanley Birge Scholarship** and the **Henry B. Cowhey Scholarship** (*Ecology and evolution of maternal antibody allocation*).

Paulo Camara (Brazil): **Stephen M. Doyle Scholarship** (*Phylogenetic study of Sematophyllaceae*).

Monica Carlsen (Venezuela): **Christensen Fund Scholarship in Plant Conservation** (*Understanding the origin and diversification of Anthurium species with palmately-lobed leaves*).

Humberto Dutra (Brazil): **Harris Center Research Scholarship** (*Impacts of an invasive species, Amur Honeysuckle (Lonicera maackii), on biodiversity through biotic interactions*).

John Flunker (USA): **Harris Center Research Scholarship** (*Defensive phenotypic plasticity in the absence of a mutualistic ant-guard and consequences for plant-herbivore interactions*).

Pamela Puppo (Peru): **Jane Harris Scholarship in Tropical Botany** (*Systematics and distribution of the Calceolaria tripartita complex (Calceolariaceae)*).

Diego Santiago-Alarcon (Mexico): **John Denver Memorial Scholarship** (*Avian blood parasites in the Galápagos Islands: Origin, diversification, and host specificity of haemosporidian parasites in new world doves*).

Eloisa Sari (Brazil): **Stephen M. Doyle Scholarship** (*Colonization history of two flycatcher species in the Galápagos Islands*).

Linda Svensson (USA): **Mallinckrodt Scholarship in Tropical Ecology** (*Coevolution patterns in avian malaria and their hosts in a tropical island system*).



In 2006-2007, **Antoinette McGrath Memorial Scholarships to Promote Scientific Literacy** were awarded to **BriAnne Addison, Patty Baiao, David Kenfack, Iris Levin** and **Felipe Zapata**.

CONSERVATION INTERNSHIPS COMPLETED

As part of the *Graduate Certificate in Tropical Biology and Conservation*, students complete internships with conservation organizations, research institutions and governmental organizations. **Charlie Hanneken** (United States) worked with the **Middle Mississippi River Partnership** developing a program to identify priority wetland areas for restoration and conservation.

Banak Gamui (Papua New Guinea) completed his internship with a review of forest seasonality in the Lakekamu Basin Integrated Conservation and Development Project in Papua New Guinea. His master's program has been supported by the **Wildlife Conservation Society** and his internship was carried out in collaboration with **Conservation International**.

Sangay Dema (Bhutan) completed her internship with the **Center for Conservation and Sustainable Development** at the **Missouri Botanical Garden** and she compiled a database of endemic plants of Bhutan.

Lauren Strange (United States) worked with the **Saint Louis Zoo** and undertook a study of the spatial distribution and abundance of resources on home ranges of female raccoons in Forest Park.

Amanda Oliver (United States) completed her internship with the **US Army Corps of Engineers** collaborating in an ecosystem restoration of Buffalo Island in the Mississippi River.

Muse Opiang (Papua New Guinea) visited the **Smithsonian Institution** and worked with **Dr. Don Wilson**, Curator in the Division of Mammals at the Smithsonian Institution. Muse was able to study the collection of mammals from Papua New Guinea held by the museum. Muse has been supported in the master's program through the **US-South Pacific Scholarship Program**, funded by the **U.S. Department of State** and administered by the **East-West Center** in Honolulu, Hawaii, with additional funding from the **Saint Louis Zoo** and the **Wildlife Conservation Society-PNG**.



Muse Opiang with a specimen of a long-beaked Echidna collected in Papua New Guinea in 1909. The specimen is held by the National Museum of Natural History, Washington DC (Photo: Gene Vricella).

EXTERNAL AWARDS TO GRADUATE STUDENTS

External support has been obtained by the following graduate students:

BriAnne Addison: Sigma Xi Grant in Aid of Research \$730; St Louis Audubon Society Scholarship \$1,050; two year Postgraduate Scholarship from the Natural Sciences and Engineering Research Council of Canada.

In partnership with the Missouri Botanical Garden and the Saint Louis Zoo



Nick Barber: TWA Scholarship \$7,000 (*Interactions among insectivorous birds, herbivorous insects, and leaf chemistry of Quercus*).

Monica Carlsen: National Science Foundation Dissertation Enhancement Grant \$10,000; Garden Club of America Award in Tropical Botany \$5,500 (*Anthurium* systematics).

Linda Svensson: The Sweden America Foundation \$14,000 (avian malaria).

Humberto Dutra: National Science Foundation Dissertation Enhancement Grant \$12,000; Webster Grove Nature Study Society \$1,000 (honeysuckle control).

Jeffrey Norris: St. Louis Audubon Society Scholarship, \$1,500 (urban bird populations in Costa Rica).

Felipe Zapata: Garden Club of America Award in Tropical Botany \$5,500 (systematics of *Escallonia*).



Humberto Dutra (Brazil) prepares his experimental plots for his field study on the effects of Amur honeysuckle on biodiversity.



David Kenfack (Cameroon) collecting Carapa in Ecuador.

PiperNotes is the biannual newsletter of the **Whitney R. Harris World Ecology Center**. In collaboration with the **Missouri Botanical Garden** and the **Saint Louis Zoo**, the Center promotes research and education in biodiversity conservation and the sustainable use of natural resources and ecosystems. The Center provides an academic, international environment for graduate education in ecology, evolution, systematics and conservation. The Center supports undergraduate education in conservation biology and promotes awareness within the St. Louis community of the importance of conservation and environmentally sustainable practices.



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TOP STORIES



*Wire-tailed manakin (Pipra filicauda),
Tiputini Biodiversity Station, Ecuador
(Photo: Brand Ryder).*

WHITNEY R. HARRIS WORLD ECOLOGY CENTER
*presents its World Ecology Award to Dr. Peter
Raven, President, Missouri Botanical Garden.*

**PETER H. RAVEN WORLD ECOLOGY RESEARCH
SCHOLARSHIP** *established.*

WHITNEY R. HARRIS WORLD ECOLOGY CENTER
to recruit director.

DR. AMY ZANNE *to join the Department of Biology
as Assistant Professor in August 2008.*

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international student recruitment and
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