

STRI newsletter

May 10, 1991

SMITHSONIAN TROPICAL RESEARCH INSTITUTE - Apartado 2072, Balboa, Panama

No. 19

SEMINARS

Tupper Center Auditorium

Tuesday, May 14, noon seminar speaker will be Barry M. O'Connor, from the Museum of Zoology, University of Michigan.

Mite-Insect Interactions: the Evolution of Symbiotic Associations

Abstract

Symbiotic associations with insects and other arthropods have evolved in most major lineages of mites, with a number of clades undergoing major radiations in conjunction with these associations. Association types range from simple phoresy through several grades of inquilinism and ultimately include direct parasitism. Insect groups serving as hosts to the greatest diversity of mite associates are those which create distinct microhabitats such as communal and social insects, wood borers and cell provisioners. Both ecological and evolutionary constraints have been important in shaping the history of these associations.



Robert Ricklefs, Smithsonian Regents fellow, presented an evening seminar on seabirds and the marine environment last week at the Tupper Center. In 1980, the Smithsonian instituted the Regents fellowship program to attract distinguished scholars who would participate in the research, curatorial, and education programs of the institution. Robert Ricklefs, internationally recognized expert on bird ecology and evolution, has spent several months at STRI this year working on several publications and interacting with colleagues ••• Robert Ricklefs, titular de una beca de los Regentes del Smithsonian dictó un seminario sobre aves de mar y el ambiente marino la semana pasada en el Centro Tupper. En 1980 el Smithsonian estableció un programa de becas de los Regentes para atraer académicos distinguidos a participar en los programas educativos, curatoriales y de investigación de la institución. Robert Ricklefs, experto internacionalmente en ecología y evolución de aves, pasó varios meses de este año en el STRI trabajando en varias publicaciones y consultando con sus colegas.

(Foto: M.A. Guerra)

BCI SEMINARS

Thursday, May 16, evening seminar speaker will be Barry M. O'Connor.

Evolutionary Ecology of Astigmatid Mites

Abstract

The Astigmata is a diverse lineage of mites comprising over 80 families and 800 genera specialized for the exploitation of spatially and/or temporally isolated habitats. Ancestral adaptations of this group include a dimorphic life-cycle in which the deutonymphal instar is specialized for dispersal. Habitats favorable for astigmatid mites include dung, carrion, fungal fruiting bodies, phytotelmata, sap fluxes, subcortical habitats, intertidal habitats, and the nests of insects and vertebrates, including humans (i.e. the

house dust mites). From an ancestral phoretic association with a host which was used to disperse the mite between habitat patches, direct parasitism of the host has evolved in at least 16 separate lineages. Approximately half of the presently known diversity of astigmatid mites consists of permanent parasites which include many important parasites of humans and domestic animals.

There will be a late boat; those interested should contact Maritza Cárdenas, BCI.

Next Week

No noon seminar next Tuesday, May 21.

PEOPLE

Arrivals

- Patricia Backwell, postdoctoral fellow, May 11, 1991-Apr 30, 1992, to study aspects of reproduction in some Panamanian anurans.

- Michael Jennions, University of Witwatersrand, South Africa, May 11-Oct 31, to study interspecific comparison of foam and arboreal frogs.
- Christopher Joyce, reporter from *New Scientist*, May 14-19, to interview scientific staff on the topics of molecular biology, canopy access system, oil spill, and paleobiology.
- James Roper, short-term fellow, May 14-Aug 31, to work on nest predation and its avoidance by nest-site selection in the slaty antshrike *Thamnophilus punctatus*.
- Eric Fischer, National Audubon Society, May 15-21, to continue research on harlequin bass in San Blas.
- Ana Cristina Villegas, short-term fellow from University of Missouri, May 15 -Aug 15, to determine the effect of physiological integration among intracolonial ramets of *Aechmea magdalenae*.
- Patricia Escobar, Exxon fellow, May 15-Aug 15, to study the reintroduction process of five red spider monkeys.
- Luis F. García, Exxon assistant, May 15-Aug 15, to work with Eldredge Bermingham.
- Gartin Fuller, University of Illinois, May 15-Aug 10, to work with C. Sagers on BCI.
- Klaus Winter, May 16, to take up position on STRI scientific staff.

Departures

- John Christy, May 12-17, to the Bahamas to attend the meetings of the Association of Marine Labs of the Caribbean.
- Stanley Rand, May 13-Jun 10, to conduct studies of frogs and collect specimens in Brazil. Will be accompanied by Michael Ryan, U. of Texas.

On leave

- Georgina de Alba, Education Coordinator, from May 13-June 3.
- Carmen Sucre, Personnel Management Specialist, from May 20-31.

THINGS YOU SHOULD KNOW

Important Announcement

No Scientific Staff Meeting on May 14.

Security Alert ••• *Alerta*

Everyone at STRI is alerted that valuables brought or left at STRI facilities should be kept in a secure location and under your own responsibility ••• *Como medida de seguridad se les recuerda que cualquier dinero u objeto personal de valor que traiga a las instalaciones de STRI deberá ser guardado bajo su propia responsabilidad en un lugar seguro y conveniente.*

Federal Fitness Day

Fun run and fun walk at the Amador Causeway!!

Date: Friday, May 17 Time: 2 pm

The course will begin at the IPAT checkpoint, and end at the Naos Lab. The approximate distance is 2.5 km. It begins with an aerobics warm up. Awards will consist of a certificate to be presented to: *Fastest Runner - Male and Female*, and *Fastest Walker - Male and Female*. STRI will provide soft/fruit drinks to participants at the end of the activity.

Please confirm your participation prior to 5 pm., Thursday, May 16, to your facility coordinator, Leopoldo León, Tivoli/Library/Tupper Center or Mercedes Arosemena, Naos/Surfside.

Lost • *Perdida*

María Luz Calderón, STRI Education Office, has lost her wallet and is anxious to recover her documents. If anyone at STRI finds them, she would be very grateful if they are returned to her ••• *María Luz Calderón de la Oficina de Educación perdió su billetera con todos sus documentos. Si cualquier persona encuentra sus documentos en STRI, le estará muy agradecida de que los regresen.*

ANNOUNCEMENTS

New Staff Member

STRI director Ira Rubinoff is pleased to welcome Dr. Klaus Winter as a full-time member of the STRI scientific staff.

Dr. Winter obtained his Ph.D. at the University of Darmstadt and has extensive research experience in the ecology, physiology and biochemistry of plants. He will occupy an office and laboratory in the fifth floor of the Tupper Center and continue his research at Barro Colorado Island.

BCI News

TRASH article to be discussed the evening of May 16— "Frogs in helium: the anuran vocal sac is not a cavity resonance" by Stanley Rand and Robert Dudley. All BCI residents and other interested persons are cordially invited.

Happenings at Tupper Center

May 15/16, XVIII Plenary Meeting of the Mixed Commission on the Environment, Ministry of Foreign Relations, closed meeting.

Coral Reef Exhibits at the Smithsonian Institution

Magical places of great beauty and diversity, the coral reef is home to countless forms of plant and animal life. This vital, delicately balanced ecosystem is represented at the Smithsonian's National Museum of Natural History by a 3000-gallon aquarium system recreating the warm, tropical coral reefs of the Caribbean. Colorful inhabitants of this tank include living corals, sea anemones, algae, crabs, and fishes such as surgeon, parrot and squirrel fish. Sea horses, sea stars, eels and other aquatic life are also represented in the photo exhibit, "Beauties of the Coral Reef", sponsored by the Smithsonian Institution Traveling Exhibition Service.

Smithsonian coral reef T-shirts (with drawings on front and back) are now for sale at the STRI Mini-bookstore for \$12.



Group of park and forest wardens from INRENARE, Parque Metropolitano and STRI with officials from their institutions gathered at the Corotú Plaza after the closing seminar of workshop held from May 1st-7th. These workshops are a continuing effort by the STRI game warden force to coordinate protection activities in the Barro Colorado Nature Monument with neighboring parks and protected areas ••• Grupo de guardabosques y guardaparques de INRENARE, Parque Metropolitano y del STRI junto con representantes de sus instituciones se reunieron en la Plaza Corotú al finalizar el último seminario del taller llevada a cabo del 1 al 7 de mayo. Estos talleres representan el esfuerzo permanente de la fuerza de guardabosques del STRI para coordinar las actividades de protección en el Monumento Natural de Barro Colorado con las de parques vecinos y áreas protegidas.

(Foto: M.A. Guerra)

STRI NEW PUBLICATIONS

Christy, John H. and Salmon, Michael. 1991. "Comparative Studies of Reproductive Behavior in Mantis Shrimps and Fiddler Crabs." *American Zoologists* 31: 329-337.

Petersen, Christopher W. 1990. "The Relationships Among Population Density, Individual Size, Mating Tactics, and Reproductive Success in a Hermaphroditic Fish *Serranus fasciatus*." *Behaviour* 113: 57-80.

Petersen, Christopher W. 1990. "Variation in Reproductive Success and Gonadal Allocation in the Simultaneous Hermaphrodite, *Serranus fasciatus*." *Oecologia* 83: 62-67.

TRAINING

Postdoctoral Fellowships in Molecular Studies of Evolution

The Sloan Foundation believes that although the tools of molecular biology offer exciting possibilities for expanding scientific knowledge about evolution, there are too few scientists trained in the complexities of both evolutionary and molecular

biology. Their postdoctoral awards program is intended for scientists interested in developing relevant interdisciplinary skills. They particularly encourage postdoctoral molecular biologists moving to laboratories devoted to evolutionary biology, and of evolutionary biologists to laboratories of molecular biology.

Awards will support up to two years of research work at a department or laboratory in the U.S. or Canada selected by the applicant. There are no formal application forms needed for this program. Further details and application procedures are as follows:

- Up to 10 fellows. Deadline for receipt of application by Sep 1, 1991.
- Selections to be made in Dec 1991; funding to begin any time after Feb 17, 1992.
- A senior scientist should endorse only one applicant per competition round.
- Stipend: \$25,000 per year to Fellow, inclusive of benefits. \$10,000 per year to sponsoring lab or department.
- Grant Period: 12 to 24 months.

- Eligibility: Fellow - Ph.D. earned within past 5 years or expected by Sep 1992 in molecular biology, evolutionary biology or closely related discipline. (Initiation of postdoc requires completion of Ph.D.)

If interested contact Dr. M.S. Teitelbaum; Alfred P. Sloan Foundation; 630 Fifth Ave., Suite 2550; New York, NY 10111; Tel: 212-649-1649.

FROM OTHER SOURCES

Soberanía National Park and Camino de Cruces

(from the *Panamá America*, April 4, 1991)

Two roads vital to the Spanish economy between XVI and XVII crossed the Isthmus between Portobelo and Panama. One trail was called "El Camino Real"; the other one, the Chagres Road, from Portobelo to the mouth of the Chagres River all the way to the Cruces Point, where an 18 miles road—*El Camino de Cruces*— finally led to Panama.

In the mid-1800's, when Spain started using the route around Cape Horn to communicate with its colonies in South America, the importance of the transisthmian route decreased. The road was widely used again during the mid-1900's when gold miners started using this road during the gold rush.

Gold miners would disembark at the mouth of the Chagres River; each one would pay from 10 to 50 dollars to be taken upriver to Cruces Point by small boats. There, for one dollar, they would rent a small space or stable to sleep. Next morning, these travelers would rent a mule for 20 dollars to be taken all the way to Panama City.

There are twenty other historical sites such as Cruces Point that have been abandoned in the forests near Panama City at Soberanía National Park. The government cannot remain indifferent to historical remains embedded in the forests when thousands of ecological tourists would pay significant amounts of money for the opportunity to visit such sites, especially now that talks are underway to restore the "Camino de Cruces" to attract ecotourism.

The Historical Monuments' Commission from the Professional Society of Architects and Engineers (SPIA) has been investigating these sites for years to inform the public and the authorities about their origins and historical significance.

The SPIA will present their findings at the III Symposium on Restoration and Conservation of Panama's National Patrimony, scheduled for May in the Villa de Los Santos.

El Parque Soberanía y el Camino de Cruces

(tomado del *Panamá América*, 4 de abril 1991)

Dos rutas vitales a la economía española en los siglos 16 y 17 cruzaban el istmo entre Portobelo y Panama. A la vía

terrestre se le llamó El Camino Real; la otra, la Ruta del Chagres, salía de Portobelo y seguía por la costa hasta la desembocadura del Río Chagres, y desde ahí río arriba hasta Venta de Cruces, donde un camino de 18 millas—El Camino de Cruces— conducía finalmente a Panamá.

A mediados del siglo 18, cuando España utiliza la vía del Cabo de Hornos para comunicarse con sus colonias de América del Sur, cesa el auge de la ruta transisthmica. Pero ésta vuelve a llenarse de viajeros a mediados del siglo 19, durante la fiebre de oro en California.

Los buscadores de oro desembarcaban en la boca del Río Chagres y pagaban de diez a cincuenta dólares por cabeza para ser llevados en botes río arriba hasta Venta de Cruces. Allí, por el precio de un dólar, conseguían un pequeño espacio en depósitos o establos donde dormir. A la mañana siguiente, alquilaban una mula por veinte dólares para que los condujeran junto con su equipaje hasta Panamá.

Al igual que Venta de Cruces, otros veinte sitios históricos están abandonados en las selvas cercanas a la ciudad de Panamá en el Parque Nacional Soberanía. El gobierno no puede permanecer indiferente ante restos históricos enclavados en medio de selvas que cientos de miles de turistas ecológicos de todo el mundo pagarían mucho dinero por visitar, en especial ahora que se habla de restaurar el Camino de Cruces para atraer al ecoturismo.

La Comisión de Monumentos Históricos de la SPIA lleva varios años investigando en estos sitios para informar al público y a las autoridades de sus orígenes y significado histórico.

El gremio proyectará sus esfuerzos durante su III Simposio sobre la Restauración y Conservación del Patrimonio Nacional, programado para mayo en la Villa de Los Santos.

REMINDER

One of the ways that the Smithsonian Tropical Research Institute fulfills its educational objective is through its Internship Program. This program is designed for undergraduate students or recent graduates in biology and related disciplines from Panama and other Latin American countries. Through this program staff scientists, visiting scientists, and fellows at STRI can request an intern to work on a project if the intern will gain hands-on experience and training while participating in the particular project.

Next deadline for submitting requests from supervisors to the Education Office for Exxon interns is May 15.