

Tupper seminar

No noon seminar scheduled for Tuesday, December 21.

Bambi seminar

Please see your GroupWise for information on the next Bambi.

Arrivals

Rachelle Adams, University of Texas at Austin, Dec 22 - Jan 8, to study the evolution of social parasitism in *Megalomyrmex* ants, on BCI and Bocas del Toro.

Daniel Essiambre, Pomona College, CA, Dec 23 - Jan 8, to work with Christina Campbell on a census of spider monkeys, on BCI.

Departures

Mark Torchin, Dec 12-18, to Los Angeles, CA, to attend meetings of the National Center for Ecological Analysis and Synthesis.

John Christy, Dec 18-24, to Seattle, WA, on vacation, followed by a visit to San Diego, CA, to attend the meetings of the Society of Integrative and Comparative Biology.

Héctor Guzmán, Dec 20 - Jan 15, to Costa Rica for a short holiday followed by a field trip to Isla del Caño, and work with colleagues at the Zoology Museum, at the University of Costa Rica.



Happy holidays!



Smithsonian Tropical Research Institute, Panamá

www.stri.org

December 17, 2004



Why do some tropical forests have so many species of trees?

STRI scientists Egbert Giles Leigh, Jr. and S. Joseph Wright, current president of the Association for Tropical Biology and Conservation (ATBC), postdoctoral fellow Christopher W. Dick, research associate Priya Davidar, from Pondicherry University, India, Jean-Philippe Puyravaud from State University of New York, John Terborgh from Duke and Hans ter Steege, the Netherlands, just published “Why do some tropical forests have so many species of trees?” in this month issue of *Biotropica* (vol. 36: 447–473), the ATBC’s journal. This paper grew out of a symposium with the same title at the ATBC meeting in 2002, hosted by STRI in Panama from July 29-August 2. The task of both the symposium and this paper was to set out what is known about the factors that promote diversity among tropical trees, and identify what is necessary to learn in order to understand why some tropical forests contain so many kinds of tropical trees. The authors focus on four aspects of the question: (1) What factors promote the sympatric coexistence of tree species?; (2) What factors govern the change in tree species composition (b-diversity) along a series of plots spanning a great expanse of forest such as Amazonia?; (3) How do different features of the environment influence the diversity that factors promoting coexistence can maintain?; and (4) What factors influence a biogeographic realm’s tree diversity? Leigh *et al.* begin their answer by using the neutral theory of tropical forest dynamics drawn by STRI scientist Steve Hubbell. A .pdf of the article was distributed by staff scientist Neal G. Smith, to the Science Group.

New publications

Ashton, Peter S. 2004. "Soils in the tropics." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 56-68. Chicago: University of Chicago Press.

Brown, Culum, and Braithwaite, Victoria A. 2004. "Size matters: a test of boldness in eight populations of the poeciliid *Brachyraphis episcopi*." *Animal Behaviour* 68(6): 1325-1329.

Condit, R.G., Leigh, J., Egbert Giles, Loo de Lao, S., Ashton, P.S., Brokaw, N.V.L., Bunyavechwin, R., Chuyong, G.B., Co, L., Dattaraja, H.S., Davies, S.J., Esufali, S., Ewango, C.E.N., Foster, R.B., Gunatilleke, N., Gunatilleke, S., Hart, T.H., Hernandez, C., Hubbell, S.P., Itoh, A., John, R., Kanzaki, M., Kenfack, D., S., K., LaFrankie, J.V., Lee, H.S., Liengola, I., Makana, J.-R., Manokaran, N., Navarette Hernandez, M., Ohkugo, T., Perez, R., Pongpattananurak, N., Samper, C., Sri-ngernyuang, K., Sukumar, R., Fun, I.-F., Sureh, H.S., Tan, S., Thomas, D.W., Thompson, J.D., Vallejo, M.I., Villa Munoz, G., Valencia, R., Yamakura, T., and Zimmerman, J.K. 2004.

"Species-area relationships and diversity measures in the forest dynamics plots." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 79-89. Chicago: University of Chicago Press.

D'Croz, Luis, and Mate, Juan L. 2004. "Experimental responses to elevated water temperature in genotypes of the reef coral *Pocillopora damicornis* from upwelling and non-upwelling environments in Panama." *Coral Reefs* 23: 473-483.

Los científicos de STRI, Egbert Giles Leigh Jr. y S. Joseph Wright, actual presidente de la Asociación de Biología Tropical y Conservación (ATBC, por sus siglas en inglés), el becario postdoctoral Christopher W. Dick, la investigadora asociada Priya Davidar, de la Universidad de Pondicherry en India, Jean-Philippe Puyravaud de la Universidad del Estado de Nueva York, John Terborgh de Duke University y Hans ter Steege, de Holanda, acaban de publicar "¿Por qué algunos bosques tropicales tienen tantas especies de árboles?" en la copia de este mes de *Biotropica* (vol. 36: 447-473), la revista de la ATBC. Este artículo es producto de un simposio con el mismo nombre celebrado durante el congreso de ATBC de 2002, patrocinado por STRI en Panamá del 29 de julio al 2 de agosto. El objetivo de ambos, el simposio y el artículo fue determinar qué se sabe sobre los factores que promueven la diversidad entre los árboles tropicales, e identificar qué es necesario averiguar para comprender por qué algunos bosques tropicales mantienen tantas clases de árboles tropicales. Los autores se enfocan en cuatro aspectos de la pregunta: (1) ¿Qué factores promueven la coexistencia simpátrica de especies de árboles?; (2) ¿Qué factores controlan el cambio en la composición de especies de árboles (beta-biodiversidad) a lo largo de una serie de parcelas que se distribuyen en una enorme extensión de bosques como la Amazonia?; (3) ¿Cómo las diferentes características ambientales influyen en mantener la biodiversidad que promueve los factores de coexistencia?; y (4) ¿Qué factores influyen en la ley biogeográfica de la diversidad de árboles? Leigh *et al.* Empiezan a responder estas preguntas usando la teoría neutral de dinámica de bosques tropicales propuesta por el científico de STRI, Steve Hubbell. La versión en .pdf del artículo fue distribuida por el científico de STRI, Neal G. Smith, al Grupo de Ciencias.

A new species of rainfrog

This month issue of *Herpetologica* has published the article "A new species of rainfrog (Genus *Eleutherodactylus*) from the Serranía de Tabasará, west-central Panama and reanalysis of the *Fitzingeri* species group", authored by STRI research

associate Karen R. Lips with Jay M. Savage (first author) Bradford D. Hollingsworth and Alan P. Jaslow. The article describes the new species *Eleutherodactylus tabasarae*, first collected in 1978 north of El Copé, Coclé province, by Jaslow and associates. Recently, field parties from Southern Illinois University under the direction of Lips collected additional material from the same locality, which is currently protected as part of Omar Torrijos National Park.

La copia de este mes de *Herpetologica* publicó el artículo "Una nueva especie de rana de lluvia (Genero *Eleutherodactylus*) de la Serranía del Tabasará, Panamá oeste-central y nuevo análisis del grupo de la especie *Fitzingeri*" por la investigadora asociada Karen R. Lips, Jay M. Savage (primer autor), Bradford D. Hollingsworth y alan P. Jaslow. El artículo describe la nueva especie *Eleutherodactylus tabasarae*, que se colectó por primera vez en 1978 al norte de El Copé, provincia de Coclé, por Jaslow y asociados. Recientemente, grupos de campo de la Universidad de Southern Illinois, bajo la dirección de Lips, colectaron material adicional en la misma localidad, la cual es actualmente protegida como parte del Parque Nacional G.D. Omar Torrijos H.



More publications

Dick, Christopher W., Roubik, David Ward, Gruber, Karl F., and Bermingham, Eldredge. 2004. "Long-distance gene flow and cross-Andean dispersal of lowland rainforest bees (Apidae: Euglossini) revealed by comparative mitochondrial DNA phylogeography." *Molecular Ecology* 13(12): 3775-3785.

Duda, Jr., Thomas F., and Rolan, Emilio. 2004. "Explosive radiation of Cape Verde *Conus*, a marine species flock." *Molecular Ecology Online*.

Faveri, Sarita B., and Vasconcelos, Heraldo L. 2004. "Logging speeds little red fire ant invasion of Africa." *Biotropica* 36(4): 637-641.

Guimaraes, Ricardo Z.P., Gasparini, Joao Luiz, and Rocha, Luiz A. 2004. "A new cleaner goby of the genus *Elacatinus* (Teleostei: Gobiidae), from Trindade Island, off Brazil." *Zootaxa* 770(1): 1-8.

Hubbell, Stephen P. 2004. "Two decades of research on the BCI Forest Dynamics Plot." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 8-30. Chicago: University of Chicago Press.

Kalko, Elisabeth K.V. 2004. "Bat Ecology. Edited by T.H. Kunz and M. Brock Fenton [Book review]." *Animal Behaviour* 68(6): 1469-1472.

Kim, Tae Won, Christy, John H., and Choe, Jae Chun. 2004. "Semidome building as sexual signaling in the fiddler crab *Uca lactea* (Brachyura: Ocypodidae)." *Journal of Crustacean Biology* 24(4): 673-679.

More publications

Lachniet, Matthew S., Burns, Stephen J., Piperno, Dolores R., Asmerom, Yemane, Polyak, Victor J., Moy, Christopher M., and Christenson, Keith. 2004. "A 1500-year El Niño/Southern Oscillation and rainfall history for the Isthmus of Panama from speleothem calcite." *Journal of Geophysical Research* 109(10).

Lachniet, Matthew S., Asmerom, Yemane, Burns, Stephen J., Polyak, Victor J., and Seltzer, Geoffrey O. 2004. "Tropical response to the 8200 yr B.P. cold event? Speleothem isotopes indicate a weakened early Holocene monsoon in Costa Rica." *Geology* 32(11): 957-960.

Leigh, Jr., Egbert Giles. 2004. "The diversity of tropical trees: The role of pest pressure." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 315-319. Chicago: University of Chicago Press.

Lewis, S.L., Phillips, O.L., Sheil, D., Vinceti, B., Baker, T.R., Brown, S., Graham, A.W., Higuchi, N., Hilbert, D.W., Laurance, William F., Lejoly, J., Malhi, Y., Monteagudo, A., Nunez Vargas, P., Sonke, B., Supardi, N., Terborgh, J.W., and Vasquez Martinez, R.. 2004. "Tropical forest tree mortality, recruitment and turnover rates: calculation, interpretation and comparison when census intervals vary." *Journal of Ecology* 92(6): 929-944.

Losos, Elizabeth C. 2004. "The whole is greater than the sum of the plots." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 31-36. Chicago: University of Chicago Press.

FSP invited to World Conservation Congress

Fundación Smithsonian de Panamá (FSP) was accepted as member of the World Conservation Union (IUCN) early this year, in the category of non-governmental organization (NGO), as part of the Mesoamerican group, that includes countries from Mexico to Panama and Spanish speaking Caribbean islands. IUCN's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. As a new member, FSP's Anna Lisa Porras was invited to participate in the 10-day World Conservation Congress in Bangkok, with some other 4,000 participants from 140 countries, last month. She participated in the Education section of the Congress. The Panamanian delegation also included Fundación Natura, ANCON, Promar, Audubon and CEMAD.

La Fundación Smithsonian de Panamá fue aceptada como miembro de la Unión Mundial para la Conservación de la Naturaleza (IUCN) a principios de este año, como parte del grupo Mesoamericano, que incluye los países desde México hasta Panamá y las islas caribeñas de habla hispana. La misión de la IUCN es la de influenciar, promover y asistir a las comunidades a través del mundo para que conserven la integridad y diversidad de la naturaleza y para asegurar que cualquier uso de los recursos naturales sea equitativo en ecológicamente sostenible. Como nuevo miembro, Anna Lisa Porras de FSP fue invitada a asistir al Congreso Mundial de la Naturaleza de 10 días que se llevó a cabo el mes pasado en Bangkok. Participó en la sección de Educación del Congreso. La delegación panameña también incluyó a Fundación Natural, ANCON, Promar, Audubon y CEMAD.



Mother's Day at Tupper

The Tupper Center had its traditional Mother's Day on Tue, December 7, with funds from the Coca Cola machine, organized by STRI's Procurement Office.

El Centro Tupper celebró su tradicional Día de la Madre el martes 7 de diciembre, con fondos de la máquina de Coca Cola, organizado por la Oficina de Compras.

More publications

Meyer, Christoph F.J., and Zotz, Gerhard. 2004. "Do growth and survival of aerial roots limit the vertical distribution of Hemiepiphytic Aroids?" *Biotropica* 36(4): 483-491.

Rocha, Luiz A. 2004. "Mitochondrial DNA and color pattern variation in three western Atlantic *Halichoeres* (Labridae), with the revalidation of two species." *Copeia* 2004(4): 770-782.

Schloeder, Carmen, and D' Croz, Luis. 2004. "Responses of massive and branching coral species to the combined effects of water temperature and nitrate enrichment." *Journal of Experimental Marine Biology and Ecology* 313(2): 255-268.

Stacy, Elizabeth A., and Hamrick, James L. 2004. "Using Forest Dynamics Plots for studies of tree breeding structure: Examples from Barro Colorado Island." In Losos, Elizabeth C., and Leigh, Jr., Egbert Giles (Eds.), *Tropical forest diversity and dynamism: Findings from a large-scale plot network*: 264-278. Chicago: University of Chicago Press.

Voigt, Oliver, Collins, Allen G., Pearse, Vicki Buchsbaum, Pearse, John S., Ender, Andrea, Hadrys, Heike, and Schierwater, Bernd. 2004. "Supplemental data: Placozoa — no longer a phylum of one." *Current Biology* 14(22): 944-945.

West-Eberhard, Mary Jane. 2004. "Mating systems and strategies, by Stephen M. Shuster and Michael J. Wade [Book review]." *Quarterly Review of Biology* 79(3): 333-335.