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TERESA HEINZ TO RECEIVE WORLD ECOLOGY AWARD

The International Center for Tropical Ecology will present its World Ecology Award to Ms. Teresa Heinz at a gala dinner to be held at the Missouri Botanical Garden on Wednesday, April 23, 2003. Teresa Heinz chairs the Heinz Philanthropies and the Howard Heinz Endowment, which are considered among the nation's most innovative philanthropic institutions. She is also the creator of the prestigious Heinz Awards, an annual program recognizing outstanding vision and achievement in the arts, public policy, technology and the economy, the environment, and the human condition.

Teresa Heinz is recognized as one of the nation's premier environmental leaders. In 1995, she announced what was at that time, one of the largest



grants ever made to the environment, a \$20 million gift to create the H. John Heinz III Center Science, Economics and Environment. This the Center brings together leaders in business. government, the scientific community and environment to collaborate

in developing mutually acceptable, yet scientifically sound, environmental policies. In addition to serving on the Center's board, she is Vice Chair of the Environmental Defense Fund and was one of ten representatives from non-governmental organizations attached to the U.S. Delegation to the U.N. Conference on Environment and Development (Earth Summit) in Brazil in 1992.

As a member of the Advisory Board for the Earth Communications Office, she helped to pioneer an internationally acclaimed public service campaign promoting citizen environmental action in countries around the globe. She helped to conceptualize and launch *Second Nature*, a nonprofit organization with a mission to support the development of an environmentally literate

citizenry. She is a co-founder and board member of the Alliance to End Childhood Lead Poisoning and a trustee of the Winslow Foundation, which is active primarily in the environment.

Teresa Heinz, formerly Teresa Simões-Ferreira, is today married to U.S. Senator John Kerry. Born and raised in Mozambique, she received a Bachelor of Arts degree in romance languages and literature (French, Portuguese and Italian) from the University of Witwatersrand in Johannesburg. South Africa. In 1963, she graduated from the Interpreters School of the University of Geneva. Fluent in 5 languages, she served as a full-time consultant to the United Nations Trusteeship in New York City. She has been awarded honorary doctorate degrees from Beloit College (Wisconsin), Bank Street College of Education (New York), Clarke University (Massachusetts), Carnegie University (Pennsylvania), Mellon Drexel University (Pennsylvania), the University of Massachusetts (Boston), the Medical College of Pennsylvania and Pine Manor College (Massachusetts).

As a staunch advocate for the environment, Ms. Heinz has emphasized the need to align environmental and economic interests based on sound science, economics, technology, innovative thinking, and partnerships between business and the environmental community.

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. Furthermore, 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.



HRH THE PRINCE OF WALES TO RECEIVE THE WORLD ECOLOGY AWARD

His Royal Highness The Prince of Wales has graciously agreed to accept the World Ecology Award presented by the International Center for Tropical Ecology. The ceremony will take place at St. James's Palace in London and ICTE Advisory Board member, Mrs. Jorie Butler Kent, will present the award to Prince Charles.

The Prince of Wales has been a tireless campaigner for the protection of the British countryside and its rural way of life. He has promoted the concept of sustainable development as developed by the Brundtland Commission and recently stated that "....the natural world has bounds of balance, order and harmony that set limits to our ambitions." He has focused attention on issues relating to modern farming methods and the importance of organic agriculture and through his many speeches he has supported conservation initiatives that include the certification of timber from sustainable sources, the **Biodiversity** Convention and the need to protect wildlife and tropical rain forests. He has supported numerous conservation and environmental organizations through leadership as either President or Patron. Some of these organizations include: Botanic Gardens Conservation International, Foundation and Friends of the Royal Botanic Gardens, Kew, Friends of Conservation, Marine Conservation Society, National Council for the Conservation of Plants and Gardens, Scottish Wildlife Trust, Royal Society for Nature Conservation and The Wildfowl and Wetlands Trust.

THE CHRISTENSEN FUND FELLOWSHIP PROGRAM

The Christensen Fund Fellowship Program in Plant Conservation is underway with the appointment of the first two Christensen Fund Fellows who have enrolled in our Ph.D. program. **Deby Arifiani** is a curator with the Bogor Herbarium, Indonesia's largest herbarium and completed her master's degree at UM-St. Louis. Her thesis described a revision of *Endiandra*, a genus in the Lauraceae. This family contains some 2,000 species, including cinnamon, avocado and camphor. **David Kenfack** is a botanist from Cameroon who has worked extensively with **Dr. Elizabeth Losos**, Director,

Center for Tropical Forest Science (CTFS), Smithsonian Institution. He was Field Director of the Korup Forest Dynamics Plot sponsored by CTFS and responsible for a project that required overseeing over 30 employees and involved identifying and measuring all trees in the 50 ha plot (more than 350,000 trees of almost 500 species). Through this project David has honed his botanical skills and now has an intimate knowledge of the Cameroonian forest flora. In July 1999 he was appointed Senior Botanist and Herbarium Curator, Mount Cameroon Project, Limbe Botanic Garden. A further two Christensen Fellows will be recruited to start in August 2003.

COMPTON FOUNDATION FELLOWSHIPS

In addition to the **Compton Foundation Fellowships** awarded to **Lucio Malizia** and **Lucia Lohmann** (see last Newsletter), this program has provided fellowship support to **Homero Vargas** who recently completed his master's degree. He is from Ecuador where he worked as a technician with the Herbario Nacional del Ecuador for seven years and made significant contributions to botanical exploration and conservation biology in Ecuador. He has considerable experience in floristic inventory fieldwork and has led several plant collecting expeditions to remote regions of Ecuador including Llanganates National Park and Antisana Ecological Reserve. He has returned to Ecuador and is now Director of the Herbario Nacional.

Mercedes Rouges, from Argentina, is in the final stages of her Ph.D. dissertation and will receive a Compton Fellowship for the first six months of 2003. Mercedes' work on bird distributions along an elevational gradient in Parque Nacional El Rey will provide information on the distribution and movement patterns of birds needed for the rational design of reserves and parks. On her return to Argentina, she proposes to work with the National Parks Department in developing a long-term monitoring program that will set conservation priorities. She would also like to be involved in a program training national park rangers in techniques to collect long-term monitoring data.

Okong'o Akura will also receive a Compton Fellowship in 2003. Akura is from Kenya and is enrolled in the Ed.D. Program in Science Education. His research interests include the promotion of environmental education in schools



and the improvement of science literacy among traditionally disenfranchised learners.

CONSERVATION INTERNSHIPS

The Conservation, Food and Health Foundation through a grant to the International Center for Tropical Ecology supported internships undertaken by graduate students enrolled in the *Graduate Certificate in Conservation and Tropical Biology*.

Okong'o Akura (see previous article) undertook an internship with Population Action International (PAI). PAI, based in Washington DC, is an independent policy organization that promotes awareness of population programs through integrated policy research, public education and political advocacy. During this internship, Akura worked with Dr. Richard Cincotta and developed educational materials to be used as supplementary teaching and learning resources by teachers and pupils in schools in Kenya. He produced a prototype curriculum program that contains lesson plans with some PAI publications as integral components of the learning activities. These lesson plans present ecological and human population and reproductive health concepts in the context of Kenyan students' personal and social experiences. While in Washington DC, Akura attended a lecture at the State Department by Dr. Jeffrey Sachs on the upcoming World Summit on Sustainable Development; a conference at Howard University organized by the Religious Coalition for Reproductive Choice and attended several PAI meetings, including the project manager's meeting and the Research Department's meetings.

Rose Makano, from Zambia has completed her Master's degree in Public Policy Administration and the *Graduate Certificate in Tropical Biology and Conservation*. Her internship, partly funded through the Conservation, Food and Health Foundation, was spent working with the Global Threats Department of the World Wildlife Fund in Washington DC. While there, she synthesized information from 80 projects in Africa funded by the World Bank/WWF partnership. The projects were all focused on increasing the area of forest under conservation and promoting sustainable forest management.

Homero Vargas (see previous article) completed an internship with the Center for Conservation and Sustainable Development at the **Missouri Botanical Garden**. He developed a GIS-

based model of the distribution of *Anthurium* (Araceae) in Ecuador. This project was designed to answer the following questions: Where are particular species distributed? Where are potential areas for finding a given taxon? Are there hotspot areas for endemics within Ecuador? Are these "hotspots" protected? Around 25 collections per species were analyzed to provide distribution data. Each collection was geo-referenced within the TROPICOS database at the Missouri Botanical Garden and species distributions checked for outliers. This project is ongoing and results will be published in a scientific journal and provide information for inclusion in the Red Data Book for plants of Peru.

Victoria Stobbe, a master's student from the United States, completed an internship with the Bureau of Land Management in Barstow, California. She worked with arrays of pitfall traps that had been set up in two different areas of the Mojave Desert and analyzed the data for species diversity, richness and abundance of reptiles, amphibians, rodents and arthropods. She also used GIS to map desert tortoise mortality on roads within the Barstow Field Office jurisdiction.

Derek Hildreth, undertook a study of right whales off Cape Cod working with Dr. Charles Mayo at the Center for Coastal Studies. Derek carried out oceanographic surveys collecting plankton samples and physico-chemical data (temperature, salinity and chlorophyll concentration). The Center for Coastal Studies provides a local whale-watch organization with naturalists who lead whale-watching excursions. Derek accompanied the naturalist on these excursions twice a week and helped with data collection and education outreach.

Kate Huyvaert attended a field course held in Panama in August 2002. Kate served as a teaching assistant and resource person in molecular genetic techniques. In addition to helping faculty set up and conduct field projects, she assisted students with the design and analysis of individual projects that provided an opportunity to put lecture and field instruction into practice. She also gave lectures on laboratory and field techniques relevant to conservation genetics, demonstrated field collection techniques for genetic samples from a variety of taxa and presented a seminar on her own work illustrating the connections between field collection and laboratory analysis of genetic samples.



GLOBAL WARMING IS CHANGING TROPICAL FORESTS

Human activities are changing the global climate, and these changes are having far reaching effects on tropical forests, according to scientists from around the world who gathered in August 2002 for the **Association for Tropical Biology** annual meeting held in Panama City, Panama. Scientists attending the meeting said that tropical forests are undergoing unprecedented changes as 1.2% of the remaining forest is removed each year, as atmospheric carbon dioxide which fuels plant growth increases by 0.4% each year, and as global climate change begins in earnest.

Climate change models have suggested that higher global temperatures and increases in atmospheric carbon dioxide (CO₂), the major greenhouse gas, will increase the amount of carbon stored by tropical forests by stimulating tree growth. However, ICTE Faculty Associate and Research Professor of Biology at UM-St. Louis, Dr. Deborah Clark re-evaluated the evidence and told the symposium that tropical forests may not be carbon sinks that can be used to absorb CO₂ generated by the burning of fossil fuels. Instead, tropical forests may end up contributing even more CO₂ to the atmosphere as temperature rises. Data from La Selva show a strong negative correlation between tree growth and higher temperatures. Temperatures experienced by canopy leaves may be close to the point at which respiration exceeds photosynthesis so that net production of CO₂ results. **Positive** feedback between higher temperatures and CO₂ production by tropical forests could be catastrophic, resulting in accelerated increase in global CO₂ levels.

JORIE BUTLER KENT ESTABLISHES ENDOWED SCHOLARSHIP

We are pleased to announce that Mrs. Jorie Butler Kent, a member of the ICTE's Advisory Board and President of the Abercrombie & Kent Global Foundation and Friends of Conservation in London, England, has established an endowed scholarship to support tropical ecology research. The Abercrombie & Kent Global Foundation is dedicated to conservation worldwide and aims to help people understand that their cultural, spiritual and economic well-being depends upon the sustained protection of the environment.

NEW SCHOLARSHIP ESTABLISHED

Maureen McGrath, ICTE Development Board member, has established the Antoinette McGrath Memorial Scholarship to promote scientific literacy in memory of her mother. This endowed scholarship will be awarded annually to deserving graduate students, providing funds for textbooks and journal subscriptions. Maureen's mother loved books and reading and strived to instill a similar love in young people. We are honored to have this opportunity to award this scholarship.

MADAGASCAR COLLABORATION

The Madagascar collaboration continues to develop and two graduate students from the **Université d'Antananarivo** will visit the Center in the spring. We are hoping to have adequate funding for two of our faculty to teach courses at the Université d'Antananarivo during the 2003 summer.

CONSERVATION FORUM

The 2002 Conservation Forum was held at the Saint Louis Zoo on Thursday, November 14. Twenty-five conservation organizations participated in the event and **Dr. Peter Marra**, Senior Scientist with the Smithsonian Environmental Research Center gave the keynote address. His talk was entitled: *Links between worlds: Unraveling connectivity in bird migration*.

The following talks were presented at the forum: Susan Gustafson. Vice-President, St. Louis Audubon Society (Increasing conservation awareness through birding: Connecting people with nature through field trips and educational outreach); Ramona Huckstep, Hazardous Waste Program, Missouri Department of Resources (Cleaning up the cold war for wildlife); Tracy Boaz, Urban Watershed Conservationist, Missouri Department of Conservation (Planning for a healthy environment: The Urban Watershed Conservation Program); Anna George, Department of Biology, Saint Louis University (Systematics and the Convention on Biological Diversity: Are we conserving species?); Daniel Cadena, International Center for Tropical Ecology (Social conflicts in Colombia and conservation challenges for the richest avifauna in the world); Simon Davies, Director of Development and Field Studies, World Bird Sanctuary (Gone, but not forgotten: The tragic tale of the thick-billed parrot);



Kim Bishop, Assistant Director, Coordinator, Education Department, Wild Canid Survival and Research Center (Red wolf recovery efforts); Shelley Welsch, Executive Director, The Green Center (Re-envisioning the River des Peres); Kimberly Schultz and Alejandro International for Tropical Center Ecology (Reconstructing the cathedral: Reforestation in the tropics).

CONSERVATION ACTION PRIZE

The 2002 Conservation Action Prize was presented at the Conservation Forum to **Mark Jenkins**, Senior Warden, Meru National Park and Bisanadi and Mwingi National Reserves in Kenya. Dr. Stanton Braude accepted the prize on Mark's behalf.

Mark has dedicated over 15 years of his life to conservation of African wildlife and has, during this time, worked in very difficult, often dangerous circumstances, on the frontline of biological conservation. He obtained his Diploma in Agriculture and Farm Management from the Royal Agricultural College in Cirencester, Kingdom in 1986 and after a year working in the United States and the Bahamas was appointed General Manager of Colcheccio Ranch, North Kenya. This job introduced Mark not only to African cattle ranching but also to game management techniques and ecotourism. He joined the Kenya Wildlife Service in 1989 and, for three years, trained and led a quick response, antipoaching team operating mainly throughout northeast Kenya and Tsavo National Park. He learned techniques in elephant capture in the Kruger National Park and worked with the Natal Parks Board in South Africa as a conservation team member involved in the safe capture, care and relocation of antelope and rhino. From 1995-1997 he worked in the Murchison Falls National Park, Uganda providing advice on rehabilitation of the park decimated by years of warfare. Illegal activities within the park were curtailed and rangers, mindful of sensitive tribal issues, were trained. Tourist facilities were rebuilt and wildlifemonitoring programs were re-instituted. Prior to accepting his current position, Mark worked in the Niassa Game Reserve in Northern Mozambique rebuilding basic infrastructure and training a ranger force. He pioneered fencing techniques to reduce conflict between humans and elephant, which resulted in a significant decrease in this problem and continues to work effectively three years after his departure. Meru National Park is now recognized nationally as one of the most effectively managed National Parks in Kenya.

The award honors individuals intimately involved and successful in seeking solutions to conservation problems, developing conservation strategies, implementing programs that conserve natural resources, habitats and biodiversity, educating the public on issues pertaining to biological conservation, or providing leadership through example. These individuals are rarely recognized publicly for their dedication, yet, their work underpins the day-to-day successes in the conservation of biodiversity and habitats. The prize recognizes conservationists active in Missouri as well as those active nationally or internationally. The previous recipients of this prize are **Sharon** Matola, Director of the Belize Zoo and Doug Ladd, Director, Conservation Science, The Nature Conservancy-Missouri Chapter.

NORTH AMERICAN ORNITHOLOGICAL CONFERENCE

A large contingent of ICTE faculty and graduate students attended the third annual North American Ornithological Conference held in New Orleans in September in the middle of a hurricane.

Bette Loiselle and John Blake organized one of the conference workshops: Empowering largescale, long-term studies on Neotropical bird populations on permanent bird plots. ICTE graduate students Daniel Cadena, Jennifer Bollmer, Grace Servat, Juan Martinez-Gomez, Kate Huyvaert, Marcos Maldonado-Coelho, Kimberly Holbrook, Noah Whiteman, Charlotte Roy Nielsen, T. Brandt Ryder and Renata Durães presented papers describing the results of their research.

NEWS OF FACULTY, STUDENTS, AND ALUMNI

Eric Wiener has been appointed to a tenure track position as Assistant Professor of ecology at Ramapo College in Mahwah, New Jersey. Eric completed his Ph.D. in 2001 with **Dr. Victoria Sork** as his advisor. Elizabeth Kellogg was awarded \$100,000 for "The genetic basis of morphological differences between two species of *Setaria* (Poaceae)" by the National Science



Foundation. **Bette Loiselle** and Kimberly Holbrook, received a grant from the Saint Louis Zoo of \$9,552 for Seed dispersal by toucans in Amazonia Ecuador. Robert Ricklefs and Alan Cohen were awarded \$37,000 through a 2002 Predoctoral Fellowship in Biological Sciences by the Howard Hughes Medical Institute. Lucio Malizia received funding from the National Science Foundation for his research on species turnover of tree species in forests in the Argentinean Andes Adrián Azpiróz and (\$25,150). Adriana 23^{rd} attended the International Rodríguez Ornithological Congress held in Beijing, China. Adriana presented a paper entitled Population, diet and impact of Neotropical cormorants in relation to shrimp production in northeastern Venezuela as well as a poster: Avifauna associated with an intensive shrimp farm in northeastern Venezuela. Adrián's paper was entitled: Are saffron-cowled blackbirds avoiding Allee effects?

ICTE FACULTY COORDINATE TRAINING FIELD COURSE

Using a grant from the U.S. Fish and Wildlife Service's Division of International Conservation— Western Hemisphere Program, ICTE Faculty developed and coordinated the Field Methods in Tropical Ecology and Conservation Training Program. This course was held at the Bocas del Toro Biological Station, Panamá from August 13 to September 3, 2002 and provided training in fieldbased conservation techniques. Fourteen students and conservation professionals from throughout Central America joined Drs. Bette Loiselle, Patricia McDaniel, Gerardo Camilo (Saint Louis University), Paule Gros (Saint Louis Zoo), and ICTE Ph.D. student Kate Huvvaert for this fieldbased training course. Co-sponsored by the International Center for Tropical Ecology, the

Saint Louis Zoo and the E. Desmond Lee Professorship for Zoological Studies, the course covered topics ranging from the study of broad biological patterns and processes to field trapping, interview techniques and statistical analysis of data. Offered in Spanish, the course was tailored to problems important to conservation students and professionals working in the Central American tropics, with particular emphasis on human impact issues and forest ecology.

TROPICAL BOTANISTS FOR THE ATLANTIC RAIN FOREST OF BRAZIL

The Iracambi Atlantic Rainforest Research and Conservation Center in Minas Gerais, Brazil, is carrying out a land use and land management study of conservation areas adjoining the Sarra do Brigadeiro State Park in the *município* (county) of Rosário da Limeira. They form part of the last remaining area of the Atlantic rain forest in the State of Minas Gerais: already severely fragmented, its rich biodiversity has never been fully classified and is under severe threat from expansion of the agricultural frontier. The Center is particularly looking for tropical botanists to help with forest website inventories. Visit their www.iracambi.com them or contact at research@iracambi.com.

STAFF CHANGES

Brenda West-Ammons has left the ICTE. She has completed her teacher's certificate and will soon be teaching math in high schools. We wish her all the best in her new career. We welcome **Cassandra Brown** as the new ICTE Secretary. Cassandra can be reached at (314) 516-4246 and by email: browncas@umsl.edu.

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