

STRI news

August 8, 1997

Smithsonian Tropical Research Institute • Apartado 2072, Balboa, Panamá • Tel. 227-6022 • Fax 232-5978

TUPPER CENTER SEMINARS

Tue, Aug 8, noon seminar speaker will be Tugrul Giray, STRI postdoctoral fellow from the University of Chicago
Individual Worker Behavioral Development and Colony Defensiveness in the Africanized and the European Honey Bees (Apis mellifera)

Abstract

Understanding how the activities of individual colony members give rise to distinctive colony patterns of growth, development and behavior is a key question in insect sociobiology. I explored the relationship between genetic variation in worker behavioral development and variation in colony defensive behavior in the honey bee, seemingly unrelated traits of individual workers and the colony. In the advanced eusocial insects workers perform high-risk behaviors such as colony defense and foraging later in life. I hypothesized that colonies composed of workers with faster behavioral development are more defensive. Colonies composed of faster developing workers may result in colony age structure that is skewed towards physiologically and behaviorally more advanced workers that engage in colony defense.

I first demonstrated that colonies with higher proportion of older bees were more defensive. In 3 other experiments, I showed that differences in rates of behavioral development of individual workers were correlated with differences in both colony defensive behavior and colony foraging activity. In one experiment I compared Africanized and European bees. The notorious higher defensiveness of Africanized bees appear to be partly due to their faster rate of behavioral development. It has been shown that variation in some aspects of colony phenotype are related to worker genotypic variation for closely related behavior; i.e., the amount of pollen stored by a colony and worker preferences for collecting pollen rather than nectar. However this is the first demonstration of a link between colony phenotype and an apparently unrelated worker trait; i.e., colony defensiveness and worker rate of behavioral development.

BAMBI SEMINAR

Thursday, August 14, Bambi seminar speaker will be Conrad Krijger, Leiden University the Netherlands
Temporal Heterogeneity and Community Structure in Drosophila, Competition and Parasitism

Transportation and dinner reservations are essential. Please call BCI at 272-2124.

PEOPLE

Arrivals

- Shellee Morehead, University of Utah, Aug 10 - Sep 19, to study the geographical variation in host location cues of a dipteran parasitoid, on a Mellon exploratory Research Award, at BCI.
- Dan Rohrmann, UNEP officer invited by STRI, Aug 11-14, to get acquainted with research programs and facilities, and to consult with colleagues at STRI. Rohrmann was instrumental in obtaining funds for the Canopy Crane at Fort Sherman.
- Hughes Lorent, Université Libre de Bruxelles, Belgium, Aug 12 - Sep 2, for a training period about forest ecology, at BCI.
- Owen McMillan, University of Puerto Rico, Aug 15 - Oct 31, to study the genetic architecture of color patterns in *Heliconius* butterflies, at Naos.

Welcome Back to STRI • De Regreso a STRI

Welcome back to Nélida Gómez who returned to STRI after successfully obtaining her Ph.D. At STRI, Gómez will complete publications related to her thesis and will assist STRI in the interface of issues relating to our research and outreach programs ••• *Le damos la bienvenida a su regreso a Nélida Gómez, quien regresó a STRI luego de completar su doctorado. En STRI, Gómez completará publicaciones relacionadas a su tesis, y asistirá a STRI en el período de transición de asuntos relacionados con programas de investigación y difusión.*

Our Condolences ••• Nuestras Condolencias

To Agapito González and his family, for the loss of his father last Friday, August 1 ••• *A Agapito González y a su familia, por la muerte de su padre, el pasado viernes 8 de agosto.*

THINGS YOU SHOULD KNOW

From the Visitor's Services Office

De La Oficina de Visitantes

STRI staff and researchers who have assistants or volunteers not locally recruited need to keep the Visitor's Services Office informed of any changes in their status (e.g. assistants going to work with another researcher, a volunteer given a contract, etc.) or in the duration of their stay. It is very important that these

MINUTO ECOLÓGICO DE STRI EN RPC CANAL 4: LOS MARTES, 7:30PM

changes be notified in advance and in writing. This will help in determining fees to be applied, immigration questions, extensions and other details ••• *El personal de STRI e investigadores que tienen asistentes o voluntarios no reclutados localmente, deben informar a la Oficina de Visitantes sobre cualquier cambio en su status (por ejemplo asistentes que empiezan a trabajar con otro investigador, un voluntario que obtiene un contrato, etc.) o si se extiende su estadía. Estos cambios deben notificarse con anterioridad y por escrito. Esta información es necesaria para determinar tarifas, asuntos relacionados a inmigración, extensiones y otros detalles.*

Move at the Office of Education

Mudanza en la Oficina de Educación

Argelis Ruiz-Guevara (ext. 2285), Lidia Valencia and Elizabeth King (ext. 2414) moved to office 329 at Tupper. María Luz Calderón moved to office 330, with same extension number (2287). Jorge Ventocilla will move from office 610 to office 338 and will keep his extension number (2234). Irene Escófferi, from Fundación Smithsonian de Panamá will be using office 340 and will keep extension 2276 ••• *Argelis Ruiz-Guevara (ext. 2285), Lidia Valencia y Elizabeth King (ext. 2414) se mudaron a la oficina 329 de Tupper. María Luz Calderón se mudó a la oficina 330 y mantiene la extensión 2287. Jorge Ventocilla se mudará de la oficina 610 a la 338. Su extensión será la misma (2234). Irene Escófferi, de la Fundación Smithsonian de Panamá, ocupa la oficina 340 y mantiene la extensión 2276.*

ANNOUNCEMENTS

Opening in Honduras •• Inauguración en Honduras

Today, Friday, August 8, the STRI exhibit "Our Reefs: Caribbean Connections" will open to the public in Honduras, at the San Pedro Sula airport, under the auspices of the Honduras Coral Reef Fund. COPA transported the exhibit and Marco Díaz was in charge of its logistical coordination ••• *Hoy, viernes 8 de agosto, se inaugura en Honduras la exhibición de STRI "Nuestros Arrecifes Unidos por el Caribe" en el Aeropuerto San Pedro Sula, auspiciada por el Fondo de Arrecifes Coralinos de Honduras. COPA transportó la exhibición y Marco Díaz está a cargo de su coordinación logística.*

Gigante Field Course •• Curso de Campo en Gigante

The 7th STRI-University of Panama Undergraduate Field Course at Gigante is currently underway with the participation of 15 biology students. This year's course

coordinators are José Luis Andrade, Mónica Mejía and Omar López. STRI researchers Claudio Carrasco, Jim Dalling, Jessica Eberhard, Tugrul Giray, Kyle Harms, Wibke Thies, Bill Wcislo, and Steve Yanoviak, are participating as instructors ••• *El séptimo curso de campo en Gigante de STRI y la Universidad de Panamá para estudiantes universitarios se está llevando a cabo actualmente con la participación de 15 estudiantes de biología. Los coordinadores del curso de este año son José Luis Andrade, Mónica Mejía y Omar López. Investigadores de STRI, Claudio Carrasco, Jim Dalling, Jessica Eberhard, Tugrul Giray, Kyle Harms, Wibke Thies, Bill Wcislo, y Steve Yanoviak, participan como instructores del curso.*

Club de la Naturaleza para los Niños de Gamboa

Desde hace unas semanas, Jorge Ventocilla, Claudio Carrasco y Zuleyka Maynard están organizando a niños y niñas de 10 a 15 años en Gamboa para un "Club de la Naturaleza". El objetivo es enseñarles a reconocer y a apreciar más a la flora y fauna de los alrededores de su comunidad. Zuleyka Maynard organizará más adelante un Club similar para niños y niñas menores de 10 años. El Club se reúne los domingos en la Escuela de Gamboa.

El domingo pasado, luego de discutir sobre uno de los vecinos del área de peor fama, el lagarto, salieron a hacer un censo de lagartos desde la orilla del Río Chagres, cerca a la marina. Encontraron 16 individuos!

Este domingo 9 de agosto se reunirán a las 2pm para trasladarse al Camino Plantación. Ahí, Kyle Harms y Jessica Eberhard les hablarán sobre "interacciones entre organismos del bosque". Los niños están muy interesados en el trabajo de los biólogos de STRI; si alguien puede hacer una presentación o visita con los niños, favor comunicarse con Jorge Ventocilla (ext. 2234, Tupper) o con Claudio Carrasco, en BCI.

NEW STRI PUBLICATIONS

Meekan M.G. and Choat J.H. 1997 "Latitudinal Variation in Abundance of Herbivorous Fishes: a Comparison of Temperate and Tropical Reefs." *Marine Biology* 128: 373-383.

Wilcox, Thomas P., Hugg, Lori, Zeh, Jeanne A. and Zeh, David W. 1997. "Mitochondrial DNA Sequencing Reveals Extreme Genetic Differentiation in a Cryptic Species Complex of Neotropical Pseudoscorpions." *Molecular Phylogenetics and Evolution* 7(2): 208-216.