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100 years of science in Panama

Smithsonian Tropical Research Institute, Panamá | STRI news | www.stri.si.edu | April 1st, 2011

Gamboa seminar

Monday, April 4th, Gamboa seminar speaker will be Marco Visser, Nijmegen University, The Netherlands

Negative density dependence in a tropical palm: the role of dispersers, seed predators and trophic interactions

CTFS-SIGEO talk

Tuesday, April 5th, 10:30am
[illegible] seminar speaker will [illegible]

Cancelled

P[illegible] [illegible]sts

Tupper seminar

Tuesday, April 5, 4pm seminar speaker will be John Christy, STRI

Timing of the release of larvae by brachyuran crabs: Patterns, adaptive significance and control

Bambi seminar

Thursday, April 7, Bambi seminar speaker on BCI will be Walter Carson, University of Pittsburgh

On the causes and consequences of region-wide changes in the dynamics and disturbance regimes within the eastern deciduous forest of the US

CO2 symposium

STRI hosted the CO_2 symposium "Responses of Tropical Vegetation to Elevated [CO_2]: What are the key questions and how best to address them experimentally?" from Thursday, March 31st, to Friday, April 1st, at the Tupper Center Auditorium. They also visited Santa Cruz, part of STRI´s facilities in Gamboa, on Friday, April 1st.

The symposium was organized by STRI´s plant physiologist Klaus Winter. STRI director Eldredge Bermingham offered the welcoming words, and the seminars were presented by Klaus Winter, Carlos Jaramillo and S. Joseph Wright, of STRI, Andrew Leakey, University of Illinois, Richard Norby, Oak Ridge National Laboratory, Christian Korner, University of Basel, Bert Krake, Smithsonian Environmental Research Center, Joseph Holtum, James Cook University, and Lucas Cernusak, Australian National University.

STRI fue la sede del Simposio de CO_2 "Responses of Tropical Vegetation to Elevated [CO_2]: What are the key questions and how best to address them experimentally?" [Respuestas de la Vegetación Tropical al Dióxido de Carbono Elevado: ¿Cuáles son las preguntas clave y cómo responderlas mejor experimentalmente?] del jueves, 31 de marzo, al viernes 1ro de marzo, en el Auditorio del Centro Tupper. También visitaron Santa Cruz, parte de las instalaciones de STRI en Gamboa, el viernes 1ro de abril.

El simposio fue organizado por el fisiólogo vegetal de STRI, Klaus Winter. El director de STRI, Eldredge Bermingham ofreció palabras de bienvenida, y los seminarios fueron presentados por STRI´s Klaus Winter, Carlos Jaramillo and S. Joseph Wright, Andrew Leakey, University of Illinois, Richard Norby, Oak Ridge National laboratory, Chrstian Korner, University of Basel, Bert Krake, Smithsonian Environmental Research Center, Joseph Holtum, James Cook University and Lucas Cernusak, Australian National University.

Arrivals

Joseph Williams and Popko Wiersma, Ohio State University, to study cellular stress resistance in long- and short-lived species of birds, in Gamboa.

Beck Wehrle, California State University, to study the role of sociality in exchanging microbial communities among hatchling green iguanas (Iguana iguana), on BCI.

Melina Rodriguez Moreno, CEMarin, Colombia, to work as volunteer on a molecular evolution of sea urchins project, at Naos Island Laboratories.

Justin Cummings, University of California at Santa Cruz, to work on evaluating variations in understory light intensities and biotic interactions with *Saccharum spontaneum* and overstory trees species in the Panama Canal Watershed, in Gamboa.

Kyle Maurer, Ohio State University, to explain the distribution and dominance of lianas and tree species across the Panamanian Isthmus, on BCI.

Departures

Vielka Chang-Yau, to Galveston, Texas, to attend the International Association of Marine Science Libraries and Information Centers, Regional Southeast Group.

Oris Sanjur to Durham, North Carolina, invited by the National Evolutionary Synthesis Center at Duke University to attend a meeting on Domestication as an Evolutionary Phenomenon: Expanding the Synthesis Catalysis.

New at Human Resources

Mariechen Lang, former consultant at the USAID-CBC Project, was selected to serve as director of STRI´s Office of Human Resources effective January 31st. With her, she brought working experience from tourism projects in the Panama Canal Watershed, La Selva Biological Station, OTS, Hotelera Juliandy, as well as teaching experience.

Lang obtained a bachelor´s degree in Hotel Management and Gastronomy at Universidad Latinoamericana de Ciencia y Technologia in Costa Rica, and a master´s degree in Business Administration with a specialization in Human Resources at the National University of California and Universidad de Costa Rica.

The Office of Human Resources has established a new schedule, from 7:30 am to 5:45pm, Monday to Friday. A new e-mail, STRI-OHR-Helpdesk@si.edu was created to handle requests for personnel documents, form letters, etc. For meetings with Lang, please send an e-mail to langm2@si.edu or call 212-8094.

Specific matters schedule:
Tuesday: 8:30am - 5:30pm, with Mirza Murillo
Wednesday: 1:30pm - 4:30pm, with Mirza Murillo
Thursday: 8-10am, with Mirza Murillo
Friday: 9:30am-2:30pm & 4:30-5:30pm, with Jensi Johnson

Mariechen Lang, antigua consultora del Proyecto USAID-CBC, fue seleccionada para fungir como directora en la Oficina de Recursos Humanos, a partir del 31 de enero. Trajo experiencia de trabajo en proyectos de turismo en la Cuenca del Canal de Panamá, La Selva Biological Station, OTC, Hotelera Juiandy, así como experiencia en enseñanza superior.

Lang obtuvo una licenciatura en Administración de Hoteles y Gastronomía de la Universidad Latinoamericanna de Ciencia y Tecnología en Costa Rica, y una maestría en administración de empresas con especialización en recursos humanos de National University of California, y Universidad de Costa Rica.

La Oficina de Recursos Humanos ha establecido un nuevo horario, de 7am-5:45pm,

de lunes a viernes. Un nuevo correo electrónico, STRI-OHR-Helpdesk@si.edu fue creado para manejar solicitudes de documentos de personal, cartas forma, etc. Para reunirse con Lang, envíe un correo a langm2@si.edu, o llame al 212-8094.

Horario para asuntos específicos
Martes: 8:30am-5:30pm con Mirza Murillo
Miércoles: 1:30pm-4:30pm, con Mirza Murillo
Jueves: 8-10am, con Mirza Murillo
Viernes: 9:30am - 2:30pm and 4:30-5:30pm, Jensi Johnson

STRI in the news

Bryson Voirin, a doctoral student at the Max Planck Institute for Ornithology in Germany and a fellow at STRI, writes from Panama, where he is studying sleep in wild frigate birds.

Why do animals sleep? By Bryson Voirin. *New York Times*: March 18, 2011. http://scientistatwork.blogs.nytimes.com/2011/03/18/why-do-animals-sleep/?partner=rss&emc=rss

Arriving in Panama to a Series of Games, by Bryson Voirin. *New York Times*: March 11. http://scientistatwork.blogs.nytimes.com/2011/03/11/arriving-in-panama-to-a-series-of-games/?partner=rss&emc=rss

Departures

Tania Brenes to Manaus, Brazil, to attend the Taxonomy Workshop for the Neotropical Program of the CTFS, in Manaus, Brazil.

New publications

Abbot, Patrick... West-Eberhard, Mary Jane...., and Zink, Andrew (137 authors). 2011. "Inclusive fitness theory and eusociality." *Nature* 471(7339): E1-E4.

Angehr, George R. 2011. Designation of a lectotype for *Notiomystis cincta hautura* Mathews, 1935 (Aves: Passeriformes: Meliphagidae). *Zootaxa* 2754: 67-68.

Buermann, Wolfgang, Chaves, Jaime A., Dudley, Robert, McGuire, Jimmy A., Smith, Thomas B. and Altshuler, Douglas L. 2011. Projected changes in elevational distribution and flight performance of montane Neotropical hummingbirds in response to climate change. *Global Change Biology* 17(4): 1671-1680.

Canning-Clode, Joao, Fofonoff, Paul, Riedel, Gerhardt F., Torchin, Mark, and Ruiz, Gregory M. 2011. "The Effects of Copper Pollution on Fouling Assemblage Diversity: A Tropical-Temperate Comparison." *PLoS ONE* 6(3): e1802.

Gerstner, A.T., Poulsen, Michael, and Currie, Cameron R. 2011. "Recruitment of minor workers for defense against a specialized parasite of Atta leaf-cutting ant fungus gardens." *Ethology, Ecology and Evolution* 23(1): 61-75.

Photo above, from the left (foto de arriba, desde la izquierda): Diego Solarte, Universidad del Valle, Cali-Colombia; Ernesto Medina, VIC, Venezuela; AngieSilva, Universidad Central de Venezuela; Gonzalo Nieto, Real Jardín Botánico de Madrid; Eldredge Bermingham, Mary Rood and Ivania Cerón, STRI, and Nelson Toro, Universidad del Valle, Cali-Colombia.

Red Mangrove project meeting

Collaborators of the project "Phylogeny, genetic diversity of populations and eco-physiology of the hybrid complex of red mangrove (*Rhizophora mangle* and *Rhizophora racemosa*) in the Neotropics" sponsored by STRI, Fundación BBVA and SENACYT, held their first meeting in February, at the Tupper Center.

The collaborators met to discuss results obtained after the completion of the first year of the project and to design the strategies for data analyses and the future dissemination of their results. The Project includes training of two graduate students: Diego Solarte, from Universidad del Valle, and Angie Silva, Universidad Central de Venezuela, and two STRI fellows, Juliana Chevarría and Mary Rood.

Los colaboradores del proyecto, "Filogenia, diversidad genética poblacional y eco-fisiología del complejo híbrido de mangle rojo (*Rhizophora mangle* y *Rhizophora racemosa*) en el Neotrópico" patrocinado por la Fundación BBVA de España, SENACYT and STRI, se reunieron por primera vez en febrero, en el Centro Tupper.

Los miembros del proyecto se reunieron para discutir los resultados obtenidos luego de un año de trabajo, y planear las estrategias de análisis de datos y divulgacion de resultados en el futuro. El proyecto incluye la capacitación de dos estudiantes de postgrado, Diego Solarte, de la Universidad del Valle, y Angie Silva, Universidad Central de Venezuela, y dos becarios de STRI, Juliana Chevarría y Mary Rood.

Safety number: 212-8211

New publications

Herre, Edward Allen, and Wcislo, William T. 2011. "In defence of inclusive fitness theory." *Nature* 471(7339): E8-E9.

Hirsch, Ben T. 2011. "Spatial position and feeding success in ring-tailed coatis." *Behavioral Ecology and Sociobiology* 65(4): 581-591.

McMahon, Sean M., Metcalf, Charlotte J. E., and Woodall, Christopher W. 2011. "High-dimensional coexistence of temperate tree species: Functional traits, demographic rates, life-history stages, and their physical context." *PLoS ONE* 6(1): e16253.

Mejia, Luis C., Castlebury, Lisa A., Rossman, Amy Y., Sogonov, Mikhail V., and White, James F., Jr. 2011. "A systematic account of the genus *Plagiostoma* (Gnomoniaceae, Diaporthales) based on morphology, host-associations and a four-gene phylogeny." *Studies in Mycology* 68(1): 211-235.

Schwarz, Michael P., Tierney, Simon M., Rehan, Sandra M., Chenoweth, Luke B., and Cooper, Steven J. B. 2011. "The evolution of eusociality in allodapine bees: Workers began by waiting." *Biology Letters* 7(2): 277-280.

Velez, Maria I., Curtis, Jason H., Brenner, Mark, Escobar, Jaime, Leyden, Barbara W., and Popenoe de Hatch, Marion. 2008. "Environmental and cultural changes in highland Guatemala inferred from Lake Amatitlán sediments." *Geoarchaeology* Online. doi:10.1002/gea.20352

Great response to great abundance

Story: David Roubik
Edited by M Alvarado and ML Calderon
Photo: MA Guerra

For David Roubik, a day in the Barro Colorado Island, Roubik, just like a day in February, 1979, provided the chance to observe a bee colony nesting under a large *Tabebuia guayacan* on Zetek trail.

The bee colony is of *Trigona fulviventris*, as it was in 1979, and has been used in a pioneer effort to make non-invasive long-term monitoring studies of tropical forest bees.

This bee is one of the most abundant forest bees throughout the Neotropics. Its habits include robbing bird-pollinated flowers for nectar, collecting pollen and resin from fallen flowers on the ground, and foraging in the tops of the highest trees.

All of its nests in the 50- and 25-ha plots on the plateau are arranged along a straight line as revealed by LiDAR (Light Detection and Ranging), although the six trees it was associated with had over 80 individuals of the same size, scattered throughout the plots.

At any time of year, its colonies have an average of 7000 foragers bees in the air. Roubik has found, through mark and recapture studies at nests in Panama, Ecuador and Belize, that about 8500 foragers work for a colony, but in response to great resource abundance, they increase to 30,000 field bees.

Esta abeja es una de las más abundantes en los bosques de los Neotrópicos. Sus hábitos incluyen robarle el néctar a flores polinizadas por aves, colectar polen y resina de flores caídas en el suelo, y forrajear en las copas más altas de los árboles.

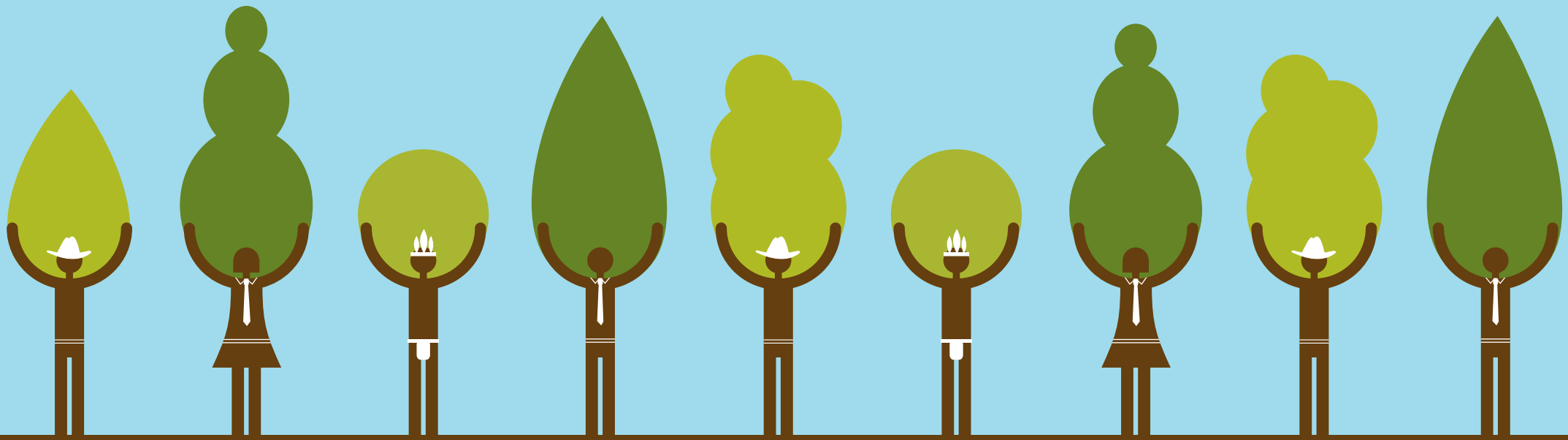
Para David Roubik, un día en el bosque de la Isla de Barro Colorado (BCI) este año, al igual que otro día en febrero de 1979, le dió la oportunidad de observar una colonia de abejas haciendo nido bajo un gran *Tabebuia guayacan* en el Sendero Zetek.

Al igual que en 1979, la colonia de abejas era de *Trigona fulviventris*, que se ha usado en un esfuerzo pionero para hacer estudios no invasivos de monitoreo a largo plazo de abejas de bosques tropicales.

Todos sus nidos en las parcelas de 50 y 25 hectáreas en la meseta de BCI están ubicadas a lo largo de una línea recta, de acuerdo a LiDAR (Light Detection and Ranging, Tecnología para medir distancias con láser), aunque los seis árboles con los que están asociadas tenían más de 80 nidos del mismo tamaño, repartidos a través de las parcelas.

En cualquier época del año las colonias de estas abejas tienen un promedio de 7000 abejas forrajeras en el aire. Marcando y recapturando abejas en nidos en Panamá, Ecuador y Belize, Roubik ha descubierto que normalmente 8500 abejas trabajan para la colonia, pero si hay una gran cantidad de recursos, aumentan hasta 30,000.

Smithsonian Tropical Research Institute, April 1st, 2011



REDD+

Dimensiones Técnicas, Socioeconómicas y Políticas

7 - 8 de abril de 2011

Centro de Conferencias Earl S. Tupper
Instituto Smithsonian de Investigaciones Tropicales
Ciudad de Panamá, Panamá

Conferencistas:

PANEL 1
REDD+:
EL ESQUEMA MUNDIAL Y PANAMÁ
Catherine Potvin, Universidad de McGill/Instituto Smithsonian de Investigaciones Tropicales
Por Anunciar, Autoridad Nacional del Ambiente (ANAM)

PANEL 2
DIMENSIONES TÉCNICAS DE REDD+
Helene Muller-Landau, Instituto Smithsonian de Investigaciones Tropicales
Joseph Mascaro, Institución Carnegie para la Ciencia/Instituto Smithsonian de Investigaciones Tropicales
Lucio Pedroni, Carbon Decisions International

PANEL 3
GOBERNABILIDAD FORESTAL Y REDD+
Benjamin Cashore, Escuela de Silvicultura y Estudios Ambientales de Yale
Bastiaan Louman, Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)
Alexis Alvarado, Fundación Dobbo Yala

PANEL 4
DIMENSIONES SOCIOECONÓMICAS DE REDD+
Marina Campos, Rainforest Foundation
Estebancio Castro, Alianza Internacional de Pueblos Indígenas y Tribales de los Bosques Tropicales
Betanio Chiquidama, Coordinadora Nacional de los Pueblos Indígenas de Panamá (COONAPIP)
Rhett Butler, Mongabay.com

PANEL 5
REDD+:
MÁS ALLÁ DE LA DEFORESTACIÓN EVITADA
Celia Harvey, Conservación Internacional
Florencia Montagnini, Escuela de Silvicultura y Estudios Ambientales de Yale

PANEL 6
REDD+ EN ACCIÓN
Gabriel Labbate, Programa de las Naciones Unidas para el Medio Ambiente
Mariana Pavan, Instituto de Conservación y Desarrollo Sostenible de Amazonas (IDESAM)
Lucio Pedroni, Carbon Decisions International
Tiffany Potter, Streamline Consulting Group

VISIÓN A FUTURO:
LOS RETOS Y OPORTUNIDADES DE REDD+
PERSPECTIVAS INTERNACIONALES Y REGIONALES
Catherine Potvin, Universidad de McGill/Instituto Smithsonian de Investigaciones Tropicales

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