

STRI newsletter

August 23, 1991

SMITHSONIAN TROPICAL RESEARCH INSTITUTE - Apartado 2072, Balboa, Panama

No. 34

TUPPER CENTER SEMINARS

Tuesday, Aug 27, noon seminar speakers will be Luis Alvarado and Jorge Espinosa, Department of Meteorology and Hydrology, Panama Canal Commission.

I. Impacto Ambiental de las Actividades Humanas dentro de la Cuenca del Canal de Panamá.

II. Aspectos Meteorológicos de la Cuenca del Canal de Panamá.

Friday, August 30, noon seminar speaker will be Rodrigo Games, Instituto Nacional de Biodiversidad, Costa Rica.

El Conocimiento y Utilización de la Biodiversidad como Medio para su Conservación: El Caso de INBIO

Next Week

Tuesday, September 3, noon seminar speaker will be Kristina Ovaska, University of British Columbia.

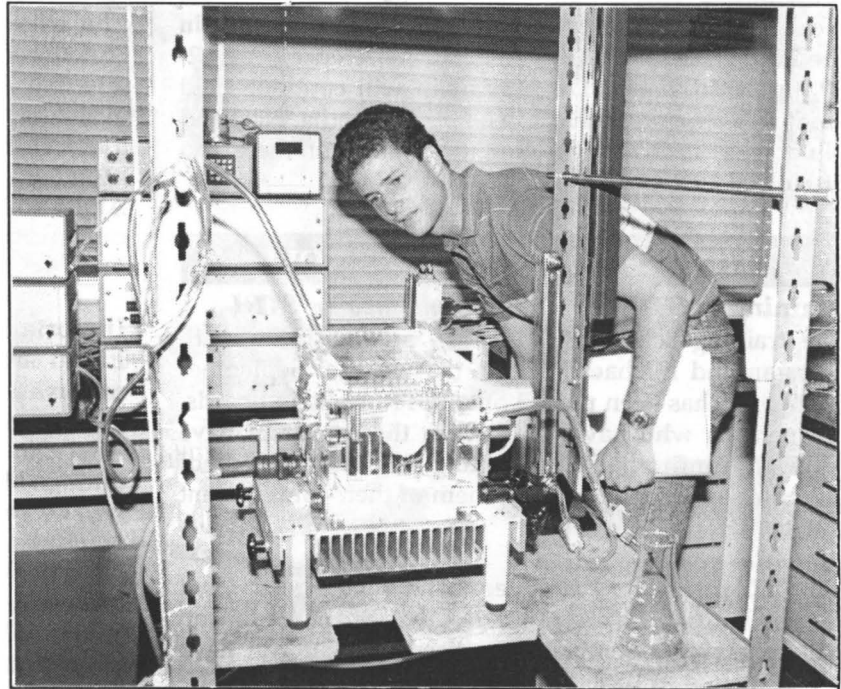
Competition and Territoriality among Western Plethodontid Salamanders.

Traducción simultánea disponible.

PEOPLE

Arrivals

- Bernard Parresol and Margaret Deval, USDA, Aug 24-Sep 7, to work on dendroecological analysis of tropical plantations and natural forests on BCI.
- Kristina Ovaska, Univ. of British Columbia, Aug 25-Sep 8, to consult with Stanley Rand regarding possible frog projects.
- Bernardo Vargas, Univ. del Valle, Colombia, Aug 26-Nov 26, Exxon Assistant to Hector Guzman at Surfside.
- Rodrigo Games, director, Instituto Nacional de Biodiversidad, Costa Rica, Aug 29-31, to visit STRI facilities, meet with David Roubik and present a seminar.
- Steve Garrity, Aug 26-Sept 7, to work with the Oil Spill Project.



During an inspection of the Tupper Laboratory Building, Michael Hilby, part of a team of specialists that is currently visiting STRI from the SI Office of Environmental Management and Safety, looks at a CO₂/H₂O-measuring system used for studies on photosynthesis ••• Durante una inspección al edificio de Laboratorios del Centro Tupper, Michael Hilby, miembro de un grupo de especialistas de la Oficina de Manejo Ambiental y Seguridad del Smithsonian que visita el STRI, observa un sistema de medición de CO₂/H₂O utilizado en estudios de fotosíntesis.

(Foto: C.C. Hansen)

Departures

- Alan Smith and Gilberto Ocaña, STRI scientists, Aug 27-31, to San Jose, Costa Rica, to discuss agroforestry programs with CATIE officials.
- Richard Cooke, STRI archaeologist, Aug 28-Sept 14, to Kiel, Germany, to attend the meetings of the International Council for Archaeozoology, then to Paris, France, for meetings of the Food and Nutrition in a Tropical Forest Congress.
- Ira Rubinoff, STRI director, Aug 26-28, to Dallas, Texas, to meet with officials of Exxon Corporation.
- Jeremy Jackson, STRI biologist, Aug 29-Sept 11, to Debresu, Hungary, to attend the 3rd Congress of the European Society for Evolutionary Biology and to Basel, Switzerland, to consult with colleagues at the Basel Natural History Museum.
- Steve Miller, STRI diving officer, Aug 30-Sep 15, to Washington, D.C. to attend the 9th Diving Control Board meetings and SCUBA Repair Workshop.

Newsletter Correction

Neal Smith and Martin Moynihan are participating in the 22nd International Ethnological Conference, Aug 22-29, in Kyoto, Japan. Dr. Moynihan will continue field studies there, and perhaps in China and India. Neal and Ninochtka Smith will vacation to the north on the island of Hokkaido.

THINGS YOU SHOULD KNOW**Training at STRI ••• Entrenamiento en STRI**

The training schedule led by SI specialist Elizabeth Brennan and Michael Johnson the week of September 23-27, 1991 has been posted on all STRI Bulletin Boards. All persons who have enrolled in these courses have received confirmation in writing from the Office of Human Resources to remind them of their commitment to attend.

All STRI pre-treaty employees who subscribe to Civil Service Retirement are reminded that Michael Johnson will be giving a seminar on retirement that will have simultaneous translation into Spanish. He will be available also for individual sessions on calculating retirement annuities, or provide assistance in answering individual questions concerning the Worker's Compensation Benefits program. Employees who would like a private session and need assistance with translation must make arrangements with the Office of Human Resources.

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El horario de cursos que serán dictados por los especialistas de la Institución Smithsonian, Elizabeth Brennan y Michael Johnson, del 23 al 27 de septiembre próximo, ha sido colocado en todos los tableros de anuncios del STRI. Además, todas las personas que se han inscrito en estos cursos han recibido confirmación por escrito de la Oficina de Recursos Humanos para recordarles de su compromiso de asistir.

Se les avisa a todos los empleados pre-tratado que cotizan al fondo de jubilación del *Civil Service*, que el Sr. Michael Johnson, además de dictar un seminario sobre este tema (el cual tendrá traducción simultánea al español), estará disponible para tener sesiones privadas con empleados para calcular montos de jubilaciones, o para contestar preguntas personales relacionadas con el programa de beneficios por Riesgos Profesionales de los EE.UU. Cualquier empleado que necesita una sesión privada y requiera asistencia en cuanto a la traducción al español, deberá hacer arreglos con la Oficina de Recursos Humanos.

El Corotú Restaurant

The existing cafeteria concessionaire at Tupper has announced her intention to close her operation at STRI effective August 31, 1991. A Restaurant Committee is evaluating several alternatives to replace this service. The members of the committee are: Carlos Tejada, Maria Morello, Vielka Vergel and Edmundo Rodriguez. Anyone who has suggestions on a replacement for the cafeteria concession should contact one of the committee members as soon as possible.

Important Notice ••• Nota Importante

If you are planning to collect or carry out scientific research in Cerro Azul in the area inside the Melo Finca, it is necessary to obtain a permit from Altos de Cerro Azul Co. The request must be submitted in writing through Maria Morello, Visitor Services Office, accompanied by your INRENARE permit, and takes 5 work days to process ••• *Si va a efectuar colecta o investigación científica en el área de Cerro Azul que está dentro de la Finca Melo, es necesario tener un permiso de Altos de Cerro Azul, S.A. La solicitud deberá ser hecha por escrito y acompañada por su permiso de INRENARE. La tramitación es por medio de María de Morello de la Oficina de Visitantes y toma 5 días laborales para ser procesada.*

At Tupper Center

Aug 28 Auditorium: 1st Haz-Com Seminar for training personnel who handle hazardous material in the workplace.

Meeting Room: *Amigos de la Biblioteca* Meeting

Aug 29 Visit by San Martín de Porras High School students to the Tupper Center exhibition.

ANNOUNCEMENTS**New Guggenheim Fellow**

Jorge Illueca, former director of the Panamanian National Commission for the Environment, was selected Fellow of the John Simon Guggenheim Memorial Foundation to study "The introduction of African pasture grasses and deforestation in the Province of Chiriqui, 1850-1940." Dr. Illueca will be a visiting scientist at the STRI Tupper Center during his fellowship which will begin in the first quarter of 1992, in order to fulfill his present responsibilities as coordinator of environmental management for the United Nations Environment Programme in Nairobi, Kenya.

Felicitaciones!

Juan Maté, antiguo becario Exxon en Naos, recibió una beca Fulbright para realizar estudios de maestría con el Dr. Peter Glynn en la Escuela de Ciencias Marinas y Atmosféricas Rosentiel de la Universidad de Miami.

Muestra Filatélico - Ecológica

Organizada por COTEL-BANCONAL en la Casa Museo del Banco Nacional, en Calle 34, entre Avenidas Justo Arosemena y Cuba presenta la primera exhibición filatélica-ecológica a nivel mundial. Abre al público de lunes a viernes de 8am a 4pm y sábados de 9am a 12m hasta el 30 de agosto. La Exhibición consiste en una muestra filatélico-ecológica mundial, muestra filatélico-ecológica nacional, historia postal y filatélica, y cuenta con exposiciones de grupos conservacionistas y del STRI. A la venta habrá sobres especiales, emisiones 1989 y 1990, bolsas de estampillas surtidas, sobres y sellos alusivos.

Seminario de Geofísica e Hidrogeología

Se llevará a cabo un seminario sobre geofísica e hidrogeología del 27 al 31 de agosto de 1991 en el Salón de Conferencias del Instituto Especializado de Análisis (IEA), Universidad de Panamá a las 8am. Este seminario está siendo organizado por el grupo Baltic Sea Food junto con la firma soviética SOJUZPROMGEOPHISICA, dedicada a la investigación y la producción de instrumentos geofísicos. Participaran los siguientes panelistas:

- Mijail Zaderigolova, experto en geofísica quien explicará el uso del FPK-2 (Georadio Control II modelo), aparato empleado para la prospección y levantamiento rápido en la extracción de recursos minerales por el método de cielo abierto en las excavaciones arqueológicas; durante la construcción de vías férreas, carreteras, oleoductos y gasoductos; durante la construcción de edificaciones industriales y civiles; detecta y bosqueja los contornos de pliegos sinclinales inundados, rocas de almacenamiento de aguas subterráneas; determina la estabilidad e bordes, canteras y pendientes de tierras movidas, la base de cimientos de edificaciones y de centrales hidroeléctricas, y pronostica fenómenos geodinámicos desastrosos.
- Sergey Kaltashov, ingeniero en hidrogeología, geotécnica, métodos nuevos de prospección y pronósticos sismológicos. Automatización del proceso del levantamiento por ondas hertzianas y del control de los parámetros de la masa de terreno en el tiempo.
- Alexander Strukov, especialista en pozos. Costo es de \$50 para estudiantes y de \$80 para particulares. Para mayor información llame a los teléfonos 26-2962 y 69-0606.



Eldredge Bermingham (left), Connie Kolman (center) and Alberto Padilla (right).
(Photo: C.C. Hansen)

RESEARCH UPDATE

by Gretchen Sotomayor

During a two-week stay at STRI that ends today, visiting Ecuadorean scientist Dr. Alberto Padilla worked alongside STRI scientists to learn more about a fairly new, time-saving DNA replication technique.

Padilla, a professor from the Pontificia Universidad Católica del Ecuador (PUCE), collaborated with STRI scientist Dr. Eldredge Bermingham and James Smithson postdoctoral researcher Dr. Connie Kolman in research that uses sophisticated equipment to analyze DNA. They refer to the DNA as a "blueprint", which they are using to chart evolutionary relationships among local Amerind tribes.

In ongoing research of Panamanian indigenous people, STRI scientists collected DNA samples of blood and/or root hair from several local tribes. The DNA found in these samples is then amplified millions of times, using sophisticated equipment, so it can be analyzed and compared with other genetic samples. To replicate the DNA, a new technique that is not widely available in Central or South America is being used. DNA molecules are reproduced rapidly through an enzymatic reaction, known as the polymerase chain reaction (PCR), producing millions of copies of the original DNA molecules. The reactive process takes place inside of a machine small enough to sit on a counter top.

Developed about four years ago, the PCR method is reasonably simple and saves time, according to Bermingham. The amplification of DNA that occurs within four hours while using the PCR machine took much longer with the former, labor-intensive method using bacterial genetic technology, added Padilla.

Once the DNA is amplified, scientists look for "DNA markers" that

provide information about the genetic relatedness of the groups under study. Using this information, scientists hope to determine the relationships of tribes, including those separated by great distances or language barriers. In addition to studies of Amerinds, Dr. Padilla plans to apply the PCR technology to animal and plant evolutionary studies being conducted in Ecuador.

Dr. Padilla also took advantage of this visit to STRI to consult with Elena Lombardo and Alan Smith on pending issues related to ongoing negotiations between STRI and PUCE to formalize a cooperative scientific agreement. As part of these efforts, Padilla visited Barro Colorado Island, where he was hosted by Nelida Gomez. He was able to see first-hand the Island's operational, organizational and support capabilities in connection with the possible joint establishment of a research station in the Oriente Region (Amazonian Ecuador).

STRI NEW PUBLICATIONS

Roubik, David, Villanueva, Rogel, Cabrera, Edgar Fco. and Colli Ucán, Wilberto. 1991. "Abejas Nativas de la Reserva de la Biósfera de Sian Ka'an." In: *Diversidad Biológica en la Reserva de la Biósfera de Sian Ka'an, Quintana Roo, México*: 317-320, edited by L. Navarro and John G. Robinson.

Ziska, L.H., Hogan, Kevin P., Smith, Alan P. and Drake, B.G. 1991. "Growth and Photosynthetic Response of Nine Tropical Species with Long-Term Exposure to Elevated Carbon Dioxide." *Oecologia* 86: 383-389.

STRI PRESENTATIONS

At the 42nd AIBS Annual Meeting of Scientific Societies. San Antonio, Texas, August 4-8, 1991

Aide, Mitchell T. "Insect herbivory and the timing of flowering in *Hybanthus prunifolius*."

Condit, Richard, Hubbell, Stephen P. and Foster, Robin B. "Dynamics and equilibrium status of a neotropical forest over one decade."

De Steven, Diane. "Seedling recruitment dynamics in three Panamanian canopy tree species."

Hewett, Steven W., Welden, Charles W., Hubbell, Stephen P. "Canopy-height dynamics and the size distribution of canopy openings on Barro Colorado Island."

Hogan, Kevin P., Smith, Alan P. and Araus, J.L. "Ecotypic differentiation in gas exchange responses and leaf anatomy in a tropical forest understory shrub."

Hubbell, Stephen P., Gullison, Raymond, Condit, Richard and Foster, Robin B. "The interaction of mortality and growth rates in neotropical trees."

Jackson, P., Goldstein, G., Cavalier, Jaime, Meinzer, Frederick C. and Holbrook, N.M. "Carbon isotope discrimination in gap and understory shrubs in a tropical forest."

Jing, San W., Kursar, Thomas A. and Coley, Phyllis D. "Leaf longevity and phenolic content in three neotropical genera."

Sagers, Cynthia. "Natural levels of herbivory and growth in clones of *Psychotria horizontalis* Sw. (Rubiaceae)."

Terborgh, John, Foster, Robin B. and Robinson, Scott K. "Recovery of biodiversity after natural disturbance in a Peruvian white-water meander belt."

Weider, Kelman R. and Wright, Joseph S. "Mass balance estimates of litter decomposition in a moist forest on Barro Colorado Island, Panama; Effects of dry-season irrigation."

Wright, Joseph S. and Van Shaik, Carel. "Light and water interact to determine tropical plant phenology."

From: 365 Ways to Save our Planet

• Page-a-Day Calendar •

Air fresheners don't really freshen anything; they work by deadening your sense of smell. They do release small amounts of pollutants—naphthalene, creosol, phenol, ethanol and others—into the closed indoor environment. Better to clean up the source of odors and open a window.



BOLA SUAVE EN EL STRI

Todos los compañeros del STRI están cordialmente invitados a las prácticas de Bola Suave todos los viernes en la cancha de Fuerte Amador, a las 4:30 de la tarde.