

## Tupper 4pm seminar

Tuesday, June 24, 4pm seminar speaker will be John Avise, University of California at Irvine

**Sexual abstinence: the genetics, ecology, and evolution of clonality in vertebrate animals**

## BDG

Behavior Discussion Group meeting will be held Tuesday, June 24, at 2pm, Conference Room

Simon Tierney, STRI  
**Sociality in low light environments: a dim perspective**

## Paleo-talk

Wednesday, June 25, Paleo-Talk speaker will be David Farris, STRI postdoctoral fellow, at 4pm, CTPA, Ancon  
**Magmatic arcs and slab-windows: examples from Alaska and Panama**

## Bambi seminar

Please check your e-mails for information on the next Bambi, on Thursday, June 26.

## Arrivals

Rebeca Rosengaus, Northeastern University, to study parasites, pathogens and the breeding strategies of social insects, on BCI, Galeta and Gamboa.

Paul Schaeffer, Miami University Ohio, to study energetics and muscle metabolism of clay-colored robins, in Gamboa.



Smithsonian Tropical Research Institute, Panamá

[www.stri.org](http://www.stri.org)

June 20, 2007

## Environmental fair at BRS



On its tenth year of presence on Colon Island, STRI's Bocas del Toro Research Station (BRS) celebrated the Bocas del Toro Archipelago Environmental Fair, to show the community the important scientific findings based at BRS.

On the weekend of June 14-15, the fair also featured information booths from Panamanian government and NGOs local and international organizations including Albatros, ANAM, ANCON,



ANVECONA, ARAP, Caribbean Conservation Corporation, EWT, Fundación Natura, Mar Viva, Programa Multifase de Desarrollo Sostenible, Soluciones Biotecnológicas, The Nature Conservancy, IUCN, USAID, Universidad Tecnológica de Panamá and WWF.

"Scientists from all over the world choose Bocas del Toro to carry out a wide array of research projects" stated Station manager Gabriel Jácome during his welcoming remarks. "This responds to the many opportunities to learn about the tropics offered by the Archipelago." Scientists here study to answer questions from how the Americas were united by the Isthmus of Panama, to the rich marine and terrestrial ecology on Bocas, how evolution differed from one island to another, turtles migration, the importance of bats... "this a center for questions surrounded by the most beautiful and diverse landscapes."

From 2003, when STRI made significant investments on Colon Island, researchers from 28 countries and five continents have used STRI facilities, enjoyed the diversity of ecosystems, and explored nature in a healthy environment. The results from these studies are the increasing



Jácome

number of publications in renowned scientific journals. However, emphasized Jácome, "it is imperative to call for attention on the severe threats faced by fragile marine and terrestrial ecosystems of the province due to current extensive development."

Rachel Collin, director of BRS extended her gratitude to Jácome, Public Programs and Outreach coordinator Marlon Smith and all the staff for the organization of a successful fair. More than 400 visitors included the governor of the province, and the regional directors of



# Departures

Francisco Rivera to Orlando, to participate in the Cisco Networkers 2008.

Mark Torchin, to Los Angeles, on vacation.

Rachel Collin, to Carbondale, to participate in the American Malacological Society Meeting.

Juan Maté, to Ft. Lauderdale, to participate in the 11 International Coral Reef Symposium.

## BCI 85<sup>th</sup> anniversary 1923-2008

Program for June 20

11am:  
Departure from Gamboa

Welcoming remarks  
Eldredge Bermingham

Remarks by  
Ira Rubinoff

Cristián Samper  
Smithsonian Institution

Eldredge Bermingham

Presentation  
of volunteer certificates to  
Joan Siedenburg and Sue  
Simmons

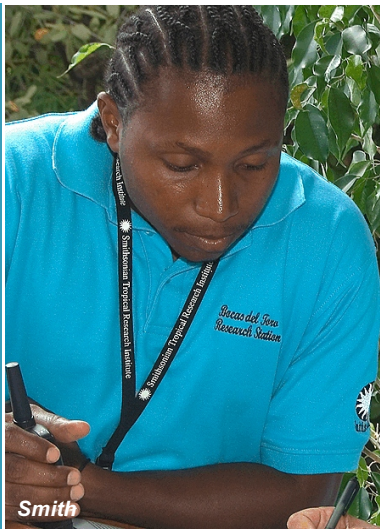
Egbert G. Leigh, Jr.  
Lunch

Folkloric presentation  
Pedro Sanchez High School

Volleyball game

3:40pm:  
Departure of Jacana

6pm:  
Departures of special boats



IPAT and ANAM protected areas. Special thanks to speakers Peter Meylan (turtles), Maurice Thomas (bats) and José Deago (Prorena). Other highlights included demonstrations by Sebastian Tilmans on how to make biodiesel, origami frogs and frog conservation by Corrine Richards, and local dances.

En su décimo año de presencia en Isla Colón, la Estación de Investigaciones de STRI en Bocas del Toro (BRS) celebró una Feria Ambiental del Archipiélago de Bocas del Toro, para mostrar a la comunidad estudios científicos basados en BRS. Del sábado 14 al domingo 15 de junio, la feria también



incluyó quioscos de información de organizaciones panameñas gubernamentales y no gubernamentales, incluyendo Albatros, ANAM, ANCON, ANVECONA, ARAP, Caribbean Conservation Corporation, Earth Wildlife Trust, Fundación Natura, Mar

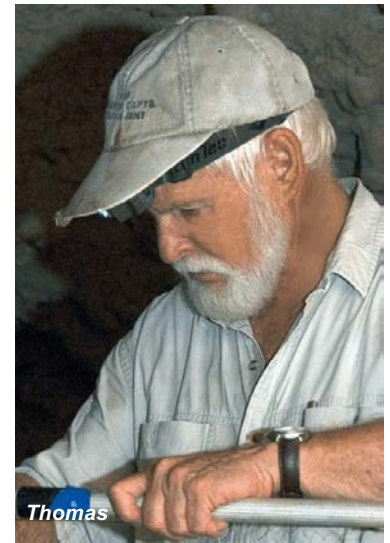
Viva, Programa Multifase de Desarrollo, Soluciones Biotecnológicas, Nature Conservancy, UICN, USAID, Universidad Tecnológica y WWF.

“Científicos de todas partes del mundo escogieron a Bocas del Toro para llevar a cabo una amplia gama de proyectos de investigación” aseguró Gabriel Jácome durante sus palabras de bienvenida, gerente de la Estación. “Esto responde a las muchas oportunidades para aprender sobre los trópicos que ofrece el Archipiélago.” Los científicos aquí han estudiado desde cómo se unieron las Américas con el surgimiento del Istmo de Panamá, hasta la rica ecología terrestre y marina presente en las islas y en tierra firme, cómo la evolución difirió

de una isla a la otra, la migración de las tortugas, la importancia de los murciélagos... “este es un centro de preguntas rodeado del más bello y diverso paisaje.”

Desde 2003, cuando STRI hizo inversiones en Isla Colón, investigadores de 28 países y cinco continentes han utilizado sus instalaciones, disfrutando de la diversidad de ecosistemas y explorando la naturaleza en un ambiente saludable. Los resultados de estos estudios se aprecian en el creciente número de artículos en revistas científicas. Sin embargo, enfatizó Jácome, “es imperativo llamar la atención sobre las amenazas que enfrentan los frágiles ecosistemas marinos y terrestres de la provincia, por el actual desarrollo extensivo.”

Rachel Collin, directora de BRS agradeció a Jácome, al coordinador de Programas Públicos y de Extensión, Marlon Smith y al resto del personal por la organización de una feria muy exitosa. Los más de 400 visitantes incluyeron a la

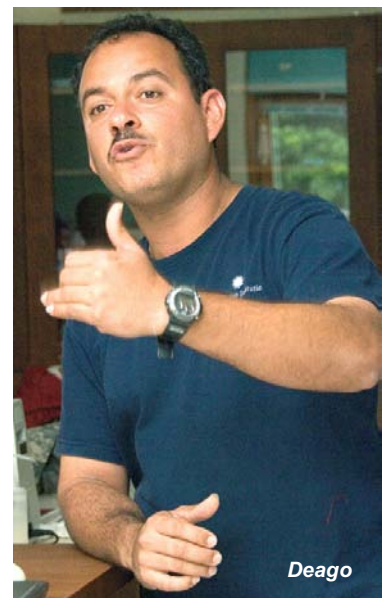


Thomas

governadora de Colón y los directores regionales del IPAT y de las Areas Protegidas de ANAM. Un agradecimiento especial para los conferencistas Peter Meylan (tortugas),



Maurice Thomas (murciélagos) y José Deago (Prorena). Otras atracciones incluyeron demostraciones de Sebastian Tilmans sobre cómo hacer biodiesel y las ranas de origami y conservación de ranas por Corrine Richards, así como bailes locales.



Deago

## New publications

Petit, Remy J., Hu, Feng Sheng, & Dick, Christopher W. 2008. "Forests of the past: a window to future changes." *Science* 320(5882): 1450-1452.

Ricklefs, Robert E., & Bermingham, Eldredge. 2008. "The West Indies as a laboratory of biogeography and evolution." *Philosophical Transactions of the Royal Society of London* 363(1502): 2393-2413.

Toth, Eva, & Duffy, J. Emmet. 2008. "Influence of sociality on allometric growth and morphological differentiation in sponge-dwelling alpheid shrimp." *Biological Journal of the Linnean Society* 94(3): 527-540.

## STRI in the news

"Rainforests face array of emerging threats" by Rhett Butler. 2008. [mongabay.com](http://mongabay.com): June 15.

Koenig, Robert. 2008. "Critical time for African rainforests." *Science* 320(5882): 1439-1441.

## BCI T-shirt

A t-shirt to commemorate BCI's 85<sup>th</sup> anniversary is selling for \$10 at STRI bookstore and BCI administration office. The model can be seen at: [http://striweb.si.edu/images/announcement/T\\_shirt.pdf](http://striweb.si.edu/images/announcement/T_shirt.pdf)

La librería de STRI y la Oficina de Administración de BCI tiene una camiseta para celebrar el 85 aniversario de BCI, por \$10. Puede verla en: [http://striweb.si.edu/images/announcement/T\\_shirt.pdf](http://striweb.si.edu/images/announcement/T_shirt.pdf)

## ICBG seeks microbiologist

STRI's International Cooperative Biodiversity Groups (ICBG) in Panama invites applications for a postdoctoral position in Microbiology. The ICBG laboratory focuses on the culture of novel endophytes from plants as sources of secondary metabolites for drug discovery for tropical diseases and cancer and is part of a large international team. The successful candidate will be posted at STRI headquarters. The position requires a Ph.D. in Microbiology or related field. The candidates must have expertise in the isolation and

culturing of microbes as well as experience with DNA-based methods of identification and phylogenetic characterization; familiarity with a variety of culturing techniques, including different solid and liquid media conditions; enthusiasm for exploring new methods for the isolation and culturing of novel species in order to enhance production of secondary metabolites; ability to supervise two to three assistants plus students, and commitment to the goals of promoting conservation and scientific interactions within Panama; and a willingness to learn Spanish.

The appointment is for one year, with the possibility of extension to five years.

Interested should send a CV, a letter with a summary of research interests, and three letters of recommendation electronically to [kursar@biology.utah.edu](mailto:kursar@biology.utah.edu). Or by mail to Thomas Kursar, Department of Biology, 257 South 1400 East, Salt Lake City, UT 84112-0840 USA

This position is open until filled. Initial consideration of applications will begin immediately.

## Postdoc fellowship in tropical forest ecology with CTFS at Harvard

STRI, the Center for Tropical Forest Science (CTFS) and the Arnold Arboretum of Harvard University offers a postdoctoral fellowship in tropical ecology or comparative biology of forest communities within the CTFS. A strong analytical background is preferred. Candidates should have an

established record of research and scholarly publication in tropical forest ecology and/or evolution. Field experience is not essential. Position will be based at Harvard University. Interested please send CV, a statement of research interests, and names of three references to: William Tootle, CTFS-AA

Program, 22 Divinity Avenue, Cambridge, MA 02138. Email: [wtootle@oeb.harvard.edu](mailto:wtootle@oeb.harvard.edu)

Direct questions about the fellowship to Stuart Davies ([sdavies@oeb.harvard.edu](mailto:sdavies@oeb.harvard.edu))

Deadline for applications is July 15, 2008.

¿Te animas a construir tus propios juguetes y fabricar tu propio papel?



Centro Natural Punta Culebra

en la Calzada de Amador

# Taller de creatividad

Instructoras: Kathia Sanchez y Eliana Tabares

Sala con materiales de desecho

Domingo 22 de junio de 10:30 AM a 1:30 PM

Además, visita la exhibición: "Reciclaje: una Herramienta para una Mejor Calidad de Vida", en colaboración con PROMAR y Misión Planeta



Información: 212-8793/94

# The STRI Stable Isotope Facility

Story: Ben Turner

Edited by M Alvarado  
and ML Calderon

Photos: MA Guerra

Stable isotope analysis has become a key technique for the study of biological systems. Stable isotopes of an element (e.g.,  $^{12}\text{C}$  and  $^{13}\text{C}$ ) differ only in the number of neutrons in their nucleus, but this is enough to alter their ratios in subtle yet detectable ways as they cycle through ecosystems. These differences provide a sensitive and elegant means to investigate the transformations and pathways of elements in the environment.

STRI recently acquired state-of-the-art facilities for the determination of stable isotopes in environmental samples. Located in the Soils Laboratories at Tupper, the Thermo Electron Isotope Ratio Mass Spectrometer can measure stable isotope ratios for a series of elements of importance in biological systems,

including hydrogen, oxygen, carbon, nitrogen, and sulfur.

These can be determined in a variety of sample types, including gases, liquids, and solids (e.g. soils, plant and animal tissue, geological samples, etc.)

The instrument will be used primarily in the study of plant physiology, paleoecology, and nutrient cycling. Specific applications include investigation of the water use efficiency and resource partitioning in plants, photosynthetic pathways, food webs, migratory patterns, and reconstruction of past climates.

Please contact Ben Turner (in the photo, with research assistant Dayana Agudo) in the Soils Laboratory for further information: [TurnerBL@si.edu](mailto:TurnerBL@si.edu)

Los análisis de isótopos estables se han convertido en una técnica clave para el estudio de sistemas biológicos. Los isótopos estables de un elemento (ej.  $^{12}\text{C}$  y  $^{13}\text{C}$ ) difieren solo en el número de neutrones en sus núcleos, pero esto es suficiente para alterar sus proporciones de forma sutil aunque perceptible a medida que continúan su ciclo a través de los ecosistemas. Estas diferencias ofrecen medios sensitivos y elegantes para investigar transformaciones y rutas que siguen los elementos en el ambiente.

Recientemente, STRI adquirió instalaciones de tecnología de punta para determinar isótopos estables en muestras ambientales.

Ubicados en los Laboratorios de Suelos del Tupper, el Thermo Electron Isotope Ratio Mass Spectrometer puede medir las proporciones de isótopos estables para una serie de elementos de importancia en sistemas biológicos, incluyendo hidrógeno, oxígeno, carbono, nitrógeno y ácido sulfúrico. Estos se pueden determinar en una variedad de tipos de muestras incluyendo gases, líquidos y sólidos (ej. suelos, tejidos de plantas y animales, muestras geológicas, etc.)

El instrumento se usará en primera medida en el estudio de fisiología vegetal, paleoecología y ciclos de nutrientes. Aplicaciones específicas incluyen la investigación de la eficiencia del uso del agua y la repartición de los recursos en plantas, rutas de fotosíntesis, cadenas alimenticias, patrones de migración y la reconstrucción de climas en el pasado.

Para mayor información favor ponerse en contacto con Ben Turner (en la foto con su asistente, Dayana Agudo) en los Laboratorios de Suelos en: [TurnerBC@si.edu](mailto:TurnerBC@si.edu)

