

Tupper 4pm seminar

Tuesday, November 4, 4pm seminar speaker will be Dina Dechmann, Evolutionary Ecology Leibniz-Institute for Zoo and Wildlife Research **Reduced to the max—what ecology can tell us about the neurobiology of bats**

Bambi seminar

Thursday, November 6, Bambi seminar speaker on BCI will be Meg Crofoot, STRI/ARTS For reservations contact Yolanda Valdes on BCI at 212-8961 valdesy@si.edu

Arrivals

Shai Pilosof, UNAM, Mexico, to study the role of odors for mate choice and social structure in *Noctilio albiventris*, the lesser Bulldog-bat, in Gamboa.

Tiffany Troxler, Florida International University & Stephen Davis, Texas A & M, to quantify relationships between resource heterogeneity and plant community structure in a coastal freshwater swamp of Panama, at Bocas del Toro.

Eric Fitz, Instituto Monteverde, Costa Rica, to study plant responses to changes in cloudiness of a tropical montane cloud forest: connecting climate change to plant ecology in a sensitive ecosystem, in Fortuna.

New publications

Arias, Carlos F., Munoz, Astrid G., Jiggins, Christopher D., Mavarez, Jesus, Bermingham, Eldredge, and Linares, Mauricio. 2008. "A hybrid zone provides evidence for incipient ecological speciation in *Heliconius* butterflies." *Molecular Ecology* 17(21): 4699-4712.



Smithsonian Tropical Research Institute, Panamá

www.stri.org

October 31, 2008

A bird-finding guide to Panama: US edition by Angehr et al.

Cornell University Press has published the American 2008 edition of a book by STRI research associate George Angehr with Dodge and Lorna Engleman published in Panama (2006) by Audubon, *Where to find birds in Panama: A site guide for birders*.

A bird-finding guide to Panama one of the most recent books of the Comstock Book Series, was published in association with the Panama Audubon Society, a BirdLife International Partner.

"*Bird-finding guide to Panama* is an essential tool for anyone traveling in search of Panama's spectacular birds and natural attractions. With more than 970 species... Panama is a premier birding and nature tourism destination... The country's unique geography, small size, and varied habitats make it easy to see a vast diversity of birds within a short time... Divided into three geographic sections (Canal Area, Eastern Panama, and Western Panama), this bird-finding guide provides comprehensive and up-to-date information on Panama's best birding sites."

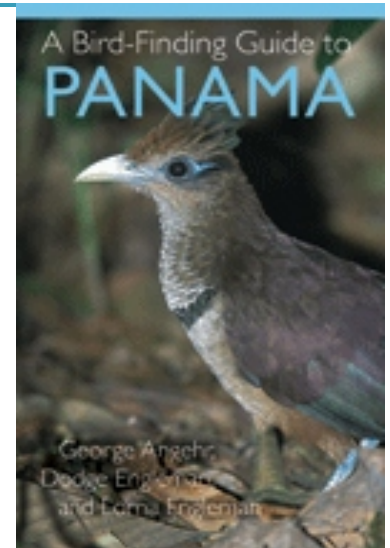
"Anyone reading this book will quickly realize just how easy it is to get around in Panama and how many of the most

sought-after birds of the Neotropics can be easily found within its borders. *Bird-finding guide to Panama* is clearly written, the maps are easy to follow, the directions are succinct and accurate, and there are good sections on conservation" commented Scott Robinson from the Florida Museum of Natural History. It sells in the US for \$29.95 paper, \$65 cloth. 392p. 44 maps.

Cornell University Press ha publicado la edición de EU 2008 de un libro del investigador asociado a STRI George Angehr y colegas Dodge y Lorna Engleman publicado en Panamá por la Sociedad Audubon *Where to find birds in Panama: A site guide for birders*.

A bird-finding guide to Panama [Guía para encontrar aves en Panamá] es uno de los más recientes libros de la Serie Comstock Books. Fue publicado junto con la Sociedad Audubon de Panamá, asociada a BirdLife International.

"*Bird-finding guide to Panama* es una herramienta esencial para el que viaja en busca de las espectaculares aves de Panamá y sus atracciones naturales. Con más de 970 especies... Panamá es un destino turístico de primera... La geografía única del país, su tamaño y la variedad de



sus hábitats facilita ver su gran diversidad de aves en poco tiempo... Dividido en tres secciones geográficas (Área Canalera, Panamá Este y Panamá Oeste), esta guía para aves ofrece toda la información al día sobre los mejores sitios para su observación."

"Cualquiera que lea este libro notará rápidamente qué tan fácil es viajar en Panamá y cuántas de las aves más buscadas se pueden encontrar fácilmente dentro de sus fronteras. *Bird-finding guide to Panama* está escrito claramente, los mapas son fáciles de seguir, las direcciones son sucintas y confiables, y hay buenas secciones sobre conservación" comenta Scott Robinson, del Museo de Historia Natural de Florida. Se puede comprar en los Estados Unidos por \$29.95 cubierta suave y \$65 cubierta dura. 392p. 44 mapas.

More publications

Dick, Christopher W., and Heuertz, Myriam. 2008. "The complex biogeographic history of a widespread tropical tree species." *Evolution* 62(11): 2760-2774.

Perez-Miles, Fernando, Gabriel, Ray, Miglio, Laura, Bonaldo, Alexandre, Gallon, Richard, Jimenez, Juan Jacobo, and Bertani, Rogerio. 2008. "*Ami*, a new Theraphosid genus from Central and South America, with the description of six new species (Araneae: Mygalomorphae)." *Zootaxa* 2008(1915): 54-68.

Rojas, Enith I., Herre, Edward Allen, Mejia, Luis C., Arnold, Anne Elizabeth, Chaverri, Priscila, and Samuels, Gary J. 2008. "*Endomelanconiopsis*, a new anamorph genus in the Botryosphaeriaceae." *Mycologia* 100(5): 760-775.

STRI in the news

"New Guinea forest expands 'observatory' Arnold Arboretum, Smithsonian grow forest partnership, by Alvin Powell. 2008. *Harvard University Gazette*. October 30.

"'Living fossil' tree contains genetic imprints of rain forests under climate change", provided by University of Michigan. 2008. *PhysOrg.com*: October 30.

"Director works to keep conservation efforts afloat" by Nathan Carrick, Staff Writer. 2008. *Gazette.net* Maryland Community Newspapers Online: October 29.

"Confirman la existencia en Panamá del '*Anopheles darlingi*', un potente transmisor de la malaria." 2008. DiCYT.com: October 31.



Campbell



Torchin



Jara



Arosemena

Changes at Culebra: From the Director

"We would like to congratulate Inez Campbell, manager of the Punta Culebra Nature Center, for her recent award of a SENACYT fellowship to pursue a Ph.D. at St. Andrews University in Scotland where she will continue her studies of marine mammals. We thank Inez for her years of service to STRI and Culebra, our most visited public outreach facility, and wish her great success with her studies.

I would also like to announce administrative changes at the Punta Culebra Nature Center that have been developed in consultation with the staff at Culebra and Naos. These changes will begin taking place on 1 November 2008.

Mark Torchin has accepted the position of Culebra's scientific director, succeeding John Christy and his superb dedication to the scientific oversight of Culebra and its vibrant population of fiddler crabs. Mark leads an international group of colleagues studying the biology of invasive species, and his interest in the role global shipping and the Canal play in marine invasions should prove a good match to Culebra's position at the Pacific entrance to the Panama Canal.

Mercedes Arosemena, who has long provided superb management of the Naos

Laboratories, will now administer both Naos and Culebra. Javier Jara, who has assisted Nancy Knowlton and other scientists in the lab and field for many years, will work with Mercedes, Mark and the staff at both Culebra and Naos to help insure the smooth integration of both facilities.

Communication associates Beth Coates, Andrew Coates and Edwina Von Gal will join Giselle Muschett, the new executive director of the *Fundación Smithsonian de Panamá*, to further develop Culebra to its maximum potential. Along these lines we are very pleased to announce that HSBC Bank will support the marine education program, *Tu y el Mar con el Smithsonian*, for the seventh consecutive year in 2009.

The Punta Culebra Nature Center has become increasingly critical to STRI's mission in Panama, and I speak for all of us and the *Fundación Smithsonian* when I say that we are looking forward to the coming year. Owing to the dedication of the entire Culebra and OFEO staff we expect to see in the coming months the completion of the touch pools and a number of general upgrades to the site. The Culebra staff has long awaited the fresh face that will help them welcome our visitors to the Punta Culebra Nature Center this summer, when

visitation reaches a peak.

I am confident the administrative changes we are putting in place will insure Culebra's continued prosperity.

We each have a role to play in supporting the Culebra and Naos staff in insuring that visitors find Punta Culebra Nature Center a refuge nestled amongst the hustle of Panama City: a place where they can relax, enjoy and learn why our marine and natural heritage is so important to our well-being."

Eldredge Bermingham

"Deseamos felicitar a Inéz Campbell, administradora del Centro Natural Punta Culebra, por la reciente beca que obtuvo de SENACYT para optar por un doctorado en la Universidad de St. Andrews en Escocia, donde continuará con sus estudios de mamíferos marinos. Le agradecemos por los años de servicio que le ha ofrecido a STRI y Culebra, nuestra instalación más visitada por el público. Todos le deseamos un gran éxito con sus estudios.

También quiero anunciar cambios administrativos en el Centro Natural Punta Culebra, que se han desarrollado previa consulta con el personal de Naos y Culebra. Estos cambios se llevarán a cabo a partir del 1ro de noviembre:

Mark Torchin aceptó la posición de director científico de Culebra, reemplazando a John Christy y su admirable dedicación a la supervisión de Culebra y su vibrante población de cangrejos violinistas. Mark lidera un grupo internacional de colegas que estudian la biología de especies invasoras. Su interés en el papel que el Canal y el comercio marítimo global juegan en las invasiones marinas, pueden ser una buena combinación para aprovechar la posición de Culebra en la entrada pacífica del Canal de Panamá.

Mercedes Arosemena, quien por mucho tiempo ha hecho un excelente trabajo administrando los Laboratorios de Naos, ahora

administrará tanto Naos como Culebra. Javier Jara, quien trabajó con Nancy Knowlton y otros científicos en el laboratorio y en el campo, apoyará a Mercedes, a Mark y al personal de Culebra y Naos para asegurar que la integración de ambas instalaciones se lleve a cabo sin contratiempos.

Beth Coates, Andrew Coates y Edwina Von Gal, asociados en comunicación de STRI, se unirán a Giselle Muschett, nueva directora ejecutiva de la Fundación Smithsonian de Panamá, para llevar a Culebra hasta su máximo potencial. Al respecto, me complace anunciar que el Banco HSBC apoyará el programa de educación marina *Tú y el Mar con el Smithsonian*, por

séptimo año consecutivo, en 2009.

El Centro Natural Punta Culebra es cada vez más crítico para la misión de STRI en Panamá, y hablo por todos nosotros y la Fundación Smithsonian al decir que estamos a la expectativa de que llegue el próximo año. Gracias a la dedicación de todo Culebra y el personal de OFEO, esperamos ver en los próximos meses la finalización de la piscina de tocables y varios de mejoras generales en el sitio. El personal de Culebra ha esperado por mucho tiempo una cara fresca que les ayudará a dar la bienvenida a nuestros visitantes del Centro Natural Punta Culebra en verano,

cuando el número de visitas llega a su máximo. Confío en que los cambios administrativos que estamos implementando ahora aseguren que se mantenga el éxito de Culebra.

Cada uno de nosotros tiene un papel para apoyar el personal de Naos y Culebra para asegurarnos que los visitantes encuentren en el Centro de Punta Culebra un refugio entre la bulliciosa ciudad de Panamá: un lugar donde se pueden relajar, disfrutar y aprender por qué nuestra herencia marina y natural es tan importantes para nuestro bienestar.”

Eldredge Bermingham

(translated by ML Calderon)

PNAS: Inland ants often prefer salt over sugar

Ants prefer salty snacks to sugary ones, at least in inland areas that tend to be salt-poor, according to a new study to be published in the journal *Proceedings of the National Academy of Sciences*. [Once published, it will be distributed by the Science Sendings. If you are not registered, send an e-mail to Neal G. Smith.]

STRI research associate Robert Dudley from the University of California, Berkeley, Steve Yanoviak from the University of Arkansas at Little Rock (UALR) and Michael Kaspari, also a STRI research associate from the University of Oklahoma in Norman tested the salt versus sugar preferences of ants from North, Central and South America, using ant populations at varying distances from the ocean.

They found that ants living more than 60 miles inland often preferred a 1 percent salt solution over a sugar solution 10 times more concentrated.

"Ants will always go for the sugar because they need sugar to provide the basic energy for life and for their activity," said Yanoviak, "But when you see ants spending increasing amounts of time or employing increasingly large numbers of individuals foraging for salt, it suggests that salt is a resource that is limiting to them.

Dudley, Yanoviak and Kaspari instigated the study after spending several days doing research on insects in the treetops of Peru, an area that contrasts starkly with the relatively pest-free treetop conditions in Panama, where no place is more than 25 kilometers from the ocean.

Because ants are easier to study than bees, Kaspari designed a "cafeteria experiment" that offered ants a choice between salt and sugar. The researchers tested not only Peruvian and Panamanian ants, but also ants at 17 sites, ranging from rainforest trails in the Amazon

to Kaspari's front yard in the US.

By merely counting the ant species attracted to cotton balls soaked in salt or sucrose (table sugar) solutions, they discovered that herbivorous or omnivorous

species more than 10-100 kilometers (6-60 miles) from the ocean preferred salt over sugar, and the farther inland, the greater the preference for salt.

Ants living mostly on green vegetation had a greater preference for salt than did those living among the decaying leaves of the forest floor, while carnivorous ants had little preference for salt over sugar.

Activity at sugar baits was highest between 10 and 100 kilometers from the shore, suggesting that this near-coastal belt may be a sweet spot for



Photo: Steve Yanoviak

animals with "just enough salt to meet requirements, but not enough to be toxic or inhibit the plants they feed on," Kaspari said.

The researchers are continuing their study of salt limitations, including experiments to determine whether it is the sodium or the chloride in salt that is essential to the well-being of ants, and possibly to that of other animals.

Information taken from EurekaAlert!

Becas para estudiantes de Biología

Inicia el 31 de enero
hasta el 30 de abril 2009

**El Instituto Smithsonian de Investigaciones Tropicales y
la Universidad de Princeton
ofrecen becas para estudiantes universitarios panameños para participar
en un curso de Ecología Tropical.**

Requisitos:

- Ser estudiante de Biología (al menos de tercer año)
- Excelencia académica
- Dominio del idioma inglés
- Disponibilidad a dedicarse al curso tiempo completo

Entregar carta de presentación de 2 páginas (en inglés), indicando su interés en el curso, junto con su hoja de vida y créditos universitarios oficiales.

**Fecha límite para aplicar:
9 de enero de 2009**

Enviar documentos a:
Instituto Smithsonian de
Investigaciones Tropicales
Attn.: Nilka Tejeira - Tupper
Apartado 0843-03092
Panamá, República de Panamá
O por Fax: 212-8150,
o a STRICourses@si.edu



Smithsonian Tropical Research Institute



Department of Ecology
and Evolutionary Biology