

## TOP STORIES

**ICTE DEVELOPMENT BOARD MEMBER LEO A. DREY** *receives Honorary Doctorate of Humane Letters from the University of Missouri-St. Louis in recognition of his leadership by example in protecting forests in Missouri.*

**KATHRYN FULLER TO RECEIVE WORLD ECOLOGY AWARD** *for contributions to global conservation as President of the World Wildlife Fund – May 16, 2006.*

**BETTE LOISELLE RECEIVES RATCHFORD FELLOWSHIP** *for contributions to international education.*

**CHRISTENSEN FUND FELLOW CORNEILLE EWANGO** *receives the Chancellor's Medallion from the University of Missouri-St. Louis.*

**WHITNEY AND ANNA HARRIS CONSERVATION FORUM TO FOCUS ON FLOODPLAINS** – *November 9, 2005 at the Saint Louis Zoo.*



*University of Missouri Curator Anne C. Ream, Honorary Degree recipient, Leo A. Drey, UM-St. Louis Chancellor Thomas George and Patrick Osborne, Executive Director, International Center for Tropical Ecology at the Spring Commencement, May 14, 2005.*

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## LEO A. DREY RECEIVES HONORARY DOCTORATE

Environmentalist and ICTE Development Board Member, **Leo A. Drey** received an Honorary Doctorate of Humane Letters from the University of Missouri-St. Louis on May 14, 2005. Drey has dedicated his life to protecting trees, endangered species and natural landscapes and rivers from loggers and the chip mill industry. Last year, Leo, and his wife Kay, announced their donation of Pioneer Forest, the largest private land holding in Missouri, to the **L-A-D Foundation**. The donation includes more than 146,000 acres in six Missouri counties and is the largest private gift of its kind in Missouri history. This wonderful gift will ensure that Pioneer Forest continues to be managed using ecologically sustainable practices.

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## LEO AND KAY DREY SCHOLARSHIP

In recognition of the award of an Honorary Doctorate of Humane Letters to Leo Drey and the significant contributions that both **Leo and Kay Drey** have made to protecting the environment and conserving natural habitats, ICTE Development Board members and friends established an endowed scholarship in their name. The first annual **Leo and Kay Drey Scholarship** will be awarded in March 2006.

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## KATHRYN FULLER TO RECEIVE WORLD ECOLOGY AWARD



**Kathryn Fuller** will receive the Center's **World Ecology Award** at a gala dinner to be held at the **Missouri Botanical Garden** on May 16, 2006. Fuller served as President and CEO of **World Wildlife Fund-US**, the world's largest international conservation organization, for sixteen years, retiring in June 2005. Under her

leadership, WWF doubled its membership, tripled its revenue and expanded its presence in over 100 countries around the globe.

Trained as both a lawyer and a biologist, Fuller first served as director of WWF's wildlife trade monitoring program, then general counsel and executive vice president. Prior to joining WWF, she headed the Wildlife and Marine Resources Section of the Justice Department's Land and Natural Resources Division.

At WWF, Fuller's emphasis was on innovative conservation methods such as debt-for-nature swaps, conservation trusts, inclusion of women in grass roots projects and creative partnerships to conduct conservation on large, eco-regional scales. Examples of large-scale projects undertaken during Fuller's tenure included creation of the world's first conservation trust fund for Bhutan and a partnership with the World Bank and the government of Brazil to triple the amount of rain forest under strict protection in the Amazon.

It was a trip to Tanzania in 1973 to study wildebeest behavior that made her decide to choose conservation as a career—a decision that would take her from the University of Texas Law School, where she received her J.D. degree in 1976, to the Department of Justice, where she worked first in the Office of Legal Counsel and then the Land and Natural Resources Division. She became chief of the division's Wildlife and Marine Resources section in 1981, with responsibility for supervising litigation involving the trade in animal and plant resources. She came to WWF the following year to direct the American arm of TRAFFIC, the wildlife trade-monitoring arm of WWF and the World Conservation Union, IUCN.

Fuller received her B.A. from Brown University and did graduate studies in marine, estuarine and environmental science at the University of Maryland. She is a recipient of the U.N. Environment Programme's Global 500 award and holds several honorary doctorates. She chairs the board of trustees of the Ford Foundation and sits on several other non-profit and corporate boards. She is a trustee of Brown University and a member of the Council on Foreign Relations.



## PLANT CONSERVATION IN ACTION: THE CCSD AT THE MISSOURI BOTANICAL GARDEN



*Participants in a training course run by the Center for Conservation and Sustainable Development learn about the high-elevation grassland ecosystem (puna) in Peru that harbors many endemic species.*

In tropical countries in Latin America, Africa and Asia, the **Missouri Botanical Garden** and its **Center for Conservation and Sustainable Development (CCSD)** are conducting comprehensive programs dedicated to preserving plants and their habitats through botanical exploration, ecological investigation, education and community-based conservation. Plants are indispensable to human survival and only by learning about plants and applying that knowledge to use them sustainably will human beings collectively be able to secure the quality of our existence in the future.

Peru is one of the megadiversity countries in South America and, as such, is a priority for the CCSD and programs are based at a field station in the small city of Oxapampa in the country's Selva Central—in proximity to some of the world's most diverse tropical forests. The field station includes an herbarium, library, laboratory and accommodation for visiting researchers. The

herbarium (Herbario Selva Central or HOXA) holds the representative flora of the Yanachaga-Chemillén National Park, the San Carlos-San Matías Protected Forest and the Yanasha Communal Reserve. The collections in HOXA form an essential reference for the management of these Protected Areas and for scientists in the field, as well as an educational resource for local university students and local schools.

The Garden's ecological studies in Peru focus on the Yanachaga-Chemillén National Park, the San Carlos-San Matías Protected Forest, and the Yanasha Communal Reserve—three Protected Natural Areas on the eastern flank of the Andes that form part of the great Amazon River basin and lie within the homelands of the Yanasha. These areas are almost entirely unexplored. With rainfall exceeding 6,000 mm per year, as well as great variability in life zones, altitudes (from 300 to 3,885 m above sea level), climate types and edaphic zones, the region harbors exceptionally





rich biodiversity and many plant species that are new to science. Documenting the plant diversity and studying the vegetation types in the region has enabled Garden researchers to recommend priority conservation sites within the protected areas and to formulate management plans for these sites.

In addition to serving as a base for research, the field station in Oxapampa is also a center for educational activities at many different levels. University students and young professionals from throughout Peru can attend a tiered training program in botany and conservation, including field-based courses for the early undergraduate years and internships for advanced undergraduates, mentored research for the undergraduate thesis and fellowships that allow young professionals to conduct independent research. To date, more than 100 students and young professionals have received training or conducted research at the Oxapampa field station. Park guards, managers of the Protected Areas and staff of the **National Institute of Natural Resources of Peru (INRENA)**, are also trained through an annual course in botany and conservation. The field station also provides environmental education for schoolchildren and adults in the Yanessa communities to raise awareness of the importance of their biodiversity and how to use it sustainably.

To achieve conservation in the Protected Areas, CCSD is partnering with three Yanessa communities in the Palcazu Valley in sustainable development projects that address their need for alternate or supplemental sources of food. The projects include development of vegetable gardens and fruit tree nurseries, using native trees from the area and testing the feasibility of native trees from the adjacent lowlands. CCSD provides technical assistance and training for the development of the gardens and nurseries, and the community members tend them with assistance from schoolchildren and their teachers before and after school.

Looking to the future, CCSD will help the Yanessa form an Environmental Unit that will provide guidance for the sustainable management of both the Reserva Comunal Yanessa and the Yanessa lands along the Palcazu River. The Unit will develop sustainable activities that offer economic alternatives to the Yanessa, enabling

them to manage their lands; reduce deforestation, over-hunting and gathering of plants from the wild and, above all, improve their lives.

*Olga Martha Montiel, Director, CCSD, Missouri Botanical Garden and ICTE Development Board Member.*

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## **BETTE LOISELLE RECEIVES RATCHFORD FELLOWSHIP**

**Dr. Bette Loiselle** received the 2005 C. Brice Ratchford Memorial Fellowship. This Fellowship was established to recognize a University of Missouri faculty member who demonstrates commitment, dedication and effectiveness in advancing the land-grant mission through extension, international education and agricultural economics programs. The fellowship is presented to a faculty member who personifies the creativity, vision and leadership exhibited by the late Dr. C. Brice Ratchford, President Emeritus of the University of Missouri and Dean of Cooperative Extension. The annual award is funded from a permanent endowment created with contributions from the Ratchford family and from numerous colleagues, friends and organizations in recognition of Dr. Ratchford's memory. Loiselle received the award in recognition of her dedicated service to international education and her leadership of the **International Center for Tropical Ecology**.



*Dr. Bette Loiselle (holding plaque) with University of Missouri award recipients and President Floyd (far right) at the awards ceremony held in the Memorial Union, University of Missouri-Columbia.*



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## CORNEILLE EWANGO RECEIVES CHANCELLOR'S MEDALLION

**Corneille Ewango**, recipient of the 2005 Goldman Environmental Prize for Africa was presented with the Chancellor's Medallion at the Chancellor's Report to the Community luncheon held at the America's Center on May 20, 2005.

Ewango joined the graduate program in the Department of Biology as a Christensen Fund Fellow in August 2003. **The Christensen Fund Fellowship Program in Plant Conservation** is administered by the **International Center for Tropical Ecology** and strengthens the link between the **University of Missouri-St. Louis** and the **Missouri Botanical Garden**.



*Chancellor Thomas George with Corneille Ewango, recipient of the Chancellor's Medallion for his services to conservation in Africa.*

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## WHITNEY AND ANNA HARRIS CONSERVATION FORUM

The International Center for Tropical Ecology has received an endowed gift from ICTE Development Board members **Whitney** and **Anna Harris** that will ensure the future of the Center's annual Conservation Forum. In recognition of this generosity, the annual

Conservation Forum has been named the **Whitney and Anna Harris Conservation Forum**. The Conservation Forum has been held each year since 1997 when **David Shores** organized the first event held at Powder Valley Nature Center. The forum provides a venue to raise public awareness of conservation issues and an opportunity for local, regional, national and international conservation organizations to interact and exchange ideas and information. Over twenty-five conservation organizations have participated in each forum with displays, short talks and lectures. Funds from this endowment will bring guest speakers to St. Louis to participate in the annual forum.

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## 2005 CONSERVATION FORUM

The **2005 Whitney and Anna Harris Conservation Forum** will be held at the Living World, **Saint Louis Zoo** on Wednesday, November 9, 2005. The forum's theme: *Floodplains: Conservation and Development?* will be addressed by the following panel: **Adolphus A. Busch IV**, Chairman of the Board, Great Rivers Habitat Alliance (*St. Peters Lakeside 370 Levee: A case study in politics, rivers, bad planning and greed*); **Dr. Nicholas Pinter**, Associate Professor, Department of Geology, Southern Illinois University at Carbondale (*Magnification of flooding on the Mississippi and other rivers worldwide*); and **Ted Heisel**, Executive Director, Missouri Coalition for the Environment (*Courting disaster: Missouri's obsession with floodplains*).

The forum is co-sponsored by the **International Center for Tropical Ecology**, **University of Missouri-St. Louis**, **Saint Louis Zoo**, **Missouri Botanical Garden**, **The Nature Conservancy (Missouri Chapter)** and the **Missouri Department of Conservation**.

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## EARTHLINKS

At the Earth Day celebration held in Forest Park on Sunday, May 1, 2005 the ICTE developed an interactive, hands-on display that was extremely popular. Children were able to complete EarthLinks templates with words and pictures describing the importance of Earth Day to them.



Completed drawings with their messages of environmental conservation and protection were either displayed in the ICTE tent or taken home by the young artists. The EarthLinks project, run in collaboration with the **Green Center**, was made possible by a generous grant to the ICTE from the **Trio Foundation of St. Louis**.

In collaboration with **Arts-in-Transit (Metro)** and the Art Department at UM-St. Louis, the ICTE arranged our fifth annual bus painting. The designs (one for each side of the bus) were developed by **Michael Salisbury** and **Michael Wilhite**, Graphic Arts students at UM-St. Louis.



*EarthLinks in action in the ICTE tent at the Earth Day Festival, May 1, 2005 (Photo: Grace Servat).*



*EarthLinks in action in the ICTE tent at the Earth Day Festival, May 1, 2005 (Photo: Grace Servat).*

## NEWS OF ICTE FACULTY, STUDENTS AND ALUMNI

**Tibisay Escalona** (Ph.D. UM-St. Louis, 2003) was awarded a National Science Foundation Postdoctoral Research Fellowship to work with **Dr. Nicole Valenzuela**, Department of Ecology and Evolutionary Biology at Iowa State University in Ames. This project will examine the genetic structure of an endangered South American turtle (*Podocnemis unifilis*) in order to make recommendations for its conservation.

**Karina Boege** (Ph.D. UM-St. Louis, 2004) has completed a one-year postdoctoral fellowship at Stanford University and has recently been appointed professor at the Universidad Nacional Autónoma de México (UNAM).

**Alejandro (Alex) Martinez** from Nicaragua has been appointed Country Program Director for Belize with **The Nature Conservancy**. He completed the Graduate Certificate in Tropical Biology and Conservation with an internship with The Nature Conservancy (Missouri Chapter). **Elma Kay**, his wife, also completed the Graduate Certificate while doing her Ph.D. at St. Louis University and is now a Professor at the **University of Belize**.

Through a grant to the ICTE from the **Wildlife Conservation Society**, **Banak Gamui** from Papua New Guinea has enrolled in the Master's program. Gamui has extensive field experience working with WCS programs in Papua New Guinea.

Christensen Fellow **David Kenfack** and the **Réseau des Botanistes d'Afrique Centrale (REBAC)**, supported by the **Missouri Botanical Garden** and the **Smithsonian Institution**, organized a workshop at the Lope Training Center, Gabon in August 2005 with funding from the **Central African Regional Program for Environment (CARPE)**. The workshop (*Analytical approach for evaluating plant diversity and conservation value*) provided biologists working in the eleven landscapes of CARPE, with skills to analyze, describe and compare plant diversity within and between the landscapes, national parks and other study sites.

**Jay King** is working to save the endangered frog: *Leptodactylus fallax*. Historically, this frog may have been found on up to eight islands in the





Caribbean but currently it is extant only on the Commonwealth of Dominica and Montserrat. There are about ten zoos worldwide holding frogs from Montserrat but the **Saint Louis Zoo** is the only one with frogs from Dominica in captivity. Plans to supplement the frog population on Dominica are complicated by the presence of the lethal pathogenic fungus *Batrachochytrium dendrobatidis*. Proposals to reintroduce the species to Martinique and St. Kitts will require careful planning and the agreement of the Dominican Government that owns the frogs in the captive breeding program.

**Andrea Loayza** received \$4,100 from the Scott Neotropical Fund, Cleveland Metropolitan Zoo for her fieldwork project: *Seed dispersal of Guettarda viburnoides (Rubiaceae): The role of avian dispersers on recruitment probabilities*.

**Cintia Cornelius** received a \$14,890 National Science Foundation dissertation enhancement grant (International Program) for her project *Genetic and demographic consequences of human-driven landscape changes on bird populations: a case study using Aphrastura spinicauda and Scelorchilus rubecula in the south-temperate rain forest*. Cornelius also received a Dissertation Year Fellowship from the UM-St. Louis Graduate School.

**Bette Loiselle** and **Kimberly Holbrook** were awarded \$6,316 for *Seed dispersal by toucans in Amazonia Ecuador* by the Environmental Protection Agency.

**Bette Loiselle** and **Wendy Tori** were awarded a dissertation enhancement grant of \$14,996 by the National Science Foundation for the project: *Female mate choice and mating success in Pipra pipra (Aves: Pipridae)*.

**Robert Marquis** and **Nicholas Barber** were awarded \$12,817 by the Environmental Protection Agency for the project: *Effects of avian predation on canopy and understory leaf-chewing arthropods on mature white oak (Quercus alba)*.

**Zuleyma Tang-Martinez**, **Adriana Rodriguez** and **Tibisay Escalona** (Ph.D. UM-St. Louis, 2003) participated on a panel discussing: *Biodiversity and conservation efforts in Venezuela*. This was part of *Venezuela 2005*, a cultural celebration that took place at the **Missouri History Museum** on September 10, 2005. Tang-Martinez provided an overview of

habitat diversity in Venezuela; Rodriguez talked generally about the current state of biodiversity in the country and highlighted several specific conservation projects, including some of her own Ph.D. research on avian diversity in xerophytic regions of Venezuela; Escalona spoke about her Ph.D. research with an endangered species of river turtle, *Podocnemis unifilis* and her work with indigenous communities that are now involved in turtle conservation efforts.

**Paulo Camara** attended the International Botanical Conference in Vienna, Austria and presented a poster entitled: *A review of the genus Dimerodontium with considerations about the family Fabroniaceae using cpDNA*.

**Margaret Eisenberger** will serve a second three-year term on the board of directors for **Save The Rainforest**. Save The Rainforest seeks to develop ecology courses in tropical rain forests for teacher-led groups of students and to help teachers and students who cannot travel connect with resources about rain forests.

**Jose Pareja** (M.S. student and MO-STEP Graduate Fellow) attended the ESRI User Conference held in San Diego, California in July 2005. This year, ICTE World Ecology Award recipient, **Dr. Jane Goodall** was the keynote speaker. Jose presented a paper entitled: *The last great wild places: A project-based group investigation*. He showed how to use Geographic Information Systems (GIS) at the graduate school level with the potential of the technique being used at undergraduate and high school levels. Students participating in this group project determined potential wilderness areas for their assigned country, using GIS. The project had been tested successfully in **Dr. Bette Loiselle's** GIS class.

This biannual Newsletter describes recent activities of the **International Center for Tropical Ecology**. Established in cooperation with the **Missouri Botanical Garden**, the Center promotes research and education in biodiversity conservation and the sustainable use of tropical ecosystems. The Center provides an academic, international environment for graduate education in tropical 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 policies and practices.

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