Tupper 4pm seminar

Tuesday, June 13, seminar speaker is Greg Gilbert, University of California, Santa Cruz

One degree of separation: host ranges in plant pathogens in a tropical rainforest

Paleo-talk

Wednesday, Jun 14 the Paleo-Talk will be a video presentation produced by Universidad Nacional del Sur

Alcide d´Orbigny y la Patagonia (in Spanish)

Bambi seminar

Thursday, June 15, Bambi seminar speaker will be Ingrid Parker,, University of California, Santa Cruz

Domestication and its ecological and evolutionary consequences in *Chrysophyllum cainito*

Arriving next week

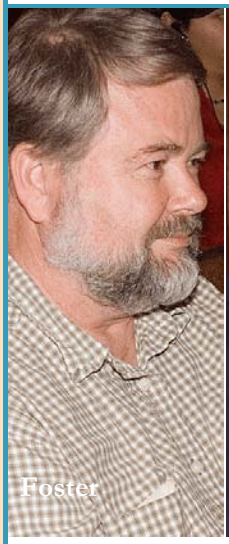
Milla Suutari, University of Helsinki, to study the diversity of tropical terrestrial algae, on BCI.

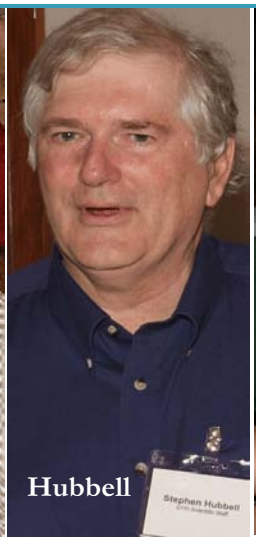
Sabrina Burmeister and Lisa Anne Mangiamele, University of North Carolina, to study neural biases for elaborate male traits, in Gamboa.

Jennifer S. Powers, University of Minnesota, to study the effects of nutrient addition on soil carbon storage and microbial properties in a lowland Panamanian forest, on BCI.

Sinlan Poo, Boston University, to study the adaptive timing of hatching in red-eye treefrogs, in Gamboa.

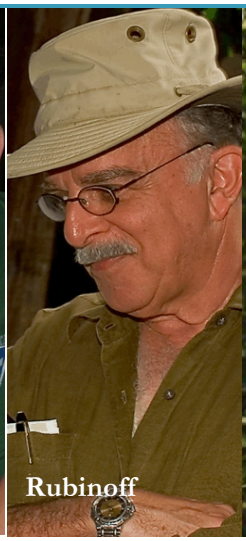
Smithsonian Tropical Research Institute, Panamá www.stri.org June 9, 2006


Foster



Hubbell


Condit


Rubinoff


Davies

The New York Times highlights CTFS efforts

Nancy Beth Jackson published the article "Rain-forest census takes shape, tree by tree" in the Environment section of *The New York Times*, on Tue, June 6.

In her article, Jackson describes the establishment of Barro Colorado Island 50ha Forest Dynamic Plot in the 80's and the beginnings of the Center for Tropical Forest Sciences, CTFS brainchild of tropical scientists Robin Foster and Steve Hubbell; the global network of plots that today includes 17 other plots —now called "earth observatories"— where scientists track the fate of million of trees; and the greatest benefits of the plots allowing scientists to measure, "instead of guessing." For example, Rick Condit, the center´s scientific director, measures the effects of drought on BCI on two tree species since 1988.

Jackson also draws some of the questions tropical biologists expect to answer using information from these "earth observatories" After 25 years, "we´ve fine-tunned a lot" says STRI director Ira Rubinoff, "but there are still lots of things we don´t understand.". To that end, Frank Levinson (not in the photos), who owns a fiber-optics company, has pledged $10 million to give the center "real long-term sustainability."

Recently, the headquarters of the CTFS moved to Panama with the appointment of new director, Stuart Davies, who believes it is easier for many tropical scientists to travel to Panama, especially from Latin America or Asia.

Nancy Beth Jackson publicó el artículo "Rain-forest census takes shape, tree by tree" [Censo de bosque tropical toma forma, árbol por árbol] en la sección ambiental del *The New York Times* el martes, 6 de junio.

En su artículo, Jackson describe la creación de la parcela de dinámica de bosque de 50 ha de Barro Colorado (BCI) y los principios del Centro de Ciencias Forestales del Trópico (CTFS), idea de los biólogos tropicales Robin Foster y Steve Hubbell; la red global que actualmente incluye otras 17 parcelas—hoy llamadas "observatorios de la tierra"—donde científicos siguen la pista a millones de árboles; y los grandes beneficios para la investigación para que los científicos midan "en vez de adivinar". Por ejemplo, Richard Condit, director científico del centro, mide los efectos de la sequía en BCI en dos especies de árboles, desde 1988.

More arrivals

Katharine Milton, University of California at Berkeley, to continue research on the population dynamics on the howler monkey population on BCI.

Alexander Eaton-Mordas, University of Arizona, to study odor recognition, badge awareness, and male display behavior in orchid bees: untangling the information content in a complex signal, on BCI and Tupper.

Justin Suraci, University of Virginia, to study the variation in invertebrate egg size: are big eggs more variable than small eggs, at Naos.

Departed last week

Stuart Davies to Brazil, to attend information meetings about CTFS permanent plots.

Hector Guzman to Las Perlas on a field trip.

Rachel Collin to San Francisco to participate in symposium at University of California in Santa Cruz, and to Bermuda, to attend board meeting of the association of the Marine laboratories of the Caribbean.

Harilaos Lessios to Santa Cruz CA, to present plenary talk in a meeting on Reproductive Biology and attend a thesis defense at the University of California. To Washington DC to work in the National Museum of Natural History. To New York City, to attend the annual meetings of the Society for the Study of Evolution.

STRIin the news

"A rain-forest census takes shape, tree by tree" by Nancy Beth Jackson. 2006. *New York Times* June 6.

Jackson también plantea algunas de las preguntas que los biólogos tropicales esperan resolver utilizando información de estos "observatorios de la tierra." Luego de 25 años, "nos hemos afinado bastante" dice el director de STRI Ira Rubinoff", "pero aún hay muchas cosas por entender." Para ello, Frank Levinson, dueño de una compañía de fibra óptica, donó $10 millones para darle al centro "sostenibilidad real a largo plazo."

Recientemente, la sede del CTFS se mudó a Panamá con el nombramiento de su nuevo director, Stuart Davies, quien cree que es más fácil para muchos científicos tropicales viajar a Panamá, especialmente desde Latinoamérica y Asia.

STRI joins celebration of International Environment Day

Panama´s Environmental Authority (ANAM), the Explora Museum, the Ministry of Education, the Audubon Society, the Marine Authority, the Forest Stewardship Council, Natura, MARVIVA, Fundación PROMAR, PRORENA, Fundación Smithsonian de Panamá, Albatros Media, RAMSAR Regional Center, and STRI joined efforts to plant 100 seedlings of native tree species to establish an ecological trail, on Tuesday, June 6. This is one of the 77 ways recommended by UNEP to celebrate this date.

Schools from nearby areas responded to the invitation with delegations from IPHE, Academia Hebrea, Colegio de María Inmaculada and Colegio José Agustín Arango.

This year´s Environmental Day was dedicated to deserted or depleted soils covering more that 40% of the surface of the Earth, home to almost a third of the world´s human population, about 2000 million people. The degradation of these regions concerned all nations on the planet.

According to Kofi Annan, secretary general of the United Nations, protecting and restoring deserted areas will not only alleviate urban areas of the world from their ever increasing pressure, but it will also contribute to a safer and peaceful living.

An evaluation of the planet ecosystems conducted for the turn of the millennium showed that more that 60% of the planet´s ecosystems are so degraded that it is no longer possible to depend from its resources.

ANAM, el Museo Explora, el Ministerio de Educación, la Sociedad Audubon, la Autoridad Marítima, el Consejo Mundial de Manejo Forestal, NATURA, MARVIVA, PROMAR, PRORENA, Fundación Smithsonian de Panamá, Albatros Media, RAMSAR y STRI se unieron para sembrar 100 plantones nativas y crear un sendero ecológico, el martes 6 de junio. Esta es una de las 77 maneras recomendadas por el PNUMA, para celebrar la fecha.

Escuelas de áreas aledañas respondieron a la invitación con delegaciones del IPHE, Academia Hebrea, Colegio de María Inmaculada y Colegio José Agustín Arango.

Este año, el Día Mundial del Ambiente fue dedicado a las áreas desérticas o degradadas que cubren más del 40% de la superficie de la Tuerra, hogar de un tercio de la población mundial de seres humanos, cerca de 2000 millones de personas. La degradación de estas regiones es un problema para todas las naciones del planeta.

De acuerdo a Kofi Annam, secretario general de las Naciones Unidas, el proteger y restaurar las áreas desérticas no solo aliviará la presión cada vez mayor en las áreas urbanas del mundo, sino que también contribuirán a una vida más segura y pacífica. Una evaluación de los ecosistemas realizada para el milenio demostró que más del 60% de los ecosistemas del planeta están tan degradados que ya no es posible depender de sus recursos.

New publications

Ibanez, Alicia, and Castroviejo, Santiago (Eds.). 2005. *Estudios sobre la biodiversidad de la región de Bahía Honda (Veraguas, Panamá). Studies on the biodiversity of the Bahia Honda region (Veraguas, Panama).* Biblioteca de Ciencias 20. Madrid: Consejo Superior de Investigaciones Científicas.

Contributions (Spanish and English) from STRI community members in the above cited book:

Aiello, Annette, Rodriguez Garcia, Vicente, Osmar Becker, Vitor, and Greece, Olga of. "Moths and butterflies (Lepidoptera) from Bahía Honda and Canales de Tierra Island (Veraguas, Panama)": 494-570.

Heckadon-Moreno, Stanley, and Fernandez, Mirna. "The people of Bahía Honda (Veraguas, Panama)": 39-59..

Ibanez, Alicia. "Geographical, climatic and geological chracteristics of the Bahía Honda region (Veraguas, Panama)": 23-37.

Ibanez, Alicia. "Floristic composition, structure and diversity of the forest in the Bahía Honda region (veraguas, Panama)": 341-362.

Ibanez, Alicia, Castroviejo, Santiago, Fernandez, Jose Luis, and Correa A., Mireya D. "Catalogue of the flora of the Bahía Honda region (Veraguas, Panama)": 177-317.

Ibanez, Alicia, and Castroviejo, Santiago. "The vegetation of the Bahía Honda region (Veraguas, Panama)": 319-340.

Art book based on work done at Fortuna

Mariposas nocturnas: Edith in Panama by Emmet Gowin was recently published by Pace/MacGill Gallery, New York. Almost all of the *mariposas nocturnas* photographs were made at La Fortuna Research Station in Chiriqui, Panama. "The designation La Fortuna embraces an ensemble of ideas and places; a hydroelectric facility, a Smithsonian research station, and a pristine forest, as well as the good luck or fortune that such places continue to be preserved and cherished" writes the author in the acknowledgments.

"The work grown from his highly refined yet open vision, his intense exploration of new techniques for image-making and printing, and, of course, his love for his wife Edith" comments Peter MacGill.

Mariposas nocturnas: Edith in Panama por Emmet Gowin fue recientemente publicado por Pace/MacGill, New York. Casi todas las fotos de las mariposas nocturnas fueron hechas en La Estación de Investigaciones de Fortuna en Chiriquí, Panamá. "La designación La Fortuna recoge un ensamblaje de ideas y lugares; una instalación hidroeléctrica, una estación de investigaciones del Smithsonian, y un bosque prístino, así como la buena suerte o fortuna que lugares como éste sigan siendo preservados y queridos" escribe el autor en sus agradecimientos.

"El trabajo crece de su muy refinada y abierta visión, su intensa exploración de nuevas técnicas para producir imágenes e imprimirlas, y, por supuesto, su amor por su esposa Edith" comenta Peter MacGill.

More publications

Jimenez, Belkys, and Aparicio, Karla. "Birds of Bahia Honda (Veraguas, Panama)": 627-742.

Quintero Arias, Diomedes. "Preliminary biodiversity assessment and notes on the biology of the arachnids (Arachnida: Scorpiones, Amblypygi and Aranea) of Bahía Honda (Veraguas, Panama)": 363-491.

Salazar-Allen, Noris, and Chung C., Clementina. "The bryophytes (hornworts, liverworts and mosses) of the Bahía Honda region (Veraguas, Panama)": 95-175.

Samudio, Rafael, and Pino, Jorge. "Terrestrial mammals of Bahía Honda (Veraguas, Panama)": 627-742.

Miscellaneous

Student at STRI needs temporary accommodation for 3 months from the 25th June. Please contact Aaron (8065 or **odeaa@si.edu**

Room for rent: Bright and spacious, well-located Marbella apartment with pool on roof. Available June 20 to July 31 & Aug. 15 to Sept. 15. $250/B, plus utilities: **kathryn.clark@mail.mcgill.ca**

For sale: Samsung fridge, 6.4 cubic feet, 180 litres. Less than a year old $150. Contact at: Tel. 314-0769 Cell: 665953467 **sayere@si.edu**

Safety number: 212-8211

science in progress:

Wolbachia prevalence and diversity

Story by : Julie Stahlhut
Edited by M Alvarado & ML Calderon
Photo: MA Guerra

The bacterial reproductive endosymbiont *Wolbachia* may infect 20% of all insect species.

Because *Wolbachia* is transmitted from mothers to offspring, it persists by either biasing host reproduction towards daughters or increasing the relative reproductive success of infected females. *Wolbachia* infections may therefore influence insect behavior, population dynamics, and community structure.

Julie Stahlhut, postdoctoral fellow at the University of Rochester, studies *Wolbachia* prevalence and diversity in insect communities.

On a recent visit to Donald Windsor's laboratory at STRI, Julie collected specimens for her study of *Wolbachia* infections in mushroom-feeding insects.

She will use DNA sequence data from *Wolbachia* and its hosts to look for transmission between ecologically associated species, which may contribute to the known genetic diversity of *Wolbachia* infections even among closely related host species.

Julie is also interested in *Wolbachia* infections in ants, wasps, and bees. Their unique sex determination system may limit the ways in which *Wolbachia* can affect reproduction, yet persistent *Wolbachia* infections occur in ant, wasp, and bee hosts.

The diversity of these insects in Panama makes STRI an ideal location for studying the possible role of *Wolbachia* in their reproductive biology.

Walbachia, un simbionte endógeno reproductivo bacterial, puede infectar el 20% de todas las especies de insectos.

Debido a que *Wolbachia* se transmite de madres a crías, persiste ya sea por preferencia en la reproducción de las hospederas por las hijas, o por el aumento del éxito reproductivo relativo de las hembras infectadas. De esta forma, las infecciones de *Wolbachia* afectan la conducta, dinámica de poblaciones y estructura de comunidades de insectos.

Julie Stahlhut, becaria posdoctoral de la Universidad de Rochester, estudia la persistencia y diversidad de *Wolbachia* en comunidades de insectos.

Durante una reciente visita al laboratorio de Donald Windsor, de STRI, Julie colectó especímenes para su estudio de infecciones de *Wolbachia* en insectos que se alimentan de hongos.

Usando información de secuencias de ADN de *Wolbachia* y sus hospederos, Julie buscará la transmisión entre especies asociadas ecológicamente, que podrían contribuir a la ya conocida diversidad genética de infecciones de *Wolbachia*, aún entre especies hospederas muy relacionadas.

Julie también se interesa en infecciones de *Wolbachia* en hormigas, avispas y abejas. Su sistema único de reproducción puede limitar las maneras en que *Wolbachia* afecta la reproducción, aún así, las infecciones persistentes de *Wolbachia* ocurren en hormigas, avispas y abejas.

La diversidad de hormigas, avispas y abejas en Panamá hacen de STRI un lugar ideal para el estudio del posible papel de *Wolbachia* en su biología de reproducción.