

STRI newsletter

November 1, 1991

SMITHSONIAN TROPICAL RESEARCH INSTITUTE - Apartado 2072, Balboa, Panama

No. 44

TUPPER CENTER SEMINARS

Tuesday, Nov 5, noon seminar speaker will be Jerome Howard, University of Arizona.

Individual Diets of Polyphagous Insect Species: Who's really a Generalist?

Abstract

Concepts about feeding patterns of generalistic herbivores are derived largely from studies of vertebrates. Among insects, grasshoppers (Orthoptera: Acrididae) are widely thought to be most similar to vertebrates in feeding patterns. A study of three desert grasshopper species showed that only one conformed to common expectations about generalized feeding. The other two species showed unexpected abilities and constraints. One species shows induction of host preference, a form of phenotypic plasticity. Phenotypic plasticity for host use is the most common pattern of feeding among polyphagous insects.

Next Week

Tuesday, Nov 12, noon seminar speaker will be Jeffrey Graham, Scripps Institution.

Studies of Pelagic Fish Swimming Performance Using a Large Portable Water Tunnel

SPECIAL SEMINARS

Friday, Nov 8, noon seminar speaker will be C.W. Hart, SI, National Museum of Natural History.

Archibald Tropical Research Center, Dominica: Opportunities for Research

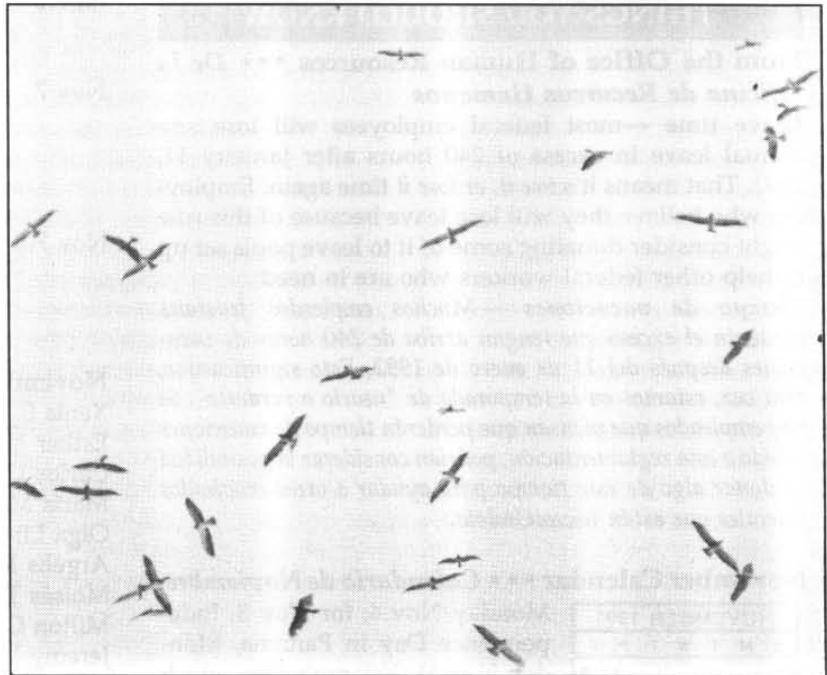
Tuesday, Nov 12 at 6 pm, evening seminar speaker will be Jeffrey Graham, Scripps Institution

Air-breathing Fishes: Respiratory Organs, Systems, and Behavior in the Act of Evolving

PEOPLE

Arrivals

- Olga Linares, STRI Scientist, Nov 1.
- Osamu Yunoki and Kazuo Unno, Japan Broadcasting Corporation, Nov 1-14 to film segment for documentary "Global Family: The Realm of Ants" on BCI,



Buteo swainsoni over Panama on their way to South America. See story in page 3. ••• Buteo swainsoni sobre Panamá durante su viaje hacia Sur América. Lea la historia en página 3.

(Foto: Neal G. Smith)

with Michael Kaspari acting as scientific advisor.

- Fiona Reid, Royal Ontario Museum in Toronto Nov 3-23, to conduct studies of small mammal distribution and ecology.
- Eric Fischer, National Audubon Society, Nov 5-12, to continue his Scholarly Studies Project on Harlequin bass.
- Manfred Pietschmann, Geo Magazine, Hamburg, Germany, Nov 6-15 to interview staff and obtain information about marine research for magazine articles.
- Luis Acosta, Exxon fellow from National Univ. of Colombia to conduct studies on the Sexual Reproduction of *Montastrea cavernosa* with Jeremy Jackson, Nancy Knowlton and Hector Guzman at Naos and Galeta.
- Arriving next week for meetings of the Professional Accomplishment Evaluation Committee (PAEC) are Laurence Abele, Robert Ricklefs, Barbara Stark and Keith Waddington.

Departures

- Noris Salazar, STRI scientist to Iquitos, Perú, Nov 3-8 to attend the First National Congress of Ecology.
- Ana Maria Ford, Tupper Center Secretary, Nov 3-16 to SI, Washington D.C. to attend training course.
- Alan Smith, Assistant Director for Terrestrial Research, Nov 7-16, to SI in Washington D.C. to attend Research Policy Committee Meeting, then to Seattle, WA to consult on tower cranes at the University of Washington.

THINGS YOU SHOULD KNOW

From the Office of Human Resources ••• *De la Oficina de Recursos Humanos*

Leave time —most federal employees will lose any annual leave in excess of 240 hours after January 11, 1992. That means it's *use it, or lose it* time again. Employees who believe they will lose leave because of this rule might consider donating some of it to leave pools set up to help other federal workers who are in need.

Tiempo de vacaciones —*Muchos empleados federales perderán el exceso que tengan arriba de 240 horas de vacaciones después del 11 de enero de 1992. Esto significa que, otra vez, estamos en la temporada de "usarlo o perderlo". Si hay empleados que piensan que perderán tiempo de vacaciones debido a esta reglamentación, podrían considerar la posibilidad de donar algo de este tiempo para ayudar a otros empleados federales que están necesítandolo.*

November Calendar ••• *Calendario de Noviembre*

NOVEMBER 1991						
S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Monday Nov 4, for Nov 3, Independence Day in Panama, Monday Nov 11, Veteran's Day which is also a Panamanian Holiday, and Thursday Nov 28, Thanksgiving Day.

Nov. 15: Deadline for receiving

applications for Exxon and Short Term Fellowships. •••

Lunes 4 de noviembre, para celebrar el día de independencia de Panamá que cae el domingo, el siguiente lunes 11, Día de Veteranos que coincide con un día feriado en Panamá y el jueves 28 de noviembre, día de Acción de Gracias.

Nov 15: Fecha límite para recibir aplicaciones para becas Exxon y de corto plazo.

FY 92 Budget Update

A second Continuing Resolution extends funding for Federal programs until Nov 14. Under this Continuing Resolution, funding is provided at the FY 1991 level.

Our Sincere Condolences ••• *Nuestro Pésame*

To Lidia Mann, Procurement Department for the loss of her mother on Nov 1. ••• *Nuestro más sentido pésame a Lidia Mann, del Departamento de Proveeduría, por la muerte de su madre el 1 de noviembre.*

ANNOUNCEMENTS

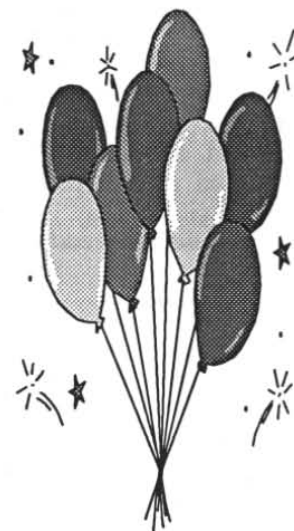
At Tupper Center

Nov 5 Instituto Italiano Enrico Fermi to visit *Parting the Green Curtain* exhibition.

- Nov 6 COABIN Meeting, Meeting Room 9am.
Smithsonian National Associate Program Meeting, Meeting Room, 1:30 pm.
- Nov 7 PANAJURU Conference *Ciclo de Conferencias sobre Agroforestería*, all day.
Instituto Italiano Enrico Fermi to visit exhibition.
Fundación Natura Meeting, Meeting Room.
- Nov 7-8 Professional Accomplishment Evaluation Committee (PAEC) Meetings, Reading Room, from 8am to 5pm.

November Birthdays

Xenia S. Guerra	2
Esther Jaén	3
Carlos Urbina	6
María Morello	7
Olga Linares	10
Argelis Román	10
Moisés Troya	10
Milton García	11
Jeremy Jackson	13
Vielka Vergel	13
Conrado Tapia	13
Luis Cuevas	14
Leopoldo León	15
Zuleika Pinzón	20
Edmundo Rodríguez	22
Nélida Gómez	24
Erasmó Alvarado	25
Mercedes Arroyo	27



New STRI Employee

Pablo Amaris, new Assistant Security Officer (Security Specialist), will begin working at STRI on Nov 3. We welcome Pablo to the STRI family. ••• *Pablo Amaris, Asistente del Director de Seguridad (Especialista en Seguridad) asumirá sus funciones en STRI a partir del 3 de noviembre. Le damos a bienvenida a nuestra comunidad.*

RESEARCH OPPORTUNITIES

Postdoctoral Awards in Marine Science

The Australian Institute of Marine Science is offering Postdoctoral Awards, each of 2 years, for research by scientists in the early stages of their postdoctoral career, who are of exceptional promise and have shown proven capacity for original work in marine science research. AIMS conducts research in four major research programs: Coastal Processes and Resources, Coral Reef

Ecosystems, Environmental Studies and Biotechnology
Tropical Oceanography.

Applications: candidates should submit a full CV, a 2-3 page outline of a project investigation and support requirements. Three professional referee reports should also be arranged. Applications and referee reports must be forwarded to the Secretary, Australian Institute of Marine Science, PMB No 3, Townsville MC, 4810 by no later than 3 January, 1992. Candidates are encouraged to seek additional information on the Institute and its Programs by telephoning the Director (077) 789 211, Fax number (077) 789 386; (International Fax number +61 77 789 386). AIMS is an EEO employer.

Research Fellowships in Marine Biotechnology and the Ocean Sciences • National Science Foundation

The Division of Ocean Sciences will again support a special program of Research Fellowships in Marine Biotechnology and the Ocean Sciences. Fellowships will be awarded for either the post-doctoral or faculty researcher level. Up to ten awards will be offered in FY 92. The deadline for submission of application material is 31 January 1992. Requirement for proposal format cited in Grants for Research and Education in Science and Engineering (NSF90-77, rev. 1990) general apply with alterations listed in the *Program Announcement*. Please contact Marissa Crespo for a copy of the complete announcement.

Smithsonian Internships in Natural History Research

The National Museum of Natural History, part of the Smithsonian Institution located in Washington D.C., offers a structured intern program that involves undergraduate students in natural history research. The main components of the Program are: • *The Research Project* • *Lectures, Discussions, Tours and Field Trips* • *Laboratory Experience and Collection Workshop* • *The Museum Environment*. The summer session last ten weeks; housing, a modest stipend and transportation allowance are provided. Applications are due 15 January 1992 with notification around 8 March 1992. Summer session dates: 25 May-1 Aug, 1992. Application forms and suggested project descriptions may be obtained by completing and mailing a postcard that you may obtain at the Office of Education information display.

Simposio Internacional de Sanidad Vegetal

—Con énfasis en la reducción del uso de productos químicos, 28-31 de enero de 1992, Managua, Nicaragua. Para mayor información dirigirse a: Escuela de Sanidad Vegetal, Universidad Nacional Agraria, Apartado Postal 453, Tel. 02-31619, Ext. 104. Fax 02-31950.



Migration pattern of Buteo swainsoni that allows them to live in perpetual summer. ••• Patrón de migración de Buteo swainsoni, que les permite vivir en un verano perpetuo.

MIGRATING

by Gretchen Sotomayor

It's time again to look skyward—not for an eclipse or a soaring Halloween witch—but for thousands of hawks and vultures circling Ancon Hill.

Their swirling, migrating presence can be found over Panama City near Ancon Hill for the next two or three weeks. These unusual creatures are passing through Panama on their way south, allowing the residents of Panama a glimpse of a very different and mysterious migration.

"I want to tell everyone to look up! There's a unique migration going on," said STRI scientist Neal Smith, who has studied bird migrations worldwide for more than two decades.

Smith knows a lot about this migration, but he is more interested in sharing what he doesn't know. But first, a few of the basics about who and what's involved.

Of the 8,000 species of birds in the world, about five

species in the New World follow such unique rules of migration. Right now, in the morning skies over Panama City, Swainson's and Broad-winged hawks and Turkey Vultures soar. The Swainson's Hawks have come the farthest, having completed about half of an 11,000-kilometer migratory journey —roughly a month's soaring time.

They are fleeing North America's fading summer in search of their favorite foods, including insects, reptiles and amphibians. Their plan is to spend four to six months enjoying and feasting in South America's coming summer. Life is one long summer for them, as long as they can survive the transit from one place to another.

"It's an evolutionary crap game. They either make it or they don't," Smith said.

They fly only over land, relying on the energy of warm air masses rising from the heated earth to move them south. Essentially, they soar —not flap— back and forth between the northern and southern temperate zones.

It's not an easy journey, especially without stops for food. But it is known that these scavengers store up body fat and use it sparingly as they glide. It is not known how much fat is stored, but Smith believes it is just enough to get them where they are going. So if storms prevent them from soaring for one or several days, it is likely these birds will die from lack of food because of the delay, Smith said.

Smith has strong circumstantial evidence to support his belief that the birds don't eat, but it isn't yet considered fact. From his observations of roosting hawks and vultures, he has found no signs of discharged fecal matter or the pellets coughed up by birds of prey after digesting food. Also, these migrating birds travel in such large groups, it is impossible for them to feed during migration, Smith said.

It's known that these birds fly about 10 hours a day, from 8-8:30 a.m. to 6 p.m. They try to avoid tropical storms by flying around them or above them, because of

their deadly potential to delay. Smith also knows an approximate speed of flight for these migrants who soar using thermal energy. He estimates that they leave the southern U.S. in early October and arrive in Panama 18 days later, where many immature birds are forced to drop out of the migration because they lack sufficient stored fat to continue, Smith said.

For those that can continue, it's about another month of flying to Tierra del Fuego in Argentina. But, it is still not known how the birds actually utilize their fat.

"Can you glide from Texas to Panama on fat alone? The answer is 'yes, it's possible,' but we do not know that for a fact," he said.

During the next few weeks, Panama City bird watchers can witness the phenomenon of an early morning lift off by birds wanting to soar rather than flap into the winds. Ancon Hill's updrafts provide an ideal lift for birds trying to gain altitude. As the sun rises, the ground becomes differentially heated. Columns of heated air break away from the ground and rise as "hot air bubbles," Smith explained. The migrants seek out this air and soar up through the thermal area, breaking away from it when the rising air begins to cool. To keep rising, they intercept another rising column of warm air. Birds are commonly sighted at altitudes of 1,000 to 2,000 feet, and the highest known collision between bird and airplane was reported in 1974 at 37,000 feet*.

For Users of HP-DeskJet Printers

If you have empty cartridges from the HP-DeskJet printers, please don't throw them away. Send them by mail to Alejandro Caballero in the Photo Lab at Tupper Center ••• Si Ud. tiene contenedores vacíos de tinta de las impresoras HP-Deskjet, por favor no las bote. Envíelas a Alejandro Caballero del Departamento de Fotografía en el Centro Tupper.



From: *365 Ways to Save our Planet*
• Page-a-Day Calendar •

If you want to deceive burglars by leaving lights on when you're out, consider installing timers on the lights. You save a little electricity this way, and the effect is more convincing because the lights go on and off as if someone were really using them.