

Tupper seminar

Tuesday, January 21, noon seminar speaker will be Robert Paine, University of Washington

Ecological change on a rocky shore: The role of ENSOs and species interactions in determining structure and function.

Bambi seminar

Thursday, January 23, Bambi seminar speaker will be Robert Paine, University of Washington

An intertidal community of coralline algae on the weather coast of the northeastern Pacific: What governs its diversity and species composition?

Arrivals

Javier Espeleta, OTS, Jan 15, to conduct collaborate studies of forest belowground dynamics at La Selva and BCI.

Roberto Cipriani, Universidad Simón Bolívar, Venezuela, Jan 18 - Feb 1, to collaborate with Rachel Collin, at Naos.

Adam Smith, University of Washington, Jan 19 - May 10, to study the influences of predation and tropical seasonality on social biology in the sweet bee *Megalopta genalis* at BCI, on a Mellon Exploratory Award.

David King, University of Virginia, Jan 23 - Feb 18, to study relations between growth and leaf spacing in saplings with plagiotropic (horizontal) branches, on BCI.

STRI news



Smithsonian Tropical Research Institute, Panamá

www.stri.org

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STRI signs agreement with Fundación Amador

STRI director Ira Rubinoff and Fundación Amador executive director Rodrigo Eisenmann, signed a five-year collaboration agreement on Thursday, January 16, at STRI's administrative offices in Tivoli. Fundación Amador, the Panamanian foundation established to construct and develop an ecological museum in Panama and STRI agreed to promote activities of cooperation in areas of mutual interest including exchange of

information, exhibition design and development of outreach programs. STRI has contributed with the activities of Fundación Amador, providing scientific information and technical support. Through STRI, the new museum will be the first to share exhibitions and artifacts with the world's largest network of museums, outside the United States.

El director Ira Rubinoff y Rodrigo Eisenmann, director ejecutivo de la Fundación Amador, firmaron un convenio de colaboración por cinco años el jueves, 16 de enero, en las oficinas administrativas de STRI en Tivoli. Fundación Amador, la organización panameña establecida para construir y desarrollar un museo ecológico en Panamá y STRI se comprometieron a promover actividades de cooperación en áreas de interés mutuos incluyendo el intercambio de conocimientos, diseño de exhibiciones y desarrollo de programas de extensión. STRI ha contribuido con las actividades de la Fundación Amador suministrándole información científica y apoyo técnico. A través de STRI, el nuevo museo será el primero en compartir exhibiciones y artefactos con la red de museos más extensa del mundo, fuera de los Estados Unidos.

Scholarly Studies Funds awarded

SI undersecretary for science, David L. Evans announced the 2002 recipients of the Scholarly Studies Awards on Tuesday, January 14, after revising 65 highly competitive proposals. From the seven awards distributed for science, three were awarded to STRI scientists: Rachel Collin, with the project "Quantitative genetics and phenotypic plasticity in the evolution of development in *Crepidula* (Gastropoda: Calyptraeidae);" Mary Jane West-Eberhard with "Patterns of gene expression and the evolution of caste differentiation in social insects;" and William Wcislo with "Comparative study of bee neuroanatomy in relation to behavior." Also, in the humanities category, from six awards one was assigned to STRI anthropologist Fernando Santos-Granero, for the project "Captives, orphans, and wild spirits: Comparative perspectives on Amerindian slavery and servile groups." A total of \$650,000 was distributed among the 13 scholars.

Departures

David Roubik, Jan 20-26, to Quito, Ecuador, to study bee specimens at PUCE Entomology Museum, and to various field sites.

New publications

Choat, J. Howard, Robertson, D. Ross, Ackerman, James D., and Posada, Juan M. 2003. "An age-based demographic analysis of the Caribbean parrotfish *Sparisoma viride*." *Marine Ecology Progress Series* 246: 265-277.

Christy, John H., Backwell, Patricia R. Y., and Schober, Ursula. 2003. "Interspecific attractiveness of structures built by courting male fiddler crabs: Experimental evidence of a sensory trap." *Behavioral Ecology and Sociobiology* 53(2): 84-91.

Graham, Eric A., Mulkey, Stephen S., Kitajima, Kaoru, Phillips, Nathan G., and Wright, S. Joseph. 2003. "Cloud cover limits net CO₂ uptake and growth of a rain-forest tree during tropical rainy seasons." *Proceedings of the National Academy of Sciences* 100(2): 572-576.

Hubbell, Stephen P. 2003. "Modes of speciation and the lifespans of species under neutrality: A response to the comment of Robert E. Ricklefs." *Oikos* 100(1): 194-200.

James, Shelley A., Meinzer, Frederick C., Goldstein, Guillermo, Woodruff, David, Jones, Timothy, Restorm, Teresa, Mejia, Monica, Clearwater, Michael, and Campanella, Paula. 2003. "Axial and radial water transport and internal water storage in tropical forest canopy trees." *Oecologia* 134(1): 37-45.

New chromatograph

STRI purchased a gas chromatograph (GC) for general use. Gas chromatography is a method of separating the volatile (non-polar) constituents of a sample by means of a liquid phase and a carrier gas. It allows scientists to analyze complex mixture of volatile substances from different sources. Together with equipment for structural elucidation available in Panama, it enhances STRI capacity to determine the chemical identity of substances involved, for instance, in biological interactions. An important analytical aspect is the sample collection and preparation. A technician will be available upon request to prepare and analyze samples. His honorarium must be covered by the researcher. The GC is located in lab #428, Tupper building. For more information please contact Nérida Gómez at 212-8059, gomezn@tivoli.si or Raineldo Urriola, tel. 212-8124, urriolar@tivoli.si

STRI adquirió recientemente un cromatógrafo de gases (GC) para uso general. La cromatografía de gases es un método para separar los constituyentes volátiles de una muestra a través de una fase líquida y un gas transportador. Este método permite que los científicos analicen complicadas mezclas de sustancias volátiles de diferentes fuentes. Junto con el equipo para elucidación estructural disponible en Panamá, este cromatógrafo aumenta la capacidad de STRI para determinar la identidad química de las sustancias, como es el caso de las interacciones biológicas. Un aspecto analítico importante es la colección de muestras y su preparación. Se dispondrá de un técnico para preparar y analizar las muestras, por pedido. Sus honorarios serán pagados por el investigador. El GC está localizado en el laboratorio 428 de Tupper. Para mayor información favor comunicarse con Nérida Gómez al tel. 212-8059, gomezn@tivoli.si o con Raineldo Urriola al tel. 212-8124, urriolar@tivoli.si

Science Ancient tripartite coevolution in the Attine ant-microbe symbiosis: Currie et al.

Cameron R. Currie, Bess Wong, Alison E. Stuart, Ted R. Schultz, Stephen A. Rehner, Ulrich G. Mueller, Gi-Ho Sung, Josph W. Spatafora and Neil A. Straus published "Ancient tripartite coevolution in the Attine ant-microbe symbiosis" in the January 17 issue of *Science*, pp. 386-388. The attine ant-microbe symbiosis involves at least four diverse groups: ants, their cultivated fungi, specialized pathogens of the fungal cultivars, and antibiotic-producing filamentous bacteria. Two of these symbiont groups, the ants and the fungal cultivars, have coevolved for more than 50 million years. Currie et al. show that the pathogen interaction is similarly ancient and likely was introduced into the symbiosis when the ants first domesticated the fungal cultivars. There appears to be an ongoing tripartite "arms-race," with this specialized parasite on one side and the three mutualists on the other. See also "On ant farm, a threesome coevolves" by Elizabeth Pennisi in page 325 of the same issue, reviewing the article.



Nérida Gómez, Lab. 428, Tupper.

More publications

James, Shelley A., Clearwater, Michael J., Meinzer, Frederick C., and Goldstein, Guillermo. 2002. "Heat dissipation sensors of variable length for the measurement of sap flow in trees with deep sapwood." *Tree Physiology* 22(4): 277-283.

Ricklefs, Robert E. 2003. "A comment on Hubbell's zero-sum ecological drift model." *Oikos* 100(1): 186-193.

Schultz, Ted R., Solomon, S.A., Mueller, Ulrich G., Villesen, Palle, Boomsma, Jacobus J., Adams, Rachelle M., and Norden, B. 2002. "Cryptic speciation in the fungus-growing ants *Cyphomyrmex longiscapus* Weber and *Cyphomyrmex muelleri* Schultz and Solomon, new species (Formicidae, Attini)." *Insectes Sociaux* 49(4): 331-343.

Silvera, Katia, Skillman, John B., and Dalling, James W. 2003. "Seed germination, seedling growth and habitat partitioning in two morphotypes of the tropical pioneer tree *Trema micrantha* in a seasonal forest in Panama." *Journal of Tropical Ecology* 2003(1): 27-34.

Van Borm, Steven, Wenseleers, T., Billen, Johan, and Boomsma, Jacobus J. 2003. "Cloning and sequencing of wsp encoding gene fragments reveals a diversity of co-infecting *Wolbachia* strains in *Acromyrmex* leafcutter ants." *Molecular Phylogenetics and Evolution* 26(1): 102-109.