

# STRI news

March 4, 1996

Smithsonian Tropical Research Institute • Apartado 2072, Balboa, Panamá • Tel. 227-6022 • Fax 232-5978

## TUPPER CENTER SEMINARS

Tue, Mar 5, noon seminar speaker will be Steve Phillips, UBC Geological Sciences

*Organic Sedimentary Response to Earthquake-Driven Subsidence in a Coastal Peat Deposit, Bocas del Toro, Panamá*

### Abstract

Implications of tectonic subsidence on the evolution of a large peat deposit near Changuinola on the Caribbean coast of western Panama were examined in the wake of a Ms 7.5 earthquake in April, 1991. The deposit is approximately 80 sq km in extent, averages 6.5 m in thickness, and occupies the width of the narrow coastal plain between the Talamanca Cordillera and barrier beach on a seismically active part of the Caribbean coast. Based on vegetation zonation, topography and hydrology, the modern Changuinola mire complex can be divided into a raised, concentrically zoned, ombrotrophic western section, and a dissected and partially rheotrophic eastern section. Differing hydrological regimes of these two sections are reflected in the physical and chemical stratigraphy of the peat. In the western section, a vertical succession of peat types, highly humified at the base and margins, and more fibric in the upper central part, is the result of internal hydrological boundaries, created by density and permeability variations in the peat. The mire is insulated from marine and fluvial influences by topography and hydrology, and displays no evidence of fluctuating sea level. The eastern section of the mire is in part rheotrophic, with a complex mosaic of vegetation types, and is segmented into distinct drainage areas by tidal blackwater creek channels. Effects of this marine influence are localized to the bay and channel margins. Earthquake-driven coastal subsidence is greatest in the southeast, and has led to drowning of the deposit. Subsidence events raise the level in the blackwater creeks, moving the front of marine influence to the northwest (inland), and leading to the replacement of freshwater vegetation with mangroves. The degree of penetration of marine waters remains restricted, however, to marginal peats. An increase in the scale of subsidence events may overcome the response capability of the mangroves and lead to disruption of internal hydrological boundaries and ultimate deflation and drowning of the mire.

## BAMBI SEMINAR

Wednesday (please note change of day) Mar 6, Bambi seminar speaker will be T'ai Roulston. Auburn University, Alabama

*Pollen Protein Levels: Implications for Pollen Eating Organisms*

Transportation and dinner reservations are essential. Please call BCI at 272-2124 or 272-2142.

*Note from BCI: Oris Acevedo will return to her duties in the Island starting Tuesday, March 5. You can contact her by phone or e-mail.*



## NAOS LABS LUNCHEON

Fri, Mar 8, Naos Laboratories luncheon seminar speaker will be Michael McCartney, Sloan fellow from Scripps Institute of Oceanography

*Broadcast Spawning and Its Consequences for Mating Success, Breeding Systems, and Reproductive Isolation*

## PEOPLE

### Arrivals

- Chiharu Koshio, Mar 2-29 Aug, to study the life history and reproductive strategies of tropical diurnal moths, on BCI.
- Jeffrey Brawn, Illinois Natural History Survey and Scott Robinson, Mar 4-18, to monitor the dynamics of avian communities and population in Central Panama and to study the stability of tropical forests and tropical forest fauna on military installations of the Panama Canal Area.
- Alexandra Sangmeister, Natural Zoological Park, Mar 7-7 May, to study individual territoriality in two tropical birds: Why not cooperate?
- John Humphrey, Colorado School of Mines, Mar 9-17, to study early meteoric diagenesis and water rock interaction of holocene polymineralic carbonate islands, San Blas. He will be stationed at Naos.

### Departures

- Héctor Guzmán, Mar 1-14, to Honduras to work at Cayos Cochinos Field Station.
- Richard Condit, Mar 5-15, to Manaus, Brazil to attend the meetings of CIFOR.
- Ira Rubinoff, Mar 5-8 to Washington DC, on official business at SI.

### FROM THE SECRETARY

It is with deep personal regret that I announce that Sylvia H. Williams, Director of the Smithsonian's National Museum of African Art, passed away today after a brief illness. Appointed in 1983 by Secretary S. Dillon Ripley, Sylvia built her Museum and its collection into a first-class center for the study and appreciation of African art and culture. At the same time, she remained a wise and fair-minded counselor to me and other senior officials. I know I join many Smithsonian colleagues and an even wider circle of her friends and admirers in mourning her loss. I extend my deepest sympathies to her dear husband, Charlton. We will be in further communication with respect to memorial arrangements as soon as they are known.

### THINGS YOU SHOULD KNOW

#### From the Director's Office ••• *Del Director*

Due to recent thefts at the Tupper Center, all staff members, fellows and visitors are required to wear their STRI identification carnets. For more information, please contact Alejandro Hernández, at Tivoli ••• *Debido a robos perpetrados en el Centro Tupper recientemente, todos los empleados de STRI, becarios y visitantes deberán usar su identificación de STRI. Para mayor información, favor comunicarse con Alejandro Hernández, en Tivoli.*

#### From the Office of Design and Construction

##### *De la Oficina de Diseño y Construcción*

Today, Monday, March 4, construction work started in front of the main entrance to the Tupper complex on Roosevelt Avenue. This effort will provide STRI staff and visitors with parking space for 25 vehicles. In the meantime, your cooperation will be appreciated, since no parking will be allowed in the area. For more information, please consult Julio Polo or Edmundo Rodríguez at the Office of Design and Construction, Pastor's House ••• *Hoy lunes 4 de marzo se iniciaron los trabajos de construcción frente a los estacionamientos de la entrada principal al complejo del Centro Tupper, en la Avenida Roosevelt. Estos trabajos darán solución de estacionamiento a empleados y visitantes de STRI para 25 automóviles. Durante la construcción, se agradecerá su cooperación, ya que no se permitirá estacionarse en el área. Para mayor información, favor comunicarse con Julio Polo o Edmundo Rodríguez de la Oficina de Diseño y Construcción, Pastor's House.*

### NEW STRI PUBLICATIONS

- Aparicio U., Karla M. and Pérez De León, Guadalupe. 1996. Estudio de la Avifauna del parque Natural Metropolitano, Panamá. Thesis. Panamá: University of Panama.
- Ebert, Dieter and Herre, E. Allen. 1996. "The Evolution of Parasitic Diseases." *Parasitology Today* 12: 96-101.
- Lipsitch, Marc, Nowak, Martin A. and Herre, E. Allen. 1996. "Host Population Structure and the Evolution of Virulence: a Law of Diminishing Returns." *Evolution* 49: 743-748.
- Meinzer, F.C., Goldstein, G., Jackson, Paula, Holbrook, N.M., Gutiérrez, M.V. and Cavellier, Jaime. 1995. "Environmental and Physiological Regulation of Transpiration in Tropical Forest Gap Species: the Influence of Boundary Layer and Hydraulic Properties." *Oecologia* 101: 514-522.
- Pérez, Rolando, Condit, Richard, Aguilar, Salomón, Hernández, Andrés and Villarreal, Ana. 1996. "Inventario de la Vegetación de la Isla de Coiba, Panamá: Composición y Florística." *Revista de Biología Tropical* 44(1): 31-40.
- Sevenster, Jan G. *The Community Ecology of Frugivorous Drosophila in a Neotropical Forest*. Leiden: The Netherlands.
- Sevenster, Jan G. and van Alphen, Jacques J.M. "Coexistence in Stochastic Environments Through a Life History Trade Off in *Drosophila*. In: *Adaptation in Stochastic Environments: Lectures Notes in Biomathematics* 98: 155-172.
- Shorrocks, Bryan and Sevenster, Jan G. 1995. "Explaining Local Species Diversity." *Proceedings of the Royal Society of London B* 260: 305-309.

### AT THE OFFICE OF EDUCATION

#### Tupper Center, Office #340

You will find information on:

- Sixteenth Annual '96 ESRI User Conference on-line.
- Biological Dynamics of Forest Fragments Project of the Instituto Nacional de Pesquisas da Amazonia and the Smithsonian Institution call for proposals 1996.

### MISCELLANEOUS

#### Se Vende

"Exercise Glider" con medidor de tiempo y calorías (máquina para ejercitar simuladora de esquiar) \$120. Interesados favor comunicarse con Mercedes Denis.