

SEMINARS - ANCON CONFERENCE ROOM

Tuesday, April 4, noon seminar speaker will be TAMIIJI INOUE, University of Kyoto.

Division of Labor among Workers of Stingless Bees.

Abstract: Workers of stingless bees (Meliponini, Apidae) have been thought to divide tasks based on ages, from brood care when young to nest guards in middle age to foraging in the later ages. In the Asian stingless bee, *Trigona minangkabau*, I found that ages could explain only some of the total variation of individual task performance. There were four distinguishable worker groups: core brood workers performed brood caring in the nest until the end of life, foragers skipped such intranidal tasks and started foraging at young ages, and others. Observations of various colony conditions clarified that one of the important factors which determined individual task performance patterns was the relative abundance of younger workers. I will compare these results with division of labor of the other bees, especially honey bees.

NEXT WEEK

Tuesday, April 11, noon seminar speaker will be JOEL B. HAGEN, SI Natural Museum of American History.

Tropical Biology in an American Context: The Institute for Research in Tropical America, 1918-1940.

ARRIVING

April 1 - June 30, JUAN LOPEZ G., Universidad Javeriana, Colombia, to study fish predators of crab larvae in the rocky Pacific intertidal.

April 2 - May 1, ELIOT BRENOWITZ, University of Washington, and assistant PATRICIA LOESCHE, to study neuroendocrine correlates of vocal behavior in Panamanian birds.

April 6 - July 15, RACHEL LEVIN, University of Washington, and assistants CYNTHIA SIMS and DONNA WEIFORD, to continue study on male and female reproductive strategies in a tropical wren.

April 5 - 25, ROBERT STALLARD, U.S. Geological Survey, to continue studies of gases out of Panamanian soils.

DEPARTING

April 2 - 17, ROSA ZAMBRANO, to Washington D.C. to attend a training course "Accounting Procedures in Federal Agencies", to consult with SI Accounting Office personnel, and on a short vacation.

April 2, JEREMY JACKSON, to Costa Rica for two weeks to study the neogene paleontology and stratigraphy of the Limon region.

NEW BOOK BY STRI SCIENTIST

JEREMY B. C. JACKSON and F. K. MCKINNEY have just published a new book, *Bryozoan Evolution*-- presenting descriptions of major patterns of evolution of bryozoan colony form.

CALENDAR

APRIL 1989						
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9	10	11	12	13	14	15
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23	24	25	26	27	28	29
30						

April 11, Scientific Staff Meeting.

April 14 - 16, Conservation Fair at the Metropolitan Nature Park.

A WORD OF CAUTION

Anyone of us can become lost, incapacitated or detained during our field work in the Republic of Panama. STRI will attempt to respond to your disappearance using all resources at its disposal. To do so, however, STRI must 1) sense that you are missing and 2) know where you went. Therefore, we urge all STRI researchers (visitors, assistants, fellows, staff, etc.) working away from a facility to leave information on destination and expected time of return with a family member or other member of the STRI community. This is especially important for researchers traveling into the "interior" (for fun or work), Pipeline Road, Cerro Azul, Cerro Campana, El Llano-Carti Road, etc.

NEW FAX

Effective today BCI has a working fax # 52-3065.

ANNUAL LEAVE

Maria Luz Jimenez, April 3 - May 12.

FROM PROCUREMENT

CHEMICALS

During the past months we have experienced some delays in the purchase of some chemical reagents. We remind requestors that "toxic" or "hazardous" materials will not be accepted for mailing via U.S. Postal System, only via Air Freight, i.e. Azocarmine B, Aniline, Phosphotungstic Acid. Other chemicals are perishable and must be shipped via Air Freight, with dry ice, i.e. Glutaraldehyde. This will increase the cost of the order by 60% or more. Some chemicals can only be shipped via Ocean Freight, and some can not be exported at all. We suggest you contact Sigma Chemical Co. (collect) 314-771-5765, or Aldrich Chemical Co. 414-273-3850, if you have any doubts.

MATERIAL SAFETY DATA SHEETS

Chemical manufacturers and importers must develop an MSDS for each hazardous chemical they produce or import, and must provide the MSDS automatically at the time of the initial shipment of a hazardous chemical.

We are trying to get the MSDS for the chemicals already in stock at STRI. As soon as they are available you will get your copies.

US TAX INFORMATION AVAILABLE

The Information Service of the U.S. Embassy and the U.S. Internal Revenue Service are announcing seminars and other assistance to U.S. taxpayers who reside in the Panama City area on April 3, 6, and 7 from 9:00 a.m. - noon and 2:00 - 4:30 p.m. at the Anayansi building, corner of 38th Street and Republic of Chile Avenue. For appointments call 27-1777.

PCC and other U.S. government employees will receive the same assistance at the Cardenas Community Center on April 4 and 5, from 8:30 a.m. - noon and from 1:00 - 4:00 p.m.

CONSERVATION NEWS

The new U.S. Ambassador to the United Nations has strong environmental credentials. THOMAS PICKERING served in the late 1970's as Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs.

WILLIAM K. REILLY, president of World Wildlife Fund-U.S. and the Conservation Foundation, is the new Administrator of the U.S. Environmental Protection Agency.

COURSES, SYMPOSIA, CONGRESSES / CURSOS, SIMPOSIOS, CONGRESOS

Joint Conference of the Conservation Education Association and the North American Association for Environment Education.

August 18 - 23, 1989

The Rockies

Contact: M. Gross, Chair Natural Res, U. of Wisconsin, Stevens Point, Wisconsin, WI 5448.

Sexto Simposio Científico y Quintas Jornadas de Tecnología y Economía Pesquera.

7 y 8 de diciembre de 1989

Montevideo, Uruguay

Contacto: Héctor Otero, Secretario Técnico de la Comisión Técnica Mixta del Frente Marítimo, Juncal 1355 P. 6 Esc. 604, Montevideo, Uruguay.

Fourth International Congress of Systematic and Evolutionary Biology. (First announcement)

July 1 - 7, 1990

University of Maryland, College Park, USA

Contact: Congress Secretary, ICSEB-IV, Department of Microbiology, University of Maryland, College Park, Maryland 20742.

RED LATINOAMERICANA DE BOTANICA

El 2 de febrero de 1988 se creó en Sao Paulo la Red Latinoamericana de Botánica (RLB), con la participación de investigadores de la Región. Inicialmente la Red apoyará la realización de estudios de postgrado en América Latina, con la colaboración de seis centros de estudio en diferentes países de la Región, cada uno con recursos humanos e infraestructura de laboratorios, colecciones sistemáticas y bibliotecas adecuadas para impartir docencia de postgrado de alto nivel.

Pueden postular a una beca RLB las personas con título de pregrado. Serán especialmente bienvenidas las postulaciones de personas recientemente contratadas en universidades, institutos de investigación, instituciones estatales y no estatales.

Para mayor información, escribir a la Dra. Mary T. Kalin, Coordinadora de la Red Latinoamericana de Botánica, Facultad de Ciencias, Universidad de Chile, Casilla 653, Santiago, Chile.

FOR SALE

Window air conditioner, electric brisler (for cereals, crackers, pasta, etc.), small table, and miscellaneous kitchen items. Call Shirley Echelman at 64-1462, evenings.

STRI LIBRARY NEW BOOK LIST

ADVANCES IN INSECT PHYSIOLOGY, v.21
(Academic Press, 1988)
STRI Serial.

BRYOZOA: PAST AND PRESENT: Papers
presented at the 7th International Conference on
Bryozoa (International Conference on Bryozoa
7th: 1986: Bellingham, Wash., 1987)
QL396.I58 1986X STRI.

CEPHALOPODS PRESENT AND PAST: O.H.
SCHINDEWOLF SYMPOSIUM, TUBINGEN, 1985
(J. Wiedmann & J. Kullmann, 1985)
QE806.I612 1985 STRI.

EVOLUTIONARY BIOLOGY, v.23 (Appleton-
Century-Crofts, 1988)
STRI Serial.

FLOWERING PLANTS IN WEST AFRICA (M.
Steenft, 1988)
QK393.S743 1988X STRI.

LIFE HISTORY, FORAGING ECOLOGY, AND
TERRITORIAL BEHAVIOR OF THE HAWAIIAN
BUTTERFLYFISH, Chaetodon multicinctus (TC
Tricas, 1988)
QL638.C48T82 1988 STRI.

EL MESOZOICO DE AMERICA DEL SUR Y SUS
TETRAPODOS (JF Bonaparte, 1978)
QE841.B66X STRI.

MUTATION, DEVELOPMENTAL SELECTION, AND
PLANT EVOLUTION (EJ Klekowski, 1988)
QK981.K54 1988X STRI.

NUTRIENT REQUIREMENTS OF SHEEP
(Subcommittee on Sheep Nutrition, Committee on
Animal Nutrition, Board on Agriculture, National
Research Council, 1985)
SF376.N85 1985X STRI.

NUTRIENT REQUIREMENTS OF SWINE
(Subcommittee on Swine Nutrition, Committee on
Animal Nutrition, Board on Agriculture, National
Research Council, 1988)
SF396.5.N87 1988X STRI.

PALEOGNATHOUS BIRDS FROM THE EARLY
TERTIARY OF THE NORTHERN HEMISPHERE
(PW Houde, 1988)
QE871.H83 1988 STRI.

PRECLASSIC CERAMIC TRADITIONS IN
CENTRAL MEXICO (RM Johnson & BA Bridges,
1985)
F1219.3.P8S7 1985X STRI.

SPECIATION AND GEOGRAPHIC VARIATION IN
BLACK-TAILED GNATCATCHERS (JL Atwood,
1988)
QL696.P279A88 1988 STRI.

WHITAKER'S BOOKS IN PRINT, 4 vols. set, 1988
(Whitaker Firm Publishers, 1988)
Z2001.B86 STRI Ref.

TO BRIGHTEN UP YOUR DAY...

DID YOU KNOW?

The greatest force generated in nature is the 400 g averaged by the click beetle (*Athous haemorrhoidalis*) when jack knifing into the air to escape predators. This resilient beetle endures a peak brain deceleration of 2300 g during the movement.

FROM THE NEW NEW WORDS DICTIONARY

fuzzword n. An apparently precise word that nevertheless confuses communication; elegant gobbledegook that gives the impression of clarity and sense while deliberately obfuscating.

granola n. Updated word for "bohemian": an individual whose lifestyle is earthy, unconventional, and self-designed.

mushroom n. A hairstyle popularized by athletes, the mushroom leaves only a round or square mat of hair on top of the head. The rest of the head is clean-shaven.

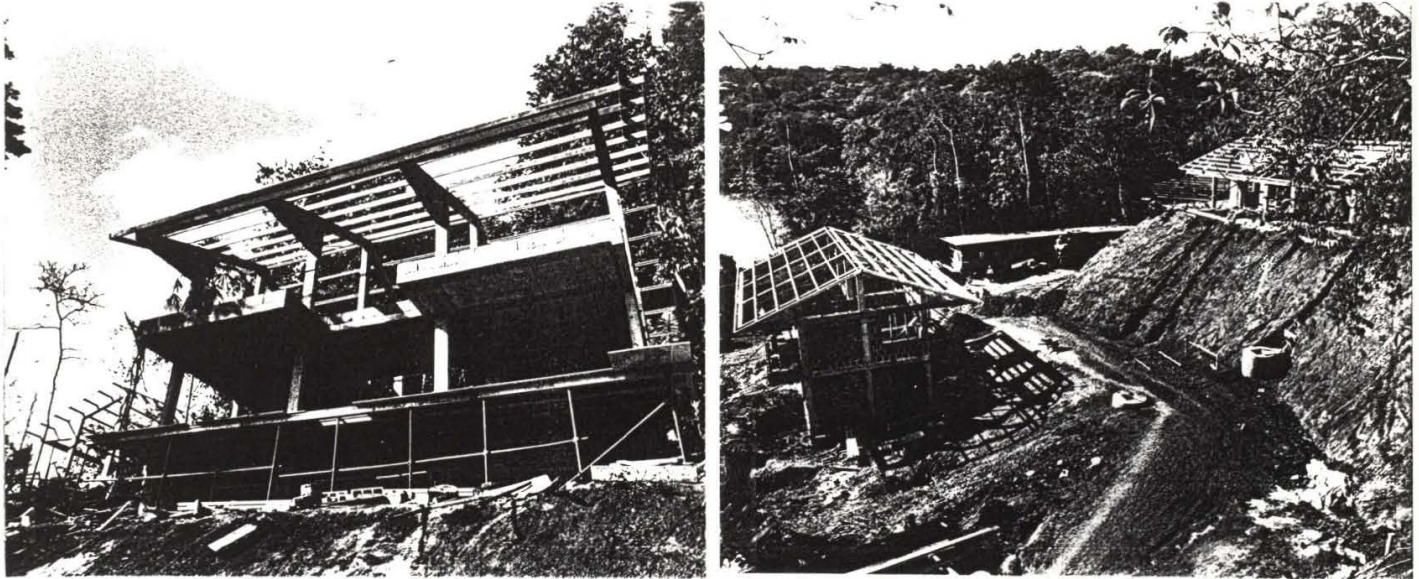
toyetic adj. Having the potential for being translated into a popular toy, as for example the movie character Rambo or the characters and gadgets from the film Star Wars.

COMEDY

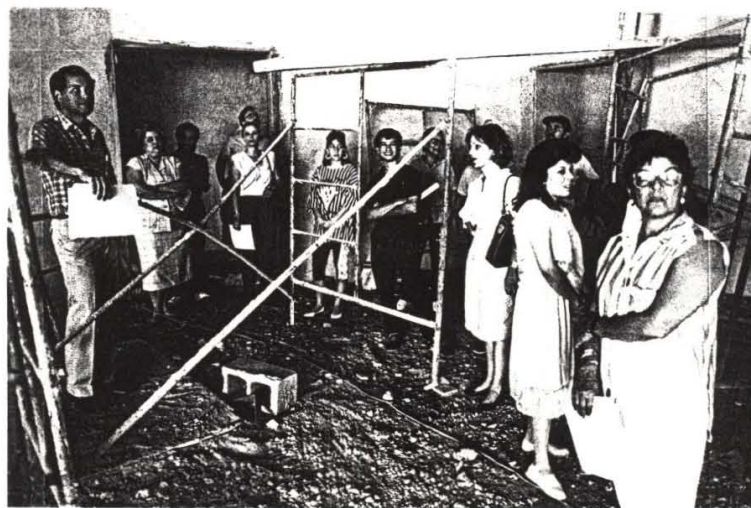
Where can a man buy a cap for his knee?
Or a key to a lock of his hair?
Can your eyes be called an academy
Because there are two pupils there?
What jewels are in the crown of your head?
Who walked the bridge of you nose?
Can you do the shingling in the roof of your
mouth
With the nails on the ends of your toes?
Can the crook of your elbow be sent to jail?
If so, what did it do?
Can you sit in the shade of the palm of your
hand?
Be darned if I know, do you?
Did you ever sharpen your shoulder blades?
Can you beat the drums in your ears?
Do the calves in your legs eat the corn on
your toes?
Then why not grow corn on the ears?

--Author Unknown

STRI CONSTRUCTION NEWS



BCI construction is 36% complete. Construction of the last two dormitory units, the gravel base and pavement has started. The photo on the left shows a close-up of the Lounge and Laundry Building. The photo on the right shows the Dormitory Building located across from the Lounge/Laundry. (Photos by C. Hansen.)



Work on the Tupper Center by the end of February was over 85% complete. Exterior work in progress includes laying of foundations in the plaza surrounding the big tree, painting, completion of covered walks and access stairs to the south parking lot, completion of the animal cages and installation of cooling towers. Interior activities include installation of floor and wall tiles, painting, and installation of laboratory furniture and the air handling unit. The photo above shows a visit by Ancon personnel, who will move shortly to the new center. (Photo by C. Hansen.)