



Smithsonian

# 100 years of science in Panama



Smithsonian Tropical Research Institute, Panamá

STRI news

[www.stri.si.edu](http://www.stri.si.edu)

September 30, 2011

## Gamboa seminar

No Gamboa seminar scheduled for Monday, October 3<sup>rd</sup>. The next Gamboa seminar will be presented by Alex Trillo on Monday October 10<sup>th</sup>. If you wish to give a Gamboa seminar, please contact Stuart Dennis at [DennisS@si.edu](mailto:DennisS@si.edu)

## Tupper seminar

Tuesday, October 4, 4pm  
Tupper seminar speaker will be Scott Mangan, University of Wisconsin, Milwaukee  
**Plant-soil feedbacks and the maintenance of diversity in a tropical forest**

## Paleo-Talk

Please check the STRI announcements for information on the next Paleo-talk.

## Bambi seminar

Thursday, October 6, Bambi seminar speaker will be Justin C. Touchon, NSF&STRI  
**Measuring selection on aquatic and terrestrial reproduction in a Neotropical treefrog**

## Elisabeth Klara Viktoria Kalko (1962-2011)

Elisabeth K.V. Kalko, STRI staff scientist and head of the Institute of Experimental Ecology at the University of Ulm in Germany, died in her sleep on Monday, September 26 during a visit to the Kilimanjaro project of the German Research Foundation (DFG) in Tanzania. Eli's sudden death was completely unexpected as everything seemed to be fine the evening before. The cause of her death is still unknown. She is survived by parents Jürgen and Rosemarie Kalko, her brother Joachim and partner professor Marco Tschapka, all residing in Germany.

Kalko obtained a first degree in biology from the Universität Tübingen in Germany, followed by a doctorate in 1991. She held a NATO post-doc at SI's National Museum of Natural History in Washington, DC, and STRI. She worked on the DFG programs on tropical diversity and Neotropical bats, and a Heisenberg postdoc in Tübingen.

At STRI, Kalko joined as research associate, and in 1999, she was appointed staff scientist. Since 2000, she held a joint appointment as director and full professor at the Institute of Experimental Ecology at the University of

Ulm in Germany. She was also research associate with the American Museum of Natural History (AMNH). Since then she published about 100 articles with STRI, and brought a great number of students to do bat research on Barro Colorado and other sites of the country. In 2006 Kalko was awarded for best university teaching in natural sciences (Landeslehrpreis) in the state of Baden-Württemberg, Germany. The award was in part granted as a recognition for her research conducted with her students at STRI.

Kalko was a member of the German National Committee on Global Change Research (2002-2011), and was elected for life to the Heidelberg Academy of Sciences (2006). From 2005-2011, she served as vice-president of the Society of Tropical Ecology, and from 2008 on she was a member of the Senate Commission on Biodiversity of the German Research Foundation (DFG). The same year, Kalko became head elect of Diversitas Germany. As editor-in-chief of the international tropical ecology journal *Ecotropica*, she strengthened the journal's profile considerably. During the early 2000's, she was one of the most prominent experts in the areas of bat community



ecology, echolocation and bat behavior.

In his message to the STRI community, director Eldredge Bermingham expressed deep regrets for losing "A close friend and one of the most passionate, intelligent and productive scientists in our community and among bat researchers worldwide..." Her study areas covered temperate zones, particularly Europe, and the tropics, mainly Central- and South America (Panama, Costa Rica, Mexico, Venezuela, Bolivia, Peru) and Africa (Tanzania, Benin, Ivory Coast, Ghana.)

STRI will hold a memorial event in the near future. If you wish, send your comments to [calderom@si.edu](mailto:calderom@si.edu)

## Arrivals

Tiffany Troxler, Florida International University, to quantify relationships between resource heterogeneity and plant community structure in a coastal freshwater swamp of Panama, at the Bocas Station.

Eva McClure, University of Queensland, Australia, to lead the project "Monitoring the Coral reefs of Panama - Research, Education and Awareness," at Bocas del Toro, Galeta and Naos.

Sandra P. Galeano, Louisiana State University, to study the ecological consequences of genetic diversity in the polymorphic frog *Oophaga pumilio*: Implications at the community level, at Bocas.

Boris Javanovic, Iowa State University, to study the effect of titanium dioxide nanoparticles on coral bleaching, stress responses and immune gene expression, at Bocas del Toro and Naos.

Sesangari Galván Quesada, Universidad Michoacana de San Nicolas de Hidalgo, to join the "Historical Biogeography of Mesoamerica" project, at Naos Island Laboratories.

Neal Benjamin, Scripps, David Kline, David Kriegman Avital Treubitz, Oscar Beijborn and Paul Roberts, University of California, San Diego, to study computer vision coral ecology, at Bocas del Toro.

Jean Pol Vigneron, Annick Bay and Priscilla Simonis, University of Namur, Belgium, to conduct an X-ray nanotomography investigation of the physical mechanism of color change in Neotropical tortoise beetles (Coleoptera, Chrysomelidae), at Tupper.

Elisabeth K.V. Kalko, científica de STRI y directora del Instituto de Ecología Experimental en la Universidad de Ulm en Alemania, falleció mientras dormía, el lunes 26 de septiembre, durante una visita al proyecto de Kilimanjaro de la Fundación de Investigaciones de Alemania (DFG) en Tanzania. La repentina muerte de Eli fue completamente inesperada, ya que todo parecía estar bien la noche anterior. Aún se desconoce la causa de su muerte. Sus principales deudos son sus padres, Jürgen y Rosemarie Kalko, su hermano Joachim, y su compañero, el profesor Marco Tschapka, todos residentes en Alemania.

Kalko obtuvo una licenciatura en biología de la Universidad de Tubingen en Alemania, donde también obtuvo su doctorado en 1991. Con fondos de la North Atlantic Treaty Organization (NATO) trabajó en el Museo de Historia Natural del Smithsonian en Washington, y en STRI. También desarrolló proyectos con la DFG sobre diversidad tropical y murciélagos del Neotrópico, así como un postdoctorado Heisenberg en Tubingen.

En STRI, Kalko fue recibida como investigadora asociada, y en 1999 fue nombrada científica permanente. A partir de 2000 compartió su posición en STRI, como profesora y directora del Instituto de Ecología Experimental en la Universidad de Ulm en Alemania. También era investigadora asociada del Museo de Historia Natural de los EU. Desde entonces contribuyó con cerca de 100 publicaciones científicas y atrajo a un gran número de estudiantes alemanes a estudiar murciélagos en Barro Colorado y otros puntos del país. En 2006 Elisabeth recibió el premio por excelencia en enseñanza superior en ciencias naturales del estado de Baden-Württemberg, en Alemania, en parte por sus investigaciones junto con sus estudiantes en Panamá.



The bat community worldwide is tagging/planting ficus trees to honor Elisabeth throughout the Neotropics. Ficus were central to Eli's heart - and to the fig-eating bats that she loved.

La comunidad mundial de estudiosos de murciélagos dedicarán o plantarán árboles de Ficus en honor a Elisabeth a través del Neotrópico. Eli amaba estos árboles, así como a los murciélagos que se alimentaban de ellos.

Elisabeth Kalko in Costa Rica, 2011

Photo: Marco Tschapka

Kalko era miembro del Comité Nacional de Alemania para Investigaciones sobre el Cambio Climático (2002-2011), fue elegida miembro vitalicio de Academia Heidelberg de Ciencias en 2006 y vicepresidente de la Sociedad de Ecología Tropical de 2006-2011. En 2008 también fue elegida miembro de la Comisión del Senado para la Biodiversidad de la DFG, y directora de Diversitas, Alemania.

Como editora en jefe de la revista internacional de ecología tropical, *Ecotropica*, fortaleció considerablemente el perfil de la revista. Durante la primera década de 2000, se convirtió en una de las expertas más prominentes en las áreas de ecología de comunidades de murciélagos, ecolocación y comportamiento de murciélagos.

En su mensaje a la comunidad de STRI, el director, Eldredge Bermingham expresó su profundo dolor por haber perdido "una amiga cercana, y una de las científicas más apasionadas, inteligentes y productivas de nuestra comunidad y de los investigadores de murciélagos en el mundo entero..." Sus áreas de estudio se extendieron en zonas templadas, particularmente Europa, y los trópicos, principalmente en Centro y Suramérica (Panamá, Costa Rica, México, Venezuela, Bolivia, Perú) y Africa (Tanzania, Benin, Costa de Marfil, Ghana).

STRI tendrá un evento en memoria de Elisabeth en un futuro cercano. Si desea, puede enviar sus mensajes a [calderom@si.edu](mailto:calderom@si.edu)

## More arrivals

Jacques Pasteels, University of Brussels, Belgium, to to conduct an X-ray nanotomography investigation of the physical mechanism of color change in Neotropical tortoise beetles (Coleoptera, Chrysomelidae), at Tupper.

Teia Schweizer, University of California, Irvine, to study predator foraging behavior, in Gamba.

Jeanette Hofstee, California State University, to study biased evolutionary transitions in mode of development: Can differences in morphology and digestive function be linked to evolvability of gastropod development? at Tupper and Naos Island Laboratories.

Virginia Schutte, University of Georgia, to study how a reduced structural complexity in a hierarchically engineered system affects ecosystem function, at Bocas del Toro.

LaTreese Denson, Duke University, to participate in the 2011 Duke University field course on Experimental Tropical Marine Biology, Part II, at Bocas del Toro.

## Departures

Laura B. Geyer, Haris Lessios and Rachel Collin to Washington DC, to participate in the Next Generation Sequencing and Genomics Workshop at SI.

José Perurena to Lake City, FL, to participate in a crane inspector training class.

Edgardo Ochoa to Washington DC, on official business and to Walpole, Maine, to attend a symposium.

Oris Sanjur to Indianapolis, IN, to participate in the Synthetic Biology Contest for I-Gem, then to Washington DC, to participate in a Virtual Global Biorepository workshop at the NMNH.

## Climate change on BCI

A select audience attended the conference given by staff scientist Helene Muller-Landau on Wednesday, September 28, at the Tupper Center Auditorium. The conference was offered as part of the activities to celebrate the centennial of Smithsonian science on the Isthmus of Panama.

Muller-Landau, who spoke about the variations in the weather on Barro Colorado Island, showed intriguing graphics on how the weather has changed in one of the best-studied places on Earth. From BCI, climate patterns may be inferred for central Panama and other rainforests in the surrounding regions.

According to Muller-Landau, during this century, temperatures in Panama are expected to rise about two to three degrees Celsius, which would have effects on the animal and plant composition in tropical rainforests. Scientists cannot provide the public with definite answers about how forests will change, since long-term data are needed for this. But in recent years, they have observed an important increase in the density of vines in the Barro Colorado canopy. The Island also recently reported an unusual mortality among mammals in the area, due to starvation.

Interesting questions were posed by teachers, professors, biologists and botanists present at the event. Helene surprised colleagues and visitors when she explained that temperatures showing an increase in Panama have been the lowest temperatures of the day and not the highest, at least during the past 30 years.



Helene Muller-Landau with students. Photo: courtesy of HM-L

Helene Muller-Landau con estudiantes.

Una selecta concurrencia asistió a la conferencia de la científica de STRI, Helene Muller-Landau, el miércoles 28 de septiembre en el Auditorio del Centro Tupper. La conferencia se dictó dentro del marco de las celebraciones del Centenario de ciencias del Smithsonian en Panamá.

Muller-Landau, quien habló sobre la “Variación del Clima en la Isla de Barro Colorado,” mostró interesantes gráficas de cómo ha variado el clima en uno de los puntos mejor estudiados del mundo. Desde BCI se pueden inferir los patrones para Panamá central y otros bosques lluviosos en los alrededores.

De acuerdo a Muller-Landau, en este siglo se espera que en Panamá la temperatura aumente una mediana de dos a tres grados centígrados, lo que tendría efectos en la composición de las especies de plantas y animales en los bosques lluviosos del trópico.

Los científicos aún no pueden dar respuestas definitivas sobre cómo cambiarán los bosques, ya que para ello se requieren de cifras a un largo plazo. Hasta el momento se ha podido notar que en Barro Colorado han aumentado la cantidad de lianas y bejucos que mantiene el dosel del bosque, así como recientes hambrunas y mortandad entre los mamíferos del área.

Interesantes preguntas surgieron como respuesta de maestros, profesores y profesionales botánicos y de biología que se encontraban entre la audiencia. Helene sorprendió a colegas y visitantes al explicar que el aumento de las temperaturas en Panamá se ha registrado en las temperaturas más bajas del día, y no en las más altas, al menos durante los últimos treinta años.

## New publications

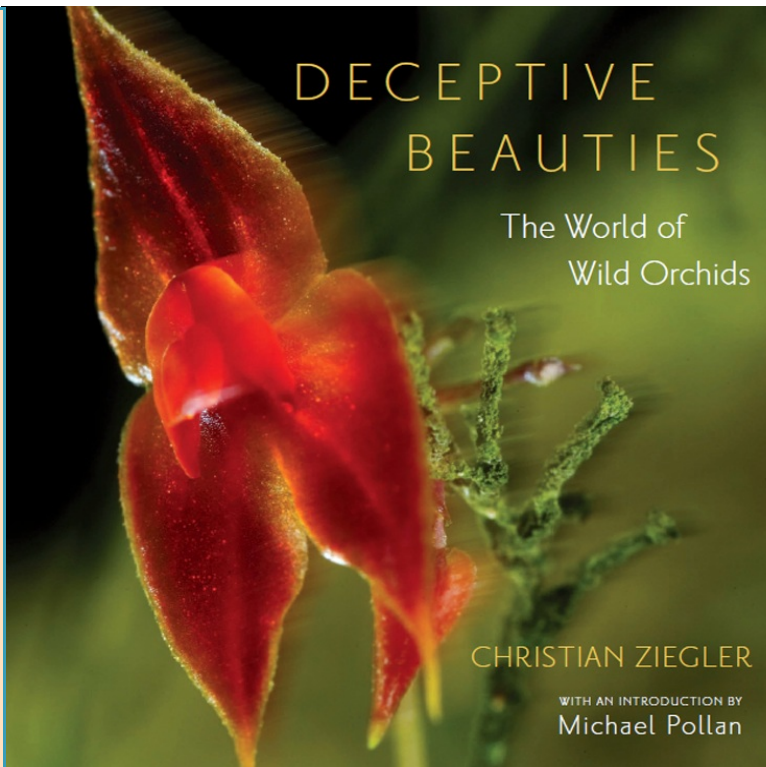
Anker, Arthur. 2011. "Six new species and three new records of infaunal alpheid shrimps from the genera *Leptalpheus* Williams, 1965 and *Fenneralpheus* Felder & Manning, 1986 (Crustacea, Decapoda)." *Zootaxa* 3041(2011): 1-68.

Anker, Arthur. 2011. "Two new species of *Salmoneus* Holthuis, 1955 with a deep dorsal depression on the carapace (Crustacea, Decapoda, Alpheidae)." *Zootaxa* 3041(2011): 39-50.

Dickau, Ruth, Bruno, Maria C., Iriarte, Jose, Prumers, Heiko, Jaimes Betancourt, Carla, Holst, Irene, and Mayle, Francis E. 2011. "Diversity of cultivars and other plant resources used at habitation sites in the Llanos de Mojos, Beni, Bolivia: Evidence from macrobotanical remains, starch grains, and phytoliths." *Journal of Archaeological Science* Online. doi: 10.1016/j.jas.2011.09.021

Jones, F. Andrew, Erickson, David L., Bernal, Moises A., Bermingham, Eldredge, Kress, W. John, Herre, Edward Allen, Muller-Landau, Helene C., and Turner, Benjamin L. 2011. "The roots of diversity: Below ground species richness and rooting distributions in a tropical forest revealed by DNA barcodes and inverse modeling." *PLoS ONE* 6(9): e24506.

Knornschild, Mirjam, Ueberschaer, Katja, Helbig, Maria, and Kalko, Elisabeth K.V. 2011. "Sexually Selected Infanticide in a Polygynous Bat." *PLoS ONE* 6(9): e25001.



## New STRI book: Deceptive beauties: The world of wild orchids

STRI communication associate Christian Ziegler has just published a photographic book, *Deceptive beauties: The world of wild orchids* (2011), with the University of Chicago Press. It has a foreword by Natalie Angier and an introduction by Michael Pollan.

This book features over 150 color photographs taken by Christian Ziegler himself as he trekked through wilderness on five continents to capture the diversity and magnificence of orchids in their natural habitats. According to Cristián Samper, director of SI's National Museum of Natural History, "Ziegler captures their beauty through his spectacular photographs, unveiling their mysteries and giving us an insight into their fascinating natural history."

The new book will on sale at the STRI Corotú Bookstore.

El asociado en comunicación de STRI, Christian Ziegler, acaba de publicar un libro fotográfico, *Deceptive beauties: The world of wild orchids* (2011), con University of Chicago Press. Tiene un prólogo por Natalie Angier y una introducción de Michael Pollan.

El libro contiene más de 150 fotografías tomadas por Christian Ziegler mientras exploraba a través de los bosques de cinco continentes para capturar la diversidad y magnificencia de las orquídeas en sus hábitats naturales. De acuerdo a Cristián Samper, director del Museo Nacional de Historia Natural, "Ziegler captura su belleza a través de fotografías espectaculares, develando sus misterios y ofreciéndonos un vistazo dentro de su fascinante historia natural."

El libro estará pronto a la venta en en la Librería Corotú de STRI.

## New publications

McEwan, Ryan W., Lin, Yi-Ching, Sun, I. Fang, Hsieh, Chang-Fu, Su, Sheng-Hsin, Chang, Li-Wan, Song, Guo-Zhang Michael, Wang, Hsiang-Hua, Hwong, Jeen-Lian, Lin, Kuo-Chuan, Yang, Kuoh-Cheng, and Chiang, Jyh-Min. 2011. "Topographic and biotic regulation of aboveground carbon storage in subtropical broad-leaved forests of Taiwan." *Forest Ecology and Management* 262(9): 1817-1825.

Ziegler, Christian. 2011. *Deceptive beauties: The world of wild orchids*. Chicago and London: The University of Chicago Press.

## STRI in the news

"For marine biology students, a sea change" by Kara Shemin. News@Northwestern [http://www.northeastern.edu/news/stories/2011/09/three\\_seas.html](http://www.northeastern.edu/news/stories/2011/09/three_seas.html)

## Join us!

And cheer on our three teams on Sunday, October 2: 21 kms ASICS-Gamboa Race & 3x7km relay, starting and ending at the Gamboa Rainforest Hotel, 6:30am.

Apoya a nuestros tres equipos el domingo, 2 de octubre, en la carrera de 21km ASICS-Gamboa y relevos 3x7km. Partimos del Hotel Gamboa Rainforest a las 6:30am y regresamos a éste.

**STRI teams/equipos  
Be Happy!  
Gam Boa Constrictors  
Traveling!**