

Tupper 4pm seminar

Tuesday, March 21, 4pm
seminar speaker will be
Helmut Elsenbeer
New soil map of BCI

Bambi seminar

Thursday, March 23, Bambi
seminar speaker will be Jessica
Stapley, Australia
Title to be announced

Arriving next week

Sara Verónica Pinzón,
Imperial College, London, to
study the evolutionary ecology
and seed predation in a
tropical rainforest, on BCI.

Gerhard Zotz, University of
Basel, to continue research
projects, on BCI.

Thomas Eltz, Kalus Lunau
and Carola Bach,
Heinrich-Heine University
Duesseldorf, to study the
fragrance biology and
reproductive genetics of
orchid bees, on BCI.

Rachel Gallery, University of
Illinois Urbana-Champaign, to
study the diversity,
distribution, and demographic
effects of seed-associated
fungi in neotropical Cecropia,
on BCI.

Tiffany Troxler-Gann, Florida
International University, to
study the geographic
distribution of tree species
and forest in Panama, at
Tupper.

Lisa Miller, Oregon State
University, to study avian
community dynamics, on BCI
and Gamboa.

Kathryn Shaw, US, to conduct
a predator assessment of prey
cues: frog-eating bats and frog
calls, on BCI.



Smithsonian Tropical Research Institute, Panamá

www.stri.org

March 17, 2006

New STRI book by Heckadon

Stanley Heckadon-Moreno just published *Selvas entre dos mares: Expediciones científicas al Istmo de Panamá, siglos XVIII-XX*, his 13th book and 152th publication with STRI. With more than 300 pages of exciting expeditions by naturalists and audacious intellectuals, the book describes the diversity of the Panamanian jungle, that separates the planet's largest oceans.

According to STRI director Ira Rubinoff, Heckadon's writing combine wide knowledge on science, history and sociology. "With a unique capacity to synthesize, his book is attractive to large sectors of our society."

The new book is dedicated to Sebastián José López Ruíz (1741-1832), a Panamanian physician who studied the medicinal properties in tropical plants.

Selvas entre dos mares was presented to a large local community on Thu, Mar 16, at Biblioteca Nacional "Ernesto J. Castillero."

Stanley Heckadon-Moreno acaba de publicar *Selvas entre dos mares: Expediciones científicas al Istmo de Panamá, siglos XVIII-XX*, su décimo tercer libro y publicación 152 con STRI. Con

Stanley Heckadon-Moreno

Selvas entre dos mares

Expediciones científicas al Istmo de Panamá, siglos XVIII-XX



Smithsonian Tropical Research Institute
Panamá 2006

más de 300 páginas de
excitantes aventuras de
naturalistas e intelectuales
audaces, el libro describe la
diversidad de las selvas
panameñas que separan los
océanos más extensos del
planeta.

De acuerdo al director de STRI,
Ira Rubinoff, los escritos de
Heckadon combinan amplios
conocimientos sobre ciencia,
historia y sociología. "Con una
capacidad única de síntesis, que
hace que su obra sea atractiva a

amplios sectores de la
comunidad."

El nuevo libro está dedicado a
Sebastián José López Ruíz
(1741-1832), un médico, nacido
en Panamá quien estudió las
propiedades medicinales de las
plantas tropicales.

Selvas entre dos mares se presentó
ante una muy concurrida
audiencia local, el jueves 16 de
marzo en la Biblioteca Nacional
"Ernesto J. Castillero."

More arrivals

Lachezar Nikolov, Kristina Fontanez, Sarah Elwell, Ryan Kerney, Michal Pakes, and Benjamin Pazin, Harvard University, to participate at the OEB 110 Biology and Evolution of Invertebrate Animals.

Corrections

The name of Robert and Analissa Joyce's daughter, born on February 28 is Juliette Marie, not Analissa, as appeared in the STRI news of March 10.

Congratulations

To Ben Turner and Christy Frommel, for the birth of their son Luke James, on Monday, March 13, in Panama city.

New publications

Dillon, Michael E., Frazier, Melanie R., and Dudley, T. Robert. 2006. "Into thin air: Physiology and evolution of alpine insects." *Integrative and Comparative Biology* 46(1): 49-61.

Fernandez-Marin, Hermogenes, Zimmerman, Jess, Rehner, Stephen A., and Wcislo, William T. 2006. "Active use of the metapleural glands by ants in controlling fungal infection." *Proceedings of the Royal Society* (London) B Online.

Ferrer, J. & Ødegaard, Frode. 2005. "New species of darkling beetles from Central America with systematic notes (Coleoptera: Tenebrionidae)." *Annales Zoologici* 55(4):633-661.

Herre: "Barcoding helps biodiversity fly"

In his commentary "Barcoding helps biodiversity fly" published by the *Proceedings of the National Academy of Sciences* (Mar 14), STRI's Allen Herre highlights the importance of a recent addition to the taxonomical toolbox, the application of "DNA sequence information for both identifying and classifying an organism, much as a barcode identifies supermarket products."

Herre cites a recent article by M. Alex Smith *et al.* published in the March 7 issue of *PNAS*, where the researchers applied this increasingly common genetic methodology to cross-check species identifications from the intensively studied Area de Conservacion Guanacaste in Costa Rica, where they approximately doubled the local species count for ecologically important parasitoids.

"These findings provide insight into a number of fascinating ecological and evolutionary questions and demonstrate the great potential for enlightened collaboration among ecologists, taxonomists, and geneticists who want to uncover and ultimately protect global biodiversity."

The articles were distributed by Neal Smith. You may request them from calderom@si.edu

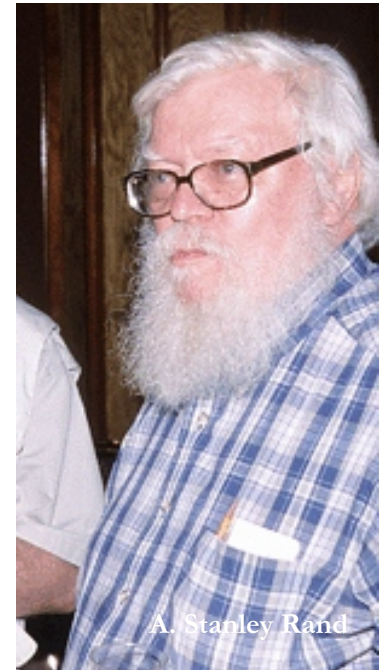
STRI anunció la Beca "A. Stanley Rand"

Más de cien amigos, colegas y antiguos estudiantes de A. Stanley Rand se reunieron en el Centro Ripley del Smithsonian, el viernes 24 de febrero, para honrar su memoria. Mike Ryan, de la Universidad de Texas en Austin, colaborador y amigo de Rand por muchos años, presidió la ceremonia. Hicieron uso de la palabra el director Ira Rubinoff (quien también leyó un comunicado de Mike Robinson), Ron Heyer del Museo Nacional de Historia Natural, Gene Morton del Zoológico Nacional y Robin Andrews, del Instituto Politécnico de Virginia. Pat Rand y sus hijos Hugh, Margaret y Katherine, sus familias, y el hermano de Rand y familia también estuvieron en la celebración.

Rand pertenece a la generación de científicos fundadores de STRI, y dedicó su vida a la

biología tropical, especialmente a estudios evolutivos del comportamiento de anfibios y reptiles. Sus estudios pioneros, conocimiento extensivo en historia natural y biología evolutiva, sabiduría y genio, atrajeron a una gran cantidad de colaboradores y estudiantes a Panamá, muchos de los cuales lograron carreras exitosas como parte de su asociación con Rand.

En reconocimiento a los esfuerzos de Rand para promover las carreras de biólogos latinoamericanos y por su convicción en la importancia y valor de la investigación tropical basada en estudios de organismos en el campo, STRI ha establecido la beca A. Stanley Rand, que se otorgará preferentemente a un estudiante latinoamericano que esté estudiando comportamiento o ecología animal. El fondo de la



A. Stanley Rand

beca, que ya asciende a casi \$15,000 honrará la memoria de Rand, y una vida de logros científicos.

Contribuciones o preguntas deben enviarse a: Lisa Barnett, Smithsonian Tropical Research Institute, 1100 Jefferson Drive, Suite 3123, MRC-705, Washington, DC 20013-7012

Volunteers needed

Sara Pinzón seeks volunteers to work in the field on Barro Colorado Island and San Lorenzo, with seed predators from March 20 through June 10. Interested please contact volunteers coordinator Marcela Paz, at the Library Annex, tel.

212-8098, e-mail: pazm@si.edu.

Sara Pinzón busca voluntarios para trabajo de campo con depredadores de semillas en la Isla de Barro Colorado y San Lorenzo, en Colón, del 20 de

marzo hasta el 10 de junio. Interesados favor ponerse en contacto con Marcela Paz, coordinadora del Programa de Voluntarios, en el Anexo de la Biblioteca, tel. 212-8098, e-mail: pazm@si.edu.

Islanders: Beware!

The photo at right (and the one in the header of the first page) were recently taken by César Jaramillo on BCI north of the laboratories. These crocodiles are in breeding season.

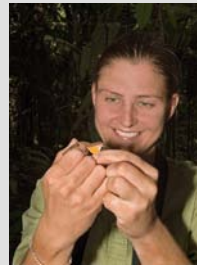
According to Oris Acevedo, BCI scientific coordinator, these animals are aggressive, and have lost every respect to human beings and cameras!



La foto de arriba, a la derecha, al igual que la que aparece en el titular de la primera página, fueron tomadas recientemente por César Jaramillo en Barro Colorado, al norte de los laboratorios. Estos cocodrilos están en época de reproducción. De acuerdo a Oris Acevedo, coordinadora científica en Barro Colorado, estos animales han perdido todo el respeto por los seres humanos y las cámaras!

STRI SCIENCE SYMPOSIUM Wednesday, March 22, 2006

- 8:30am Rick Condit: Local species distribution in dispersal and habitat limited tree communities
- 8:50am Maria Pia Miglietta: Life cycle evolution and heterochronic events in Hydrozoa (Phylum Cnidaria)
- 9:10am Andy Jones: Integrating long-term demographic data into understanding the spatial population genetic structure of forest trees: temperate and tropical examples
- 9:30am Jessica Stapley: Mate choice and male competition in a local anolis lizard, *Norops limifrons*.
- 9:50am Ross Robertson How many fishes in the tropical eastern Pacific



Stapley



Herz

Coffee break

- 10:30am Fernando Santos Granero: Native forms of slavery and servitude in contact-time tropical America
- 10:50am Hubert Herz: Host plant selection by leaf cutter ants: the influence of the fungal mutualist
- 11:10am Jeremy Niven: Visually guided limb targeting in orthopterans
- 11:30am Nelida Gomez:: Chemical insights into why figs are so attractive
- 11:50am Elisabeth Kalko: What's up in the forest: community composition and functional diversity of bats, a comparative perspective

Lunch break (not provided)

- 1:30pm Ben Turner: Soils and tropical forests
- 1:50pm Bettina Engelbrecht: Plant species diversity and distribution across tropical rainfall gradients
- 2:10pm Marife Corre: Impact of elevated nitrogen inputs on tropical forests- project introduction and initial results
- 2:30pm Marc Seid: Neurocorrelates of behavior: biogenic amines and repertoire size in ants
- 2:50pm Corey Tarwater: Ecology of lowland forest birds: results of long- and short-term studies
- 3:10pm Haris Lessios: Crossing the impassable: genetic connections in 20 reef fishes across the Eastern Pacific Barrier



Lessios

Coffee break

- 4:00pm Bill Eberhard: Muscle-bound genitalia and copulatory dialogues: observations of a spider and a fly
- 4:20pm Kaoru Kitajima: Trade-offs among functional traits and resource niche strategy of woody species
- 4:40pm Mark Torchin: Digenean trematodes: parasitic castrators of intertidal marine snails
- 5:00pm Sunshine Van Bael: Interactions among endophytic fungi, their host plants and leaf eating beetles
- 5:20pm Carlos Jaramillo: Area drives plant diversification in the Neotropics



Torchin

BBQ

More publications

Heckadon-Moreno, Stanley. 2006. *Selvas entre dos mares*. Panama: Smithsonian Tropical Research Institute.

King, David A. 2005. "Architectural differences in saplings of temperate versus tropical angiosperms; consequences of the deciduous habit?" *Canadian Journal of Botany* 83(11): 1391.

King, David A., Davies, Stuart James, and Noor, Md. Nur Supardi. 2006. "Growth and mortality are related to adult tree size in a Malaysian mixed dipterocarp forest." *Forest Ecology and Management* 223(1-3): 152-158.

Ødegaard, Frode. 2006. "Host specificity, alpha and beta diversity of phytophagous beetles in two tropical forests in Panama." *Biodiversity and Conservation* 15: 83-105.

STRI in the news

Scientists warn of coral bleaching in Caribbean [audio]. An interview with Rachel Collin, Héctor Guzmán, David Kline, and Mark Eakin:

<http://www.npr.org/templates/story/story.php?storyId=5280118>

Biodiversity hothouse, by Jen Waters. 2006. *The Washington Times* (March 2):

<http://www.washingtontimes.com/entertainment/20060301-101735-5883r.htm>

Miscellaneous

For rent: Room and bathroom in Albroom, \$150. Interested please call Sra. Isabel at 315-0158.

science in
progress:

GLiMP: below and above

Story: Emma J. Sayer
Edited by ML Calderon
Photo: MA Guerra

The response of tropical forests to global climate change and elevated atmospheric CO₂ levels is poorly understood. Although soils play an important role in the global carbon cycle, little is known about belowground processes and how they interact with changes aboveground.

Leaf litter represents an important pathway between above- and belowground processes and is a major component of the forest carbon cycle.

Postdoctoral fellow Emma Sayer, from the UK, and other researchers at the Smithsonian Tropical Research Institute in Panama, work on the Gigante Litter Manipulation Project (GLiMP) on Barro Colorado Nature Monument, to assess the importance of leaf litter in tropical forests.

They established fifteen 45m x 45m plots

on Gigante Peninsula; since 2003, the litter is raked up in five plots once a month and added to five further plots, doubling their litterfall. Five plots are left undisturbed as controls.

Sayer's current work focuses on changes to forest carbon dynamics caused by the addition or removal of litter. She measures CO₂ released from the soil, microbial biomass, and carbon dissolved in water in the soil. Carbon isotope analysis will allow Sayer to determine the proportion of carbon from leaf litter that is released as CO₂ and how the amount of leaf litter on the forest floor affects carbon storage in the soil.

Emma Sayer, becaria posdoctoral del Reino Unido y otros investigadores en el Smithsonian Tropical Research Institute en Panamá, trabajan en el Proyecto de Manipulación de Materia Orgánica en Gigante (GLiMP) en el Monumento Natural de Barro Colorado, para medir la importancia de la hojarasca en los bosques tropicales.

Los investigadores establecieron 15 parcelas de 45m x 45m en la Península de Gigante. Desde 2003 recogen la hojarasca en cinco parcelas una vez al mes, para añadirla a otras cinco parcelas, doblando su hojarasca. El resto de las parcelas no se tocan, para usarlas como control.

Actualmente, Sayer se concentra en los cambios en la dinámica de carbono forestal, causados por agregar o retirar la materia orgánica. Ella mide el CO₂ que libera el suelo, la biomasa microbiana y el carbono disuelto en el agua que contiene el suelo. Análisis de isótopos de carbono le permitirán a Sayer determinar la proporción de carbono del humus de hojas que se libera como CO₂ y cómo la cantidad de hojas que caen del bosque afecta el almacenamiento de carbono en el suelo.

Poco se sabe sobre cómo responden los bosques tropicales a cambios climáticos y a elevados niveles de CO₂. A pesar de que los suelos juegan un papel importante en el ciclo global del carbono, poco se conoce sobre los procesos bajo tierra y cómo interactúan con los cambios que ocurren sobre la superficie.

La materia orgánica de las hojas representa una conexión importante entre los procesos sobre y bajo tierra, y es un componente esencial del ciclo de carbono forestal.

