

Tupper 4pm seminar

Tuesday, September 2, 4pm seminar speaker will be Rick Condit, STRI
TBA

Bambi seminar

Thursday, September 4, Bambi seminar speaker will be Ellen Suurmeyer, University of Arizona

Investigating the mechanism of gall induction in the fig-fig wasp system

Arrivals

Deanna Ashline, SUNY at Buffalo, to study the Caribbean reefs futures, on Bocas del Toro.

Rebecca Pike, Slippery Rock University of Pennsylvania, to study tropical disease drug discovery from marine and plant sources in Panama (as part of the existing ICBG project)

Lukas Sekerka, University of South Bohemia, Czech Republic, to study the natural history of Panamanian Cassidine beetles, at Tupper.

Jens Strauss and Janine Matthiessen, Universität Potsdam, Germany, to study water, energy and biogeochemical budgets in the humid tropics, on BCI.

Lea Langlois, Université du Québec à Montréal, to join the Agua Salud project-hydrology studies, at Tupper.

Mirka Jones, University of Turku, Finland, to study the community structuring of tropical forest plants: identifying commonalities among life forms, at Tupper.



Smithsonian Tropical Research Institute, Panamá

www.stri.org

August 29, 2008

STRI and ANAM sign agreement of collaboration

Ligia Castro de Doens (left), general administrator of Panama's Authority for the Environment (ANAM) and minister in charge of the environment, and STRI director Eldredge Bermingham (right) signed a 5-year renewable agreement of collaboration, on Wednesday, August 28, at ANAM's headquarters.

According to the agreement, ANAM and STRI will strengthen mutual collaboration in the development of joint projects, training, scientific research, environmental education, conservation, exchange of information and dissemination of results achieved by both institutions in their respective areas of expertise.

Both institutions agree to provide technical and scientific support and facilitate the use of their libraries and bibliographic resources.

In order to facilitate collaboration, points of contact were established in each institution. In ANAM, work



plans and coordination will be canalized through the Directorship for Environmental Culture and/or the Directorship of Wildlife and Protected Areas, and at STRI, through the Office of Academic Programs.

Ligia Castro de Doens (izquierda), administradora general de la Autoridad Nacional del Ambiente de Panamá y ministra encargada de Ambiente, y Eldredge Bermingham (derecha) director de STRI, firmaron un convenio de colaboración por cinco años renovables, el miércoles, 28 de agosto, en la sede de ANAM.

De acuerdo al convenio, ANAM y STRI estrecharán la colaboración mutua en el desarrollo de proyectos conjuntos, capacitación, investigación científica,

educación ambiental, conservación, intercambio de información y divulgación de los resultados logrados por ambas instituciones en sus áreas respectivas de especialización.

Ambas instituciones se comprometen a proporcionar apoyo técnico y científico y facilitar el uso de sus bibliotecas y recursos bibliográficos.

Para facilitar la colaboración entre ambas instituciones, se establecieron puntos de contacto. En ANAM, los planes de trabajo y la coordinación se llevará a cabo a través de la Dirección de Fomento de la Cultura Ambiental y/o la Dirección de Áreas Protegidas y Vida Silvestre, y en STRI, a través la Oficina de Programas Académicos.

More arrivals

Ilka Feller, Anne Chamberlain and David Luther, SI fellows from SI Environmental Research Center, and Karen McKee, USGS National Wetlands Research Center, to study the latitudinal variations in ecological stoichiometry in mangrove communities, on Bocas del Toro.

Klaus Riede, Zoologisches Forschungsinstitut und Museum Alexander Koenig, Germany, and Alexander Lang and Arne Schmidt, Karl-Franzens-Universität, Austria, to study the environmental gradients in predation by bats and its influence on acoustic communication in Neotropical katydids-Orthoptera: Tettigoniidae, on BCI.

Departures

Fernando Pascal to Washington DC on official business at SI, and to London, to participate in the IAMFA annual conference.

Carlos Jaramillo to Bonn, Germany, to participate in the 12th International Palynological Congress and the 8th International Organization of Palaeobotany Conference.

Javier Mateo Vega to Washington DC, to attend meeting with Forest Trends, Amazon Conservation Association, Conservation International, Nature Conservancy, Climate Community & Biodiversity Alliance, and Yale colleagues.

Eldredge Bermingham to Washington DC, on official business at SI.

D. Ross Robertson to Caracas, Venezuela, to collect and photograph fishes.

The debate: going to DC

A debate organized by friends and foes: S. Joseph Wright (right) and William F. Laurance, (left), conducted in Panama for the STRI community, local biologists and visiting scientists was a warm up for next year's event at SI, Washington DC: a public debate on the tropical extinction crisis scheduled for January 12 at the National Museum of Natural History.

The STRI meeting "Debating the Tropical Extinction Crisis" held from August 21-23 was sponsored by the Institute, the Silicon Valley Community Foundation, the Science Committee of the Smithsonian National Board, and the Smithsonian Office of the Undersecretary for Science.

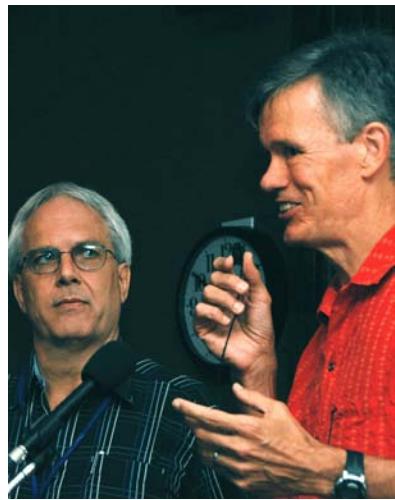
The debate centers around two very different theories: Wright's position based on UN figures that urbanism and lower population growth will allow abandoned areas to recover and tropical species to be spared, *vs* Laurance's claim that secondary and degraded forests will sustain only a fraction of tropical biodiversity and that industrial agriculture, logging, mining, and economic globalization, rather than changing rural and urban

populations, are becoming the dominant drivers of tropical deforestation. Which one of the positions obtained more supporters? One way to find out is to participate in the DC encounter in January, 2009.

Bajo la organización de los amigos y enemigos S. Joseph Wright y William F. Laurance, la comunidad de STRI, miembros de la comunidad académica local y científicos visitantes fueron testigos de un debate introductorio llevado a cabo en Panamá, como "calentamiento" para el evento del próximo año en SI, Washington DC: un debate público sobre la crisis de extinción tropical, planeado para el 12 de enero.

La reunión en STRI "Debate sobre la crisis de extinción tropical" del 21 al 23 de agosto fue patrocinada por el Instituto, la Fundación Silicon Valley, el Comité de Síndicos del Smithsonian y la Oficina del Subsecretario para Ciencias del Smithsonian.

El debate se centra alrededor de dos teorías muy diferentes: la posición de Wright que se basa en cifras de las Naciones Unidas de que el urbanismo y un descenso en el crecimiento



población permitirá que las áreas abandonadas se recuperen y que las especies tropicales se salven, *versus* el punto de Laurance de que los bosques secundarios y degradados mantendrán solamente una fracción de la biodiversidad tropical y que la agricultura industrial, la explotación maderera, minería y la globalización económica, en vez de cambiar las poblaciones rurales y urbanas, se están convirtiendo en las principales razones de la deforestación tropical. ¿Cuál de las dos posiciones obtuvo mayor apoyo?

Una manera para averiguarlo es participar en encuentro de DC el 12 de enero de 2009.

Let's welcome Giselle Muschett

"I am pleased to announce that Giselle Muschett has accepted the position of executive director of the Fundación Smithsonian. Giselle obtained her Bachelor's of Science in Zoology from the University of Florida, Gainesville. Following graduation she joined the Asociación Nacional para la Conservación de la Naturaleza (ANCON), initially as a biologist/ornithologist leading research teams that conducted management plans for new protected areas in Panama. Then she directed ANCON's Science and Conservation Division, where Giselle's

responsibilities focused primarily on administration and finance.

Most recently Giselle completed a Master's Degree in Natural Resources and Wildlife Conservation, at the Catholic University in Chile. Her thesis research focused on the introduction of manatees into Gatun Lake in the 1960s.

In her new position at STRI, Giselle will work with the Board of the Fundación Smithsonian and the Director's Office to develop joint projects and fund-raising initiatives that



New publications

Jones, Frank Andrew, and Comita, Lisa S. 2008.

"Neighbourhood density and genetic relatedness interact to determine fruit set and abortion rates in a continuous tropical tree population "

Proceedings of the Royal Society (London) B Online.

Laurance, William F. 2008.
"The real cost of minerals."
New Scientist (August 16): 16.

Muller-Landau, Helen C. 2008.
"Colonization-related tradeoffs in tropical forests and their role in the maintenance of plant species diversity." In Carson, Walter P., and Schnitzer, Stefan A. (Eds.), *Tropical forest community ecology*: 182-195. Oxford: John Wiley and Sons.

Rompre, Ghislain, Robinson, Douglas W., and Desrochers, Andre. 2008. "Causes of habitat loss in a Neotropical landscape: The Panama Canal corridor." *Landscape and Urban Planning* 87: 129-139.

Taylor, Ryan C., Klein, Barrett A., Stein, Joey, and Ryan, Michael J. 2008. "Faux frogs: multimodal signalling and the value of robotics in animal behaviour." *Animal Behaviour* 76(3): 1089-1097.

STRI in the news

"Convenio para el medio ambiente" by José Arcia. 2008. *La Prensa* (August 28): 5A.

Better Planet: "Want to save the trees? Try paying people not to chop them down" by Thomas Kostigen. 2008. Discover Magazine published online August 20, 2008.
<http://discovermagazine.com/2008/sep/20-want-to-save-the-trees>

further our research and outreach mission, and alongside the Fundación Smithsonian will promote STRI throughout Panama and the region. Please join me in welcoming Giselle to the STRI community."

Biff Birmingham

"Me complace anunciar que Giselle Muschett aceptó la posición de directora ejecutiva de la Fundación Smithsonian. Giselle obtuvo su licenciatura de Ciencias en Zoología de la Universidad de Florida en Gainesville. Luego de su graduación se unió a la

Genetics reveals big fish that almost got away...

DNA studies by scientists show one critically endangered grouper species is really two. A new genetic study by the University of Hawaii, the Wildlife Conservation Society, STRI, National Marine Fisheries Service and Projeto Meros do Brazil discovered a new species of fish—a grouper that reaches more than six feet in length and can weigh nearly 1,000 pounds. This newly discovered species can be found roaming the tropical reefs of the Eastern Pacific Ocean.

Was the massive fish hiding among the corals and sea grass to evade marine biologists? No, it was just a case of mistaken identity, as explained in a recent genetic study authored by a group of scientists including STRI marine biologist D. Ross Robertson in a pre-print published online by the journal *Endangered Species Research* on August 13. It turns out that goliath in the Atlantic—which inhabit the

Asociación Nacional para la Naturaleza (ANCON) primero como líder de los equipos de biología/ornitología que llevaron a cabo planes para las nuevas áreas protegidas en Panamá. Luego dirigió la División de Ciencias y Conservación, donde las responsabilidades de Giselle se centraron primordialmente en administración y finanzas.

Recientemente, Giselle completó su maestría en Recursos Naturales y Conservación de Vida Silvestre en la Universidad Católica de Chile. Hizo su tesis sobre la

introducción de manatíes en el Lago Gatún en 1960. En su nueva posición en STRI, Giselle trabajará con el comité de la Fundación Smithsonian y con la Oficina del Director para desarrollar proyectos conjuntos e iniciativas de captación de fondos para continuar nuestra misión de investigación y difusión, y junto con la Fundación Smithsonian promoverá a STRI a través de Panamá y la región.

Les agradezco que se unan a mí para darle la bienvenida a Giselle a la comunidad de STRI."

Biff Birmingham



tropical waters of the Americas and western Africa—are not the same groupers that swim in Pacific waters, even though they look identical.

Because the two populations of grouper are identical in body form and markings, they were both considered part of the same species: *Epinephelus itajara*. About three-and-a-half million years ago—before the Caribbean and the Pacific became separated by present-day Panama—they were the same species.

Since that time, the two populations have evolved into genetically distinct species populations. While testing the hypothesis that Pacific and West Atlantic grouper were the same species, the research team found

significant differences in the DNA from both populations. The differences indicate that the two populations have effectively evolved into two separate species after being separated from one another by Central America. The new Pacific species is now classified as *Epinephelus quinquefasciatus*. *E. itajara* is currently listed as critically endangered to extinction in the World Conservation Union's Red List of Endangered Species of Fauna and Flora. Due to its scarcity, *E. quinquefasciatus* may also be considered critically endangered.

Information adapted from

EurekAlert!

Photo: Rachel Graham/Wildlife Conservation Society



Story: Maurice Thomas
Edited by M Alvarado
& ML Calderon
Photos: MA Guerra
& M Thomas

Bats play a pivotal role in ecosystems worldwide, especially in the tropics.

Extensive research by STRI scientists on Barro Colorado Island (BCI) has contributed greatly to our knowledge of the diversity and behavior of Panamanian bats.

The bat fauna of Bocas del Toro Archipelago, on the other hand, is considered depauperate, based on surveys conducted by Smithsonian expeditions from 1987-1993.

Most of the existing species appear to be ubiquitous, opportunistic bats that tolerate habitat disturbance due to subsistence farming, cattle ranching, residential and commercial development, and tourism.

Bats require dark or shady refuges to sleep, socialize, and raise young in relative safety



from predators. When natural forests are destroyed or fragmented, the resulting loss of day roosts may become a limiting factor for bat communities. Some species take up residence in buildings.

Limestone caves, numerous on the larger islands of the Bocas archipelago, are major roosting sites for a variety of bats, yet these, too, could be negatively affected by human activities.

In 2002, Maurice Thomas, professor at Palm Beach Atlantic University, began a long-term study of caves on Isla Colon and Isla Bastimentos to identify the bat species which utilize them as day roosts.

Bats are marked to facilitate observations on roosting preferences, population dynamics, reproduction, and behavior. Mist-netting is being done around the islands to add to the bat faunal list.

To this date, Thomas has captured 26 species of bats on the property of the STRI station in Bocas alone.

Hanging in Bocas

Los murciélagos juegan un papel de gran importancia, especialmente en los trópicos.

Extensos estudios llevados a cabo por científicos de STRI en Barro Colorado han contribuido en gran medida a nuestros conocimientos sobre la diversidad y el comportamiento de murciélagos panameños.

Por otro lado, la fauna de murciélagos en el Archipiélago de Bocas

del Toro se considera empobrecida, de acuerdo a estudios llevados a cabo por expediciones del Smithsonian de 1987-1993.

Muchas de las especies de Bocas parecen estar en todas partes, son murciélagos oportunistas que toleran cambios en su hábitat, causados por la ganadería industrial o de subsistencia, el desarrollo residencial y comercial, así como por el turismo.

Los murciélagos requieren de refugios bajo la sombra para dormir, socializar, y tener crías con una relativa seguridad de los depredadores.

Cuando se destruyen o fragmentan los bosques, la pérdida de refugio durante el día se puede convertir en un factor limitante para las comunidades de murciélagos. Algunas especies se mudan a edificaciones.

Cuevas de roca sedimentaria, numerosas en las islas más grandes del archipiélago son los sitios de descanso más importantes para una variedad de murciélagos, aunque éstos, también pueden verse afectados negativamente por la actividad humana.

En 2002, Maurice Thomas, profesor en Palm Beach Atlantic University, empezó un estudio a largo plazo en las cavernas en Isla Colón e Isla Bastimentos, para identificar las especies de murciélagos que las utilizan para refugiarse.

Los murciélagos se marcan para facilitar observaciones en cuanto a preferencias de refugio, dinámica de poblaciones y comportamiento. Se usan redes de neblina alrededor de las islas para añadir especies a la lista de murciélagos.

Hasta la fecha Thomas ha capturado 26 especies de murciélagos solo en la propiedad de la Estación de STRI en Bocas.