

# STRI newsletter

April 3, 1992

SMITHSONIAN TROPICAL RESEARCH INSTITUTE - Apartado 2072, Balboa, Panamá

No. 14

## TUPPER CENTER SEMINARS

Tuesday, April 7, noon seminar speaker will be Elizabeth Kalko, National Museum of Natural History.

*How do bats detect and catch prey?*

### Abstract

I will summarize some field studies on the echolocation and hunting behavior of bats. A newly developed technology allows me to take a sequence of photographs of a foraging bat (multiflash stereophotography) and simultaneously record their echolocation signals. Studies of various bats show how echolocation behavior is linked to a bat's foraging behavior and habitat use.

## PEOPLE

### Arrivals

- Andrew Martin, 3-year fellow from the University of Hawaii, to do research on phylogenetics and biogeography for two groups of South American fresh water fishes, Apr 1, 1992 to Apr 1, 1994, and Cynthia Buchenroth Martin, to assist with development of marine education program.
- Andrew Armer, medical officer, SI Office of Protection Services, April 5-10, to establish connections with the local medical community to expedite medical tests taken by STRI divers for SI certification, and to review diving operations.
- Jennifer Ruesink, short-term fellow, University of Washington, Apr 8-Jul 8, to do research on the role of epibiotic biology in disturbance to scleractinian corals: colonization after wounding and its consequences.

### Departures

- Olga Linares, staff scientist, Apr 3-30, to Washington, D.C. on official business.



Ricardo Thompson (right), Galeta Marine Laboratory manager, gives an overview of the history and environmental monitoring research at Galeta to a group of STRI Exxon fellows and interns. The visit included talks on the oil spill project and recreational activities ••• Ricardo Thompson (derecha), administrador del Laboratorio Marino de Galeta, explica a un grupo de becarios y asistentes Exxon sobre la historia e investigaciones de monitoreo ambiental en Galeta. La visita incluyó otras presentaciones sobre el proyecto de los efectos del derrame de petróleo y actividades recreativas.

(Foto: M.A. Guerra)

- Paul Colinvaux, staff scientist, Apr 6-16, to consult with colleagues and present seminars at the University of Georgia.
- Robin Foster, staff scientist, Apr 6-12, to present three seminars at the University of Texas at Austin.
- Leopoldo Leon, budget analyst, Apr 8-16, to attend training course in Washington, D.C.
- Nancy Knowlton, staff scientist, Apr 8-18, to present seminar at Smith College and to Washington, D.C. on official business at the NSF and the National Museum of Natural History.

### On Leave

Carmen Sucre	Mar 30-Apr 10
Nicholas Smythe	Apr 6-17
John Christy	Apr 13-21
Alejandro Caballero	Apr 20-May 5

## THINGS YOU SHOULD KNOW

### Tivoli to Tupper Move

Certain staff from the Tivoli Building will move temporarily to Tupper while Tivoli undergoes renovation. The accounting staff will move for approximately three months to the Environmental Chamber Room (# 208). Please request necessary accounting services for the beginning of next week because they will be busy with the move on April 9-10. Since the Cashier's Office will not move, check pickup and payments will continue to be made at Tivoli. Unless otherwise announced, the current telephone extensions will remain in effect. Francisco Rivera, computer specialist, will move to Tupper (Room 401) on the same dates.

### Histology Laboratory

For coordination of the general use of the Naos Histology Laboratory, including schedule of users, supplies and maintenance equipment, see Argelis Ruiz Guevara.

### Safety Alert

Tupper computer users have had problems with the DataShield UPS model SS700, which has exploded on several occasions. The Tupper scientific coordinator recommends all owners of this UPS model to discard it. Although the company that sold this UPS is out of business, you may contact Raineldo Urriola for a replacement deal with another company. The trade-in will cost \$500 for a Tripp-Lite UPS 8.0, which currently sells for \$1200.

### From Facilities Management ••• De la Oficina de Operaciones

A fire extinguisher is missing from its case below the Tupper Meeting Room stairs, which give access to the back parking lot. If anyone has borrowed it, please return it as soon as possible ••• *Se ha extraviado un extintor de la vitrina localizada al final de las escaleras adjuntas al Salón de Reuniones de Tupper, que dan al estacionamiento detrás del edificio. Cualquier persona que lo haya tomado prestado, favor regresarlo. Gracias.*

### Reminder ••• Para Recordar



Please fill out and return 1992 telephone directory forms (which are available from all facility secretaries) as soon as possible to M. L. Calderon, STRI Education Office, Tupper ••• *Favor completar y regresar formulario de información para el directorio telefónico de 1992 de STRI, lo más pronto posible a Maria Luz Calderón, Oficina de Educación, Tupper.*

### Atención Participantes del Congreso Científico Nacional

Hasta el 15 de abril, la Vice-rectoría de Investigación y Postgrado estará recibiendo las ponencias sustentadas en la ocasión del octavo Congreso Científico Nacional, celebrado del 19-21 de febrero de 1992 en la Universidad de Panamá. Las ponencias no deberán ser de más de 15 páginas y serán publicadas en las memorias del congreso. Para mayor información, comunicarse con M. Crespo, Oficina de Educación de STRI.

## ANNOUNCEMENTS

### Annual Inventory ••• Inventario Anual

Every year the designated accountable officer for each facility must complete an inventory of STRI equipment. This year during the period of Mar 16 through May 22 we would appreciate the collaboration of all personnel with this task ••• *Todos los años, la persona encargada para cada instalación debe completar un inventario de todo el equipo del Instituto. Este año durante el período entre el 16 de marzo y mayo 22, pedimos la colaboración del personal con esta actividad.*

### At Tupper Center

- Tue, Apr 7 Administrative Staff Meeting, Large Meeting Room, 9:30 am.
- Wed, Apr 8 Amigos de la Biblioteca Meeting, Small Meeting Room, 9 am.
- Apr 9-11 1er Congreso Nacional de Ambiente y Desarrollo, Exhibit Hall, Auditorium and Meeting Rooms, 8 am-8pm.

### Liga de Verano de Vóleybol

Resultados del juego anterior:

BCI vs Naos: Ganador Naos

Tupper vs ANCON: Ganador Tupper

### Resultados de la 1ra. vuelta:

1er lugar: Naos con 6 pts: 3 juegos ganados, 0 perdidos

2do lugar: BCI con 5 pts: 2 juegos ganados, 1 perdido

3er lugar: Tupper con 4 pts: 1 juego ganado, 2 perdidos

4to lugar: ANCON con 3 pts: 0 juegos ganados, 3 perdidos

### For Sale ••• Se Vende

1979 Toyota Corolla, full engine overhaul in February, many new parts, reliable car, A/C, s/roof. Duty paid \$3,300 o.b.o. Image Writer II, dot matrix printer for Mackintosh. 1 year old \$300 o.b.o. Contact Mark Bush at 62-3912.

**For Rent**

Faculty house in Ithaca, N.Y. Available 5 June - 15 August. Contact Stephen or Natalie Emlen at STRI or telephone (607)-255-4751 or fax: (607) 255-8088.

**CURSOS • CONFERENCIAS****Panamá hacia ECO 92**

EL 1er. Congreso Nacional sobre Ambiente y Desarrollo, "Contra la Pobreza y por el Desarrollo Sustentable", tendrá lugar los días 9-10-11 de abril de 1992, en el Centro Tupper, auspiciado por el Instituto de Recursos Naturales Renovables (INRENARE) y el Comité "Panamá hacia ECO 92".

Se invita a todos los grupos organizados incluyendo organizaciones no-gubernamentales, organizaciones gubernamentales y el sector empresarial. El temario general incluye 8 mesas redondas además de la principal sobre la pobreza:

- Contaminación en Panamá y posible control
- Deforestación y reforestación en Panamá
- Ordenamiento territorial, población y ambiente
- Ambiente y salud
- Fuentes energéticas y ambiente
- Aspectos económicos y necesidades de financiamiento
- Comunicación, educación, capacitación y participación
- Aspectos normativos

El costo de inscripción es de B/. 15. Para mayor información: Apdo 6-1199 El Dorado, Panamá, Fax 32-4975 ó 25-0037, Tel: 60-5010, 27-2061, 29-2766, 32-4896.

**Cursos de OET**

La Organización de Estudios Tropicales (Costa Rica), OET, y la Universidad de Costa Rica, UCR, se complacen en anunciar los cursos: Principios ecológicos para la toma de decisiones y el manejo de recursos naturales en América Latina. Este curso, que será impartido dos veces durante este año, está dirigido a profesionales que participen en la toma de decisiones relacionadas con el manejo de los recursos naturales y en el desarrollo de proyectos que inciden sobre ellos.

Dado el tiempo que tarda recibir las cartas por correo, se solicita que, de ser posible, envíe todos sus documentos por fax, al número (506) 40 6783 en Costa Rica. Las fechas límite de recepción de solicitudes son el 1ro de abril para el primer curso, 92-6a, y el 15 de junio para el segundo curso, 92-6b.

**Meeting of the Joint Commission on the Environment**

On April 6-8, the Joint Commission on the Environment (Panama/USA) will have its 19th Meeting at the Ama-

dor Washington Library, on Ave. Balboa and Calle 39. The meeting will be open to the general public on April 6, and several STRI scientists will participate. Tentative agenda as follows:

**Monday, April 6**

- 9:00 am Opening remarks by Alberto Perez, Ministry of Foreign Affairs and welcome by Panamanian JCE co-chairperson Mireya Correa, STRI
- 9:30 am Theme 1: Protection of the Canal Watershed Report/audiovisual presentation on current and future programs by Roberto Arango and Jaime Johnson, INRENARE
- 10:30 am Theme 2: Metropolitan Nature Park. Overview of park operations and the potential impact of the proposed construction of the northern corridor
- 11:00 am Theme 3: The Smithsonian Tropical Research Institute's Activities on Barro Colorado Island by Alan Smith, STRI
- 12:00 Lunch
- 2:00 pm Theme 4: Construction of the Northern Corridor by Aurealuz Aguilar and Maritza de De Leon, Ministry of Public Works
- 3:15 pm Theme 5: Gaillard Cut Widening. Environmental impact study supplement, by David Baerg and Juan Diaz, PCC
- 3:45 pm Theme 6: Status of the Biological Inventory Component Study by the Canal Alternatives Study Commission

**RESEARCH UPDATE****Excavations in Cerro Juan Díaz, Los Santos, Herrera Province**

by Richard Cooke

Cerro Juan Díaz is situated on a prominent hill on the south bank of the La Villa River, not far from the sea. It has been known for years as a cemetery site where goldwork can be looted: hence, it currently has the appearance of a bombed field. At the behest of the National Heritage Department of the Institute of Culture, Luis Sánchez and Adrián Badilla from the Museo Nacional de Costa Rica are directing excavations, under the supervision of Richard Cooke. These are designed to evaluate the extent, stratigraphy and cultural content of the site prior to planning larger excavations. They are being assisted by Richard Nicholas, an English student, and Gustavo Tapia from Aguadulce.

The strategy has been to concentrate on cleaning *huaquero* pits in order to define stratigraphy, and to



Gustavo Tapia (left) listens while Adrián Badilla (right) explains to visitors how a simple graverobbers hole was enlarged into an exploratory excavation in order to determine the different cultural moments of the site ••• Gustavo Tapia (izq) escucha mientras Adrián Badilla (der) explica a visitantes cómo se amplió una fosa abierta por huaqueros para hacer una excavación exploratoria y determinar los diferentes momentos culturales del sitio.

(Foto: Gretchen Sotomayor)

sample strata with columns and small test excavations working backwards from exposed faces.

The site seems to have been occupied about 1800 BP. The earliest evidence for intensive activities is found on the top of the hill. It consists of two layers, the first of burned clay, full of brightly coloured polychrome pottery of the *Tonosí* style, and animal bones—mostly fish and white-tailed deer—and the second, a 5m-thick layer of ash, also full of pottery, animal bones and a surprisingly large number of tiny (<4 mm dia) stone beads. These were made on the site, and are similar to the beads used by Kuna ladies to wrap around their legs and arms. It looks as though the hilltop was used periodically for feasts related to the burial of rich individuals.

On the terraces below the hill and near the river, Sánchez and Badilla excavated a refuse feature that is later than the hilltop deposits. It contains a pottery remarkably similar to that found at sites near Panama City and hitherto not recorded in pristine deposits from Parita Bay. It also provides an excellent record of fishing, hunting and agricultural activities.

The occupation that is contemporary with the Spanish invasions of 1516-21 is characterized by deep shell mounds replete with crude pottery, and mangrove and intertidal bivalves and gastropods. It is likely that Cerro Juan Díaz is the locality where the Licentiate Espinosa was engaged in a battle with the Chief Parita—the town the Spanish later called Cubita, before the local population was forcibly moved to Los Santos to be instructed in the ways of the true and only faith.

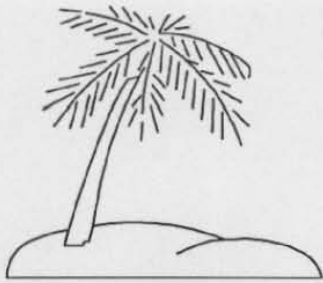
### STRI NEW PUBLICATIONS

Fincke, Ola M. 1992. "Interspecific Competition for Tree Holes: Consequences for Mating Systems and Coexistence in Neotropical Damselflies." *The American Naturalist* 139(1): 80-101.

Losos, Jonathan B., Andrews, Robin M., Sexton, Owen J. and Schuler, Alexis L. 1991. "Behavior, Ecology, and Locomotor Performance of the Giant anole, *Anolis frenatus*." *Caribbean Journal of Science* 27(3-4): 173-179.



"I had them all removed last week and, boy, do I feel great."



## Contadora

STRI is renting a house on Contadora Island at the northern end of the Pearl Island Archipelago.

The house is operated primarily as a field station but during times of low research usage it is available for recreational visits by the STRI community. Charge: \$20/day/adult and \$10/day/children under 15. Capacity: 6 people.

### Specific Details:

Two bedrooms, double bed and twin bunk in each with inside and outside showers, storage room, 4 burner gas stove with oven and refrigerator. Right on water front with direct access to beach —25 meters from house—. Large balcony, with good north view, caretaker. Very few sandflies and mosquitos. 1½ minute walk from airport office but is very quiet.

You need to bring your own sheets, towels, etc. There are several restaurants (including one inexpensive criollo style) and a supermarket with basic necessities.

Flights by Aeroperlas and Aerotaxi from Paitilla Airport several times per day at \$44. round trip. For reservations contact Mercedes Arosemena at Naos 28-4060.

---

STRI alquiló una casa en Contadora en el extremo norte del Archipiélago de las Perlas. El objetivo del uso de esta casa es primordialmente como estación de campo, pero en épocas de poco uso para la investigación, está disponible para visitas recreativas para la comunidad de STRI. El costo, para adultos, es de \$20 por día y para niños menores de 15 años, \$10. Tiene capacidad para 6 personas.

La casa cuenta con dos recámaras con camas dobles y un canapé sencillo cada una, duchas dentro y fuera de la casa, estufa con cuatro quemadores con horno, y refrigeradora. La casa tiene acceso directo a la playa —a 25 metros—. Tiene balcón amplio y una buena vista al norte. También tiene un vigilante. Hay muy pocos zancudos y mosquitos. Está a 1½ minutos de la oficina del aeropuerto, pero es un lugar tranquilo.

Los visitantes deberán llevar sus propias sábanas, toallas, artículos para el baño y comida. Hay varios restaurantes (incluyendo uno de comida criolla de bajo precio) y un supermercado que vende artículos de primera necesidad.

Hay vuelos de Aeroperlas y Aerotaxi desde el Aeropuerto de Paitilla varias veces al día por \$44 viaje ida y vuelta. Hable con Mercedes Arosemena en Naos al 28-4060 para reservaciones y mayor información.

