

Tuesday, November 7, noon seminar speaker will be **Pierre Forget, University of Paris, France.**

Part 1: Seed-dispersal and recruitment in eight tree species in French Guiana

Part 2: Seed-dispersal by large rodents at BCI (Panama)

Abstract

Part 1: Based on the seed-dispersal methods (bursting, gravity, wind, rodents, bats, monkeys and birds), eight species have been chosen among the Caesalpiniaceae (6) and the Myristicaceae (2) in order to study their long-term recruitment. Fruiting, seed-predation, seed-dispersal and seeding establishment firstly, and a comparative analysis of the juvenile and tree populations secondly, of three species lead to describe three contrasting recruitment patterns. Considering the eight species recruitment features, a continuum of recruitment patterns is proposed from species with the lowest seed-dispersal distances, a high shade-tolerance and a clumped distribution, to species with the largest seed-dispersal distances, a low shade-tolerance and a thin distribution. **Part 2:** A one-year study will take place at Barro Colorado Island on the relationships between rodents such as agoutis (*Dasiprocta punctata*), squirrels (*Sciurus granatensis*) and spiny rats (*Proechimys semispinosus*), and two large-seeded plants such as *Dipteryx panamensis* and *Gustavia superba*. These three are chosen because their recruitment patterns are already well known, and they present a set of contrasting features concerning fruiting phenology, seed morphology, germination delay and seed predation. Plots with marked seeds will be prepared both near the parent tree and farther, and surveyed along the fruiting period. After seed removal, buried seed in caches, and later germinations, will be census until the next dry season in order to compare the impact of rodents in function of the rainfall and the fruit availability, and to measure the consequences of seed predation and seed dispersal on the seedling distribution.

Tuesday, November 7, evening scientific staff seminar at 6:30 p.m.:
Plant phenology and seasonal draught in a moist tropical forest

by Joseph Wright

From the Director's Office

Scientific Staff Meeting will be held this month on November 28th.

DIAS FERIDADOS - HOLIDAYS

El viernes 3 de noviembre, Panamá celebra 86 años de su independencia de Colombia, y es un día feriado para todos los empleados del STRI. El siguiente viernes 10, STRI conmemora el día de Veteranos, y también es feriado, así como el jueves 23 de noviembre, día de Acción de Gracias (Thanksgiving).

November 3: Panama's Independence day

November 10: Veterans' day

November 23: Thanksgiving day

ARRIVALS

•November 3-December 6, **Steve Garrity** to attend the Scientific Review Board Meeting, and continue his work on mangrove roots.

•November 4 - 13, **William Booth**, to consult with various STRI staff regarding their research, and to attend the *Primer Congreso Indígena Interamericano sobre Conservación de Recursos Naturales y Medio Ambiente, Ciudad de Panamá, 6-11 de Noviembre.*

•November 6, 1989 - January 1990, **Thomas Smith**, University of Florida, Gainesville, to study seed predation and leaf litter processing by grassid crabs.

•November 8-22, **Michael Marshall**, to attend the Scientific Review Board Meeting and continue his studies on subtidal seagrass.

DEPARTURES

•November 4-18. **Henk Wolda**, at the invitation of the University of Groningen, Netherlands, to participate in the celebration of their 350th anniversary.

•November 6-24. **Ira Rubinoff** will be travelling to Washington D.C. on official business, and will continue to Kenya to consult with officials of the United Nations Environmental Program, and to visit the Nepala Ranch regarding the possibility of biological research at this site.

On leave during November:

Ismael González, November 1st to December 8th

Marcel Epailly, November 2-9

María Morello, November 7-9

Isis Estribí, November 20-24

TUPPER CENTER UPDATE•

•IRHE finished electricity installations for the Tupper Center on Wednesday October 25 •Air conditioning system will be tested Thursday, November 2 •Moving of new furniture is scheduled to start Monday, November 6 •Final acceptance is tentatively scheduled for November 27th.

NEW PUBLICATIONS

•Brucher, Heinz. 1989. *Useful Plants of Neotropical Origin*. New York: Springer-Heidelberg.

•D'Croz, Luis, Rosario, J.D. and Holness, R. "Degradation of red mangrove (*Rhizophora mangle* L.) leaves in the Bay of Panama." *Rev. Biol. Trop.*, 37(1): 101-104.

•Roubik, David W. 1989. *Ecology and Natural History of Tropical Bees*. New York: Cambridge University Press, 514p.

From the Photolab

Marcos Guerra is looking for users of his new custom designed sensor device, capable of photographing rare moments with life subjects. This device is triggered by sound or vibration, is equipped with Ni.cd. batteries recharged by system's solar panel or AC current overnight. So far triggers Nikon F-3 motordrive, but other connections are in progress. Call Marcos for details at 62-2008.

LOS AULLADORES DE BCI

En un emocionante partido final, los **Aulladores de BCI** se adjudicaron el Primer Torneo de Futbolito de la División de Dragas, al imponerse 1 x 0 al Deportivo Cajar.

El partido fue dominado por los **Aulladores** lográndose el gol de la victoria en el segundo tiempo, por Juan Carlos Roqueiro (empatando con Gely Abrego como máximo goleador, ambos con 5 goles). También se destacó la gran labor del arquero "la Araña Pepe" que defendió con gran habilidad y coraje, en especial en el partido del miércoles 25 de octubre.

Luego del partido final, se celebró la premiación en el gimnasio de Gamboa, otorgándosele a cada jugador un trofeo y certificado de participación, y el muy anhelado **TROFEO** de manos del Jefe de la División de Dragas, ante la alegría de la **Gran Barra** y de todos los fieles fanáticos de los **Aulladores de BCI**.

Position Available at Earthwatch

Program Officer: The Center for Field Research (Earthwatch) seeks a mature, positive person with a Ph.D. in hand or in progress in zoology, conservation biology, or a related field, to identify and develop a comprehensive program of research in these areas for Earthwatch support. The ideal candidate would have field research experience, some international exposure, and a working knowledge of at least one language apart from English. He/she would also be fully competent on the MACKINTOSH, and have some facility with quantitative tasks •This search will close on 15 November •If interested send a letter and CV to Dr. Margaret G.H. MacLean, Executive Director, The Center for Field Research, 680 Mt. Auburn Street, Box 403AD, Watertown, MA 02272.

STRI Library New Books List

ADVANCED RESEARCH ON ANIMAL CELL TECHNOLOGY (A.O.A. MILLER, Ed., 1987)
TP248.27.A53N37 1987X STRI
 AQUATIC TOXICOLOGY AND WATER QUALITY MANAGEMENT (J.O. NRIAGU AND J.S.S. LAKSHMINARAYANA, Eds., 1989)
TD365.A65 1989 STRI
 ATLAS OF INSECTS BENEFICIAL TO FOREST TREES (B. STARY et al, 1988)
SB764.C95S7313 1988X v.2 STRI
 BIOCHEMICAL AND PHYSIOLOGICAL ASPECTS OF ETHYLENE PRODUCTION IN LOWER AND HIGHER PLANTS (H. CLIJTERS et al, Eds., 1988)
QK898.E8B56 1989X STRI
 BIOECONOMICS OF AQUACULTURE (P.G. ALLEN et al, 1984)
SH135.B56 1984X STRI
 BIOLOGY OF THE GENUS CEPHALORHYNCHUS (R.L. BROWNELL et al, Eds., 1988)
QL737.C432B615 1988 STRI
 THE BORING CTENOSTOMATE BRYOZOA: TAXONOMY AND PALEOBIOLOGY BASED ON CAVITIES IN CALCAREOUS SUBSTRATA (R.A. POHOWSKY, 1978)
QE799.C8P63X 1978 STRI
 THE CALCIUM CHANNEL: STRUCTURE, FUNCTION AND IMPLICATIONS (M.MORAD et al, Eds., 1988)
QP535.C2B39 1988X STRI
 CELL BEHAVIOUR: SHAPE, ADHESION AND MOTILITY (J.E. HEAYSMAN et al, Eds., 1987)
QH595.B86 1987 STRI
 COMMUNITY ECOLOGY (A. HASTINGS, Ed., 1988)
QH541.15.M3C64 1988X STRI
 DEVELOPMENTAL BIOLOGY OF THE AXOLOTL (J.B. ARMSTRONG AND G.M. MALACINSKI, Eds., 1989)
QL668.C23D48 1989X STRI
 THE ENCYCLOPEDIA OF THE ENVIRONMENT (C. TUDGE, Ed., 1988)
QH541.E563 1988 STRI
 FEDERAL STAFF DIRECTORY (C.B. BROWNSON AND A.L. BROWNSON, Eds., 1988)
JK6.F297 STRI

THE FLIGHT OF THE IGUANA: a sidelong view of science and nature (D. QUAMMEN, 1988)
QH45.5.Q358 1988X STRI

FOSSIL LEPADOMORPH, BRACHYLEPADOMORPH, AND VERRUCOMORPH BARNACLES (CIRRIPEIDIA) OF THE AMERICAS (N.E. WEISBORD, 1980)
QE817.C5W38X 1980 STRI

FOSSIL MOLLUSKS FROM CARRIACOU, WEST INDIES (P. JUNG, 1971)
QE801.J79X 1971 STRI

GROWTH AND REPRODUCTIVE STRATEGIES OF FRESHWATER PHYTOPLANKTON. (C.D. SANDGREN, Ed., 1988)
QK935.G76 1988X STRI

GUIA PARA LA IDENTIFICACION DE LAS AVES DE ARGENTINA Y URUGUAY. (T.NAROSKY AND D. YZURIETA, 1987)
QL689.A6N23 1987 STRI

KINETICS OF SOIL CHEMICAL PROCESSES (D.SPARKS, 1989)
S592.53.S67 1989X STRI

LAND REFORM IN LATIN AMERICA: THE DOMINICAN CASE (C.A. MEYER, 1989)
HD1333.D65M49 1989X STRI

LEPADOMORPH AND VERRUCOMORPH BARNACLES (CIRRIPEIDIA) OF FLORIDA AND ADJACENT WATERS, WITH AN ADDENDUM ON THE RHIZOCEPHALA (N.E. WEISBORD, 1979)
QL444.C58W43X 1979 STRI

LONG-TERM STUDIES IN ECOLOGY (G.E. LIKENS, Ed., 1989)
QH540.L66 1989X STRI

MODERN PLANKTONIC FORAMINIFERA (CH. HEMLEBEN et al, 1989)
QL368.F6H46 1989X STRI

THE MOLECULAR BIOLOGY OF FERTILIZATION (H. & G. SCHATTEN, Eds., 1989)
QP273.M65 1989X STRI

A MONOGRAPH OF THE GENERA DICRANOLEJEUNEA AND ACANTHOCOLEUS (R.CH. KRUIJT, 1988)
QK533.7.K94 1988 STRI

MUSSEL CULTURE AND HARVEST: A NORTH AMERICAN PERSPECTIVE (R.A. LUTZ, Ed., 1980)
SH372.5.M87X STRI

NEW NUCLEIC ACID TECHNIQUES (J.M. WALKER, Ed., 1984)
QH506.M45 1984X V.4 STRI

NORTHERN PRAIRIE WETLANDS (A. VAN DER VALK, Ed., 1989)
QH104.5.G73N67 1989X STRI

NUTRIENT REQUIREMENTS OF LABORATORY ANIMALS (NATIONAL RESEARCH COUNCIL, 1978)
SF406.2.N27 1978 STRI

PLANT BIOTECHNOLOGY (S. KUNG AND C.J.ARTZEN, Eds., 1989)
QK981.5.P54 1989X STRI

PRODUCTIVITY OF THE OCEAN: PRESENT AND PAST (W.H. BERGER et al, Eds., 1988)
QH1.8.M34D34 1988X STRI

RADAR SCATTERING FROM MODULATED WIND WAVES (G.J. KOMEN AND W.A. OOST, Eds., 1988)
GC206.W67 1988X STRI

REFUGIO DE FAUNA SILVESTRE RAFAEL LUCAS RODRIGUEZ CABALLERO (PALO VERDE): PLAN DE MANEJO Y DESARROLLO (C. VAUGHAN et al, 1982)
QL84.285.C8R44 1982X STRI

A REPORT ON DENSE FOREST HABITAT FOR ENDANGERED WILDLIFE SPECIES IN COSTA RICA (C. VAUGHAN, 1983)
QL84.285.C8V36 1983 STRI

SEARCHING FOR AGRARIAN REFORM IN LATIN AMERICA (W.C. THIESENHUSEN, Ed., 1989)
HD1333.L29S43 1989X STRI

SEXUAL REPRODUCTION IN HIGHER PLANTS (M. CRESTI et al, Eds., 1988)
QK827.I49 1988X STRI

SHORE ECOLOGY OF THE GULF OF MEXICO (J.C. BRITTON AND B. MORTON, 1989)
QH92.3.B75 1989X STRI

SIGNPOSTS IN THE SEA: proceedings of a multidisciplinary workshop on marine animal orientation (W.F. HERRNKING AND A.B. THISTLE, Eds., 1986)
QL782.5.M96 1986 STRI

THE STRUCTURE AND CONFIRMATION OF EVOLUTIONARY THEORY (E.A. LLOYD, 1988)
QH366.2.L59 1988X STRI

TRANSPORT THROUGH MEMBRANES: CARRIERS, CHANNELS AND PUMPS (A. PULLMAN et al, Eds., 1988)
QH509.J47 1988X STRI

TZUTE AND HIERARCHY IN SOLOLA (G. MAYEN DE CASTELLANOS, 1988)
F1465.3.S62M46 E1988 STRI