

# STRI newsletter

January 25, 1991

SMITHSONIAN TROPICAL RESEARCH INSTITUTE - Apartado 2072, Balboa, Panama

No. 4

## SEMINARS

### Tupper Center Auditorium

Tuesday, Jan 29, noon seminar speaker will be Jeffrey Brawn, Virginia Polytechnic Institute and State University.

*Evolution of small clutch size in tropical birds: evidence of a benign or adverse environment.*

#### Abstract

The decrease in avian clutch size from temperate to tropical latitudes is a conspicuous example of a geographic variation in a vertebrate life history trait. Most explanations for this trend include assumptions of a benign or seasonal environment that promotes demographic trends favoring the evolution of small clutches. Few demographic data support these assumptions. Alternatively, tropical forest species may experience adverse ecological conditions and lay several small clutches to minimize expected variation in reproductive success - they bet hedge within a breeding season. The ecological factors underlying this strategy are high rates of net loss and long breeding seasons that permit frequent re-nesting. Simulation analyses corroborated the basic premise of this hypothesis - when net losses are high, laying several small clutches is more successful than laying a few large clutches. Demographic implications and uncertainties will also be discussed.

Tuesday, Jan 29, evening staff seminar will be given by Harilaos Lessios, STRI marine ecologist, at 6:30 p.m.

*Variation in space and time of *Excirrolana braziliensis* on the two sides of the isthmus of Panama.*

### Next Week

Tuesday, Feb 5, 12:30 p.m. seminar speaker will be Andrew Martin, University of Hawaii.

*Variation in rates of mitochondrial DNA evolution in vertebrates.*



Recent visit by Exxon fellows, assistants, volunteers and employees to study site of Oil Spill Project, east of Galeta. H. Guzmán spoke to the group about the project.

*Visita reciente de becarios y asistentes Exxon, voluntarios y empleados a un sitio de estudio del Proyecto de Efectos del Derrame de Petróleo, al este de Galeta. Héctor Guzmán habló sobre el proyecto.*

(Foto: Marco Díaz)

## PEOPLE

### Arrivals

Guillermo Goldstein, Mellon Fellow, Jan 29-Feb 27, to work on water use efficiency by tropical plants on BCI. Arriving with him are Frederick Meinzer, Noel Holbrook & Paula Jackson.

- Jorge Ahumada, Princeton University, Jan 29-Feb 3, accompanied by Kyle Harms & Hiroshi Akasaki, to conduct research on BCI.
- Ernest Williams, Harvard University, Feb 1-Apr 30, to collaborate with S. Rand on studies of anoles of Soroa.
- Ernst Mayr, Harvard University, Jan 31-Feb 26, to work on papers of evolutionary biology.
- Maria Argenis Bonilla, Universidad Nacional de Colombia, Jan 30-Apr 30, Exxon assistant to D. Roubik.
- Sally Levings, Jan 26-Feb 15, to attend the annual meeting of the Oil Spill Scientific Review Board & consult with staff.

### Departures

- Jan 27-Feb 6, Leopoldo León, STRI Budget Analyst, to SI, Washington D.C. on official business.
- Jan 28-Feb 15, Gwen Keller & Javier Jara, assistants to J. Jackson, to Curaçao, to collect cheilostome bryozoans for ongoing research.

### Get Well Wishes!

To Vielka Vergel, who is on her way to recovery after a small operation. Best wishes for a fast recovery and prompt return.

## THINGS YOU SHOULD KNOW

### For All PROFS Users

There is a BITNET virus being sent around called GAME2 MODULE. When executed, it replicates and sends itself to all your correspondents. If you receive this particular file, please call one of the following people IMMEDIATELY:

Ray Mrohs 202-357-4249

Mignon Erixon-Stanford 202-357-4243

Barbara Weitbrecht 202-357-4248

### Health Risk Appraisal Clinic

With the support of the U.S. MEDDAC PANAMA, STRI will hold a Heart Risk Appraisal Clinic on Jan 30 and 31st, 1991. All STRI personnel are encouraged to participate.

It will take no more than ten minutes per person. The clinic will be running from 7:15-4:15 on Wednesday Jan 30 and Thursday Jan 31 at the Tupper Conference Center Meeting Rooms.

### 1991 Brooks Award Nominations Due

The Robert A. Brooks Awards for Excellence in Administration was established to honor the memory of former SI Under Secretary. Send nominations by Mar 15, 1991 to Management Analysis Office (MAO), 955 L'Enfant Plaza, Room 7500.

### James E. Webb Fellowship Program

This program promotes excellence in management of cultural and scientific not-for-profit organizations by developing management abilities of individuals, particularly Smithsonian staff members, with career aspirations in this field.

March 1, 1991 is the deadline for applying for fellowships to begin after Jun 1. For program guidelines and application materials, contact Bruce Morrison, Office of Fellowships & Grants, 202-287-3271 or the STRI Office of Education and Conservation.

## ANNOUNCEMENTS

### Position Available

The Department of Biological Sciences at the University of Illinois at Chicago is seeking an Assistant Professor in ecological and evolutionary genetics. The successful candidate will be expected to have a Ph.D., and an established interest in the application of genetics to

ecological and evolutionary questions.

Candidates should submit a curriculum vitae, statements of research interests, reprints and preprints, and the names, addresses and the telephone numbers of three referees to:

Dr. Sidney Simpson

Head, Dpt. of Biological Sciences (M/C 066)

E & E Search, Box 4348

University of Illinois at Chicago

Chicago, IL 60680

Applications will be reviewed starting February 1, 1991, and continue until the position is filled.

### Grants Available

The Pan American Continental Section (PACS) of the International Council for Bird Preservation (ICBP) provides small grants for worthy conservation projects in Central and South America and the Caribbean. Grants average \$550-2,500. Project proposals must contain specific conservation objectives and activities; authors must follow guidelines for the format of their proposals; and proposals must be limited to 7 pages of single-spaced text, not including curriculum vitae and support materials. Projects are reviewed twice per year, in May and Dec. The deadline for the May meeting is 1 Feb 1991. For a set of guidelines write:

Dr. Mercedes Foster

Chairman, ICBP - PACS

US Fish and Wildlife Service

Ntl. Museum of Natural History, Room E-602

10th and Constitution Ave., NW

Washington, DC 20560

World Nature Association is offering grants of up to \$2,000 for education projects related to endangered flora and fauna field studies. For more information, write: P.O. Box 673

Woodmore Station

Silver Spring, MD, 20901

### Eventos Culturales

Recital de Jazz en el Teatro Balboa el 31 de enero y 1 de febrero. Boletos en la Librería Argosy y el Valent Recreation Center. Misha Alperin y Arkady Shilkloper de Rusia.



En el STRI, Centro Tupper, el Grupo Oberlin, Lizzy Leigh y Helga Coster darán un concierto el miércoles 30 de enero al mediodía en el auditorio, en agradecimiento al Instituto por el uso de dicho auditorio para sus prácticas.

## FROM OTHER SOURCES

### *El Plan de Acción Forestal para Centro América*

por Jorge Rodríguez, coordinador PAF-CA

*Tomado del Boletín Recursos*

En la región centroamericana, la actividad forestal se ha caracterizado hasta ahora por un mal manejo de los recursos naturales existentes y por ser altamente extractiva. Eso se debe en parte a que los servicios forestales existentes carecen de suficiente poder político, sufren muchas veces de falta de liderazgo, y sus técnicos, con una preparación académica débil, no ofrecen alternativas de manejo sostenibles viables para el recurso... Un Plan de Acción Forestal para Centro América podría, en este contexto, convertirse en la herramienta necesaria para establecer mecanismos regionales de cooperación para la utilización racional de recursos naturales y el restablecimiento del equilibrio ecológico tan fundamentalmente alterado en las últimas dos décadas. Tal Plan se está diseñando actualmente, dentro del marco de la Comisión Centroamericana de Ambiente y Desarrollo (CCAD), creada por los Presidentes del área en diciembre de 1989... El Plan cuenta con un grupo informal de asesores forestales provenientes de diversas instituciones, países, donantes y bancos. Este grupo, tomando en consideración la solicitud de los gobiernos del área, acordó apoyar la formulación de planes de acción forestal a nivel nacional. Tales acciones serán ejecutadas por equipos financiados por diversos donantes que brindarán apoyo económico y técnico, según las necesidades de cada país... Una dificultad que es común en todos los países de la región es la falta de poder político de los Servicios Forestales... Otros problemas importantes de destacar en las primeras etapas del proceso son la poca participación de los grupos indígenas y de mujeres en la elaboración del PAF y el enfrentamiento que ha surgido entre preservacionistas y desarrollistas. Esperamos que en las próximas etapas sean considerados estos factores.

### More on 'Plastic' Pollution

#### *Did you know?*

- Each American uses about 190 pounds of plastic per year - and about 60 pounds of it is packaging which is discarded as soon as the package is opened.
- About 30% of all plastic produced are used for packaging.
- Americans go through 2.5 million plastic bottles every hour.
- Packaging waste accounts for approximately 1/3 of all the garbage Americans send to landfills.

- Roughly 5 million tons - more than half of all plastic thrown away each year - are packaging.

#### *Simple things to do:*

Keep your eyes open when you shop. Everything you buy has an effect on the environment - try to make it a positive one.

Some examples of simple "precycling":

- Buy eggs in cardboards -not styrofoam- cartons.
- Most cereal boxes are made of recycled cardboard. It's easy to tell - the boxes are gray on the inside. The packaging for many varieties of cookies, crackers, dry goods, etc. are also recycled. Look for the "recycled" logo.
- Buy in bulk: It's cheaper, and uses minimal packaging (in some places, you can even bring your own container).
- Buy carrots, onions, tomatoes, etc. loose, and not in plastic bags.
- Buy beverages in glass or aluminum containers, which are easy to recycle. You can also choose sauces, condiments, baby food, spreads, etc. that are packed in glass instead of plastic.
- Avoid plastic containers, specially "squeezable" ones, which are made of different types of plastic in several layers, and are dramatically non-biodegradable.

#### *If you want to do more:*

- Teach your children to precycle. Children are particularly susceptible to loud, colorful packaging, specially on products they have seen on TV. But they are also quick learners, and have a special fondness for nature. Teach them that they can help save their Earth by using one kind of product instead of another, by caring for their toys so they will not need replacing, by getting involved, as you are, in "doing it right, from the start."
- Urge your community to adopt precycling measures to promote precycling awareness.

## STRI NEW PUBLICATIONS

Brucher, Enrique H. 1990. "The Dispersal of Useful Plants over the Isthmus of Panama." *Plant Research and Development* 30: 47-61.

Bush, Mark B., Colinvaux, Paul A., Wiemann, Michael C., Piperno, Dolores R. and Liu, Kam-Biu. 1990. "Late Pleistocene Temperature Depression and Vegetation Change in Ecuadorian Amazonia." *Quaternary Research* 34: 330-345.

Ciochon, Russell L., Piperno, Dolores R. and Thomp-

- on, Robert G. 1990. "Opal Phytoliths found on the Teeth of the Extinct Ape *Gigantopithecus blacki*: Implications for Paleodietary Studies." *Proceedings of the National Academy of Sciences* 87: 8120-8124.
- Correa A., Mireya D. 1990. "Panamá." In: *Especies Vegetales Promisorias de los Países del Convenio Andrés Bello, Tomo III*. Edited by Jaime Enrique Correa Q. and Henry Yesid Bernal. Bogotá: Editora Guadalupe.
- Dudley, Robert. 1990. "Thanatosis in the Neotropical Butterfly *Cakigo illioneus* (Nymphalidae: Brassolinae)." *Journal of Research on the Lepidoptera* 28(1-2): 125.
- Dudley, Robert and DeVries, Philip D. 1990. "Tropical Rain Forest Structure and the Geographical Distribution of Gliding Vertebrates." *Biotropica* 22: 432-434.
- Eberhard, William G. 1990. "Function and Phylogeny of Spider Webs." *Annual Review of Ecology and Systematics* 21: 341-372.
- Henry, Charles S. and Wells, Marta Martínez. 1990. "Geographical Variation in the Song of *Chrysoperla plorabunda* (Neuroptera: Chrysopidae) in North America." *Annals of the Entomological Society of America* 83(3): 317-325.
- Hubbard, Michael H. and Flowers, R. Wills. 1990. "Intersexuality and Homeotic Manifestation of Secondary Sexual Characters in *Baetodes* (Ephemeroptera: Baetidae: Baetinae)" in *Mayflies and Stoneflies* ed. by I.C. Campbell: 351-355.
- Karr, James R., Nichols, James D., Klimbiewicz, M. Kathleen and Brawn, Jeffrey D. 1990. "Survival Rates of Tropical and Temperate Forests: Will the Dogma Survive?" *The American Naturalist* 136(3): 277-291.
- Leigh, Jr., Egbert G. and Wright, S. Joseph. 1990. "The Role of Barro Colorado in Tropical Biology." In: *Four Neotropical Forests: 28-47*, ed. by A.H./ Gentry. Yale University Press.
- Ryan, Michael J. 1990. "Signals, Species, and Sexual Selection." *American Scientist* 78: 46-52.
- Srygley, Robert B. and Chai, Peng. 1990. "Flight Morphology of Neotropical Butterflies: Palatability and Distribution of Mass to the Thorax and Abdomen." *Oecologia* 84: 491-499.
- William-Linera, Guadalupe. 1990. "Vegetation Structure and Environmental-Conditions of Forest Edges in Panama." *Journal of Ecology* 78(2): 356-373.
- Windsor, Donald M. 1990. "Climate and Moisture Variability in a Tropical Forest: Long-Term Records from Barro Colorado Island, Panama." *Smithsonian Contributions to the Earth Sciences* No. 29: 145p.
- Wong, M., Wright, S. Joseph, Hubbell, Stephen P. and Foster, R.F. 1990. "The Spatial Pattern and Reproductive Consequences of Outbreak Defoliation in *Quararibea asterolepsis*, a tropical tree." *Journal of Ecology* 78: 579-588.
- Wright, S. Joseph and Cornejo, F.H. 1990. "Seasonal Drought and the Timing of Leaf Fall in a Tropical Forest." *Ecology* 70: 1165-1175.
- Wright, S. Joseph and Cornejo, F.H. 1990. "Seasonal Drought and the Timing of Flowering and Leaf Fall in a Neotropical Forest." In: *The Reproductive Biology of Tropical Forest Plants: 49-61*, ed. by K. Bawa and M. Hadley. Paris: UNESCO.
- Wright, S. Joseph. 1990. "Conservation in a Variable Environment: The Optimal Size of Reserves." In: *Living in a Patchy Environment: 187-196*, ed. by B. Shorrocks and A. Swingland. Oxford University Press.
- Wright, S. Joseph. 1990. "Cumulative Satiation of a Seed Predator over the Fruiting Season of its Host." *Oikos* 58: 272-276.

### STRI LIBRARY NEW BOOK LIST

- Arecaceae (A. Henderson, 1990) QK495.P17H496 1990 STRI.
- Les Catastrophes ecologiques (F. Ramade, 1987)  
QH75.R16 1987 STRI.
- Dawn of the age of mammals in the northern part of the Rocky Mountain interior, North America (TM Bown & KD Rose, eds., 1990) QE881.D275 1990X STRI.
- Epidemics of plant diseases: mathematical analysis and modelling (J. Kranz, ed., 1990) SB731.E65 1990X STRI.
- The Evolution of human hunting (Spring Systematics (9th: 1986: Chicago, Ill.), 1987) GN799.H84S65 1986X STRI.
- Fisheries acoustics: a symposium held in Bergen, 21-24 June 1982 (RE Craig, 1984) SH344.23.E3F53 1982 STRI.
- From cremation to inhumation: burial practices at Ialysos and Kameiros during the mid-Archaic period, ca. 625-525 B.C. (C. Gates, 1983) DF261.I34G38 1983X STRI.
- Great geological controversies (A. Hallam, 1989) QE11.H35 1989X STRI.
- Knowledge and power in a South Pacific society (L. Lindstrom, 1990) DU760.L54 1990X STRI.
- Lecythidaceae (GT Prance & SA Mori, 1990) QK495.L42P7X STRI.
- Mathematical ecology of plant species competition: a class of deterministic models for binary mixtures of plant genotypes (AG Pakes, 1990) QK911.P35 1990X STRI.
- The Petroglyphs in the Guianas and the adjacent areas of Brazil and Venezuela: an inventory with a comprehensive bibliography of South American and Antillean petroglyphs (CN Dubelaar, 1986) F2230.1.P48D83 1986X STRI.