

Special

Professor Edward O. Wilson, Pellegrino University and Museum of Comparative Zoology, Harvard University, will present a seminar at Tupper on Sunday, October 12.

Tupper seminar

Tue, Oct 14, noon seminar speaker will be Catherine Potvin, McGill University
Conservation and use of Embera medicinal plants and associated traditional knowledge in Panama.

Bambi seminar

Thu, Oct 16, Bambi seminar speaker will be Andreas Floren, IBISCA participant
Comparing arboreal arthropod communities in tropical and temperate forests: diversity, community structure and dynamics

Arrivals

Architects Melinda Humphry, OFEO, Smithsonian, and Gregory Kiss y Clare Mifflin from Kiss + Cathcart, Oct 6-12, to attend the Bocas del Toro Research Station.

Catherine Cameron, SI Office of Special Events, and Lisa Barnett, STRI Development Office, Oct 7-14, to assist with the visit of the Secretary and the dedication of the Bocas Station.

Derek Ross and Sheryl Kolasiski, OFEO, Oct 8-12, to attend the dedication of the Bocas del Toro Research Station.

SI secretary Lawrence Small and wife Sandra, Oct 9-12, to hold a town meeting with the STRI community and attend the dedication of the Bocas Station.



Smithsonian Tropical Research Institute, Panamá

www.stri.org

October 10, 2003



Secretary Small meets with STRI

SI secretary Lawrence M. Small held a town meeting with STRI employees on Thursday, October 9, at the Tupper Center Auditorium. Small opened his remarks on the state of the Smithsonian quoting *Science* magazine: "Among hundred of tropical research institution around the world, STRI is undeniably the best", and by praising director Ira Rubinoff's leadership and the great job done by scientists and the support staff at STRI. In particular he congratulated Anthony Coates for his book *Paseo Pantera*, Mary Jane West Eberhard for *Developmental Plasticity and Evolution*, Klaus Winter—one of the 100 most cited scientists worldwide, Eldredge Bermingham, for his recent appointment, Egbert G. Leigh and Christian Ziegler for *The Magic Web*, Dolores Piperno, for holding the first joint appointment (STRI/NMNH) at the Smithsonian and Richard Cooke, for the Guggenheim award. Small also highlighted STRI's work on pharmaceutically active compounds derived from nature, STRI's part in the Smithsonian marine research network, the work done to alert

the world on the recent marine ecosystems collapse, *JASON XV: Rainforests at the Crossroads*, the guided tours to BCI and Culebra, the exhibits, and the efforts to convey scientific information to the general public. Whereas, the Smithsonian is enduring its "worst of times" in the US with a sequence of seemingly "biblical tragedies" including a 28% reduction in museum attendance since 9-11; it is also celebrating its "best of times", with the revitalization of science and the opening of new facilities and exhibitions representing a total investment of 1,000 million dollars. In closing, the Secretary invited the community to strengthen collaboration among the Smithsonian units, to continue to send forth vital information to the world, and to visit Washington DC and enjoy the new spectacular buildings and exhibits.

El secretario Lawrence M. Small de SI se reunió con todos los empleados de STRI el jueves 9 de octubre en el Auditorio del Centro Tupper. Empezó sus comentarios sobre el estado del Smithsonian citando la revista *Science* que publicó recientemente que "Entre cientos de centros de investigación tropical en el mundo, STRI es sin duda, el mejor". Agradeció el fuerte liderazgo del director Ira Rubinoff y el excelente trabajo de los científicos y el personal de apoyo en STRI. En particular, felicitó a Anthony Coates por su libro *Paseo Pantera*, Mary Jane West-Eberhard por *Developmental plasticity and evolution*, Klaus Winter—uno de los 100 científicos más citados en el mundo—Eldredge Bermingham, por su nuevo nombramiento como subdirector, Egbert G. Leigh y Christian Ziegler por *The magic web*, Dolores Piperno, por el primer nombramiento compartido por dos unidades en el Smithsonian, y Richard Cooke, por el premio Guggenheim. Small subrayó también el trabajo que hace STRI por encontrar compuestos farmacéuticos derivados de la naturaleza, su participación en el programa de investigaciones marinas en SI, el alertar al mundo sobre el reciente colapso de los ambientes costeros marinos, el Programa *JASON XV: Bosques en la Encrucijada*, las visitas guiadas en BCI y Culebra, las exhibiciones, y los esfuerzos de STRI por transmitir la información científica al público en general. Por otro lado, añadió, el Smithsonian está viviendo el "peor de sus tiempos" en Estados Unidos con una secuencia de eventos que parecieran "tragedias bíblicas", incluyendo el 28% de reducción en los

More arrivals

Anthony Coates, STRI, Oct 8-16, to attend town meeting and dedication at Bocas

SI undersecretary for Science David L. Evans, Eva Friffeth and Tyler Evans, Oct 8-13, to participate in STRI's town meeting and attend dedication at Bocas.

Adolfo Borges, Universidad Central de Venezuela, Oct 13 - Nov 13, to work on a manuscript with Eldredge Bermingham, at Naos.

Karen Lips, Matt Whiles and A. Hyrun, Southern Illinois University, Oct 17-25, to study host-pathogen biology and global decline of amphibians, and the influence of amphibian extinction on tropical highland stream structure and function, in Fortuna and El Copé.

Departures

David Roubik, Oct 12-23, to various locations in Perú, to film bee pollination, and to consult with colleagues at the Universidad Mayor de San Marcos.

Allen Herre, Oct 14 - Dec 1, to Washington DC, to work on several papers and proposals, and to various cities to present seminars.

New publications

Kyllo, Damond A., Velez, Virginia, and Tyree, Melvin T. 2003. "Combined effects of arbuscular mycorrhizas and light on water uptake of the neotropical understory shrubs, *Piper* and *Psychotria*." *New Phytologist* Online.

Soucy, S.L., Giray, T., and Roubik, David W. 2003. "Solitary and group nesting in the orchid bee *Euglossa huacinthina* (Hymenoptera, Apidae)." *Insectes Sociaux* 50(3): 248-255.

visitantes a los museos después del 11 de septiembre. Pero también es el "mejor de los tiempos", con la revitalización de las ciencias y la apertura de nuevas instalaciones y exhibiciones, que en 2006 completarán una inversión de 1000 millones de dólares. Para terminar, Small invitó a la comunidad de STRI a reforzar la colaboración entre las unidades del Smithsonian, continuar generando información científica para el público en general, y visitar Washington DC, para conocer los espectaculares nuevos edificios y las nuevas exhibiciones.

Linking bioprospecting and conservation

STRI research associates Phyllis D. Coley and Thomas A. Kursar from the University of Utah, and Todd L. Capson, coordinator of Panama's International Cooperative Biodiversity Group (ICBG) with colleagues from STRI and the University of Panama, published the article "Use of ecological criteria in designing plant collection strategies for drug discovery" in the Ecological Society of America's new journal: *Frontiers in Ecology and the Environment*, this month. Panama's ICBG, an innovative drug discovery program, fuses biodiversity conservation with sustainable development by conducting the complete drug discovery process in a developing nation. Plants have evolved a staggering battery of toxic chemicals in order to protect themselves against being eaten by insects. These same compounds are also used by pharmaceutical companies to develop medicines to treat human disease. However, the report demonstrates that conventional plant collections may miss many promising pharmaceuticals. The researchers found that the chemicals extracted from young leaves, a part of the plant that is usually overlooked, are much more potent in tests against human diseases, such as cancer, HIV, malaria, leishmaniasis and trypanosomiasis. Their research showed that young leaves rely more heavily on chemical defenses than mature leaves because they are growing and cannot be protected physically by toughness. In addition, results support another long-standing ecological theory suggesting that extracts from slow-growing species are significantly more active against disease targets than extracts from fast-growing species. The report also presents a novel approach for linking drug discovery to conservation. If drug discovery is to help conservation, it must provide the host country with benefits from the use of its biodiversity. However, most drug discovery programs collect samples in biodiverse nations but conduct all the research in the developed world. Thus royalties from successful drugs are the sole source of benefits to developing nations, an outcome that is highly unlikely. In a break from this approach, all of the collaborators in this NIH-funded project were based at institutions in



Panama (STRI, University of Panama and the Institute of Advanced Scientific Investigations and High Technology). Thus, by conducting all of the research in Panama with local scientists, immediate benefits are guaranteed even if royalties are never realized. Annually, about \$40-50 billion from public and private sources worldwide is spent on drug discovery research and the Panama researchers have shown that a significant portion of this funding could successfully be reallocated to conduct research in developing nations. Research based in the source country provides educational and research opportunities, pride in discoveries about the value of their biodiversity that are made by their own scientists, and jobs, all of which are dependent on intact wildlands. In fact, this sustainable use of biodiversity may provide greater value to developing nations than for more destructive uses, stimulating biodiversity-rich countries to initiate their own conservation measures. Coley *et al.*'s novel model for understanding the medicinal value of biodiversity has been effective in discovering bioactive leads and for linking drug discovery with conservation. A key innovation is that one does not need to find a drug in order to link bioprospecting to conservation. Thus the Panama model is practical and applicable in many biodiverse nations.

For comments see online reviews in *National Geographic News*, *Science Daily*, *BBC World Services*, *Scientific American*, *GreenBiz*, *Wissenschaft Online*, *VPRO*, *University of Utah News Releases*, *The World Conservation Union*, and more.