



STRINNEWS

MAY 11, 2012



Photo courtesy Tyson Roberts

What is this fish?

About ten years ago, aquarium fish dealers in Bangkok noticed a fish in the genus *Scleropages* with a distinctive pattern of maze like markings. Different individual fish of the same species had scales with different patterns.

Scleropages was known from the Malaysian part of the Malay Peninsula, but was previously unknown from the Myanmar part of the peninsula.

Tyson Roberts, STRI research associate who has spent most of his career studying fish in Asian and South American rivers, named the species *inscriptus*, the Latin word meaning “inscribed” for the markings. The markings only appear on most of the scales in large individuals. Small specimens are unmarked. Nothing like this color pattern has been reported in any other bony fish. According to Peter Raven,

conservationist and president emeritus of the Missouri Botanical Gardens, Tyson Roberts is “leaving a legacy by sampling the tropical freshwater fish fauna just at a time when I’m afraid that it is likely to nosedive.”

¿Qué es este pez?

Hace alrededor de diez años, comerciantes de peces de acuario en Bangkok notaron un pez del género *Scleropages* con un patrón distintivo de marcas parecidas a laberintos. Cada uno de los individuales de esta especie tiene marcas distintas

El *Scleropages* era conocido en la Península de Malay en Malasia, y anteriormente desconocido en la parte de la misma península en Myanmar.

Tyson Roberts, Investigador asociado del Smithsonian en Panamá, quien ha dedicado gran

parte de su carrera estudiando peces en ríos asiáticos y sur americanos, ha nombrado a la especie *inscriptus*, del latín “inscripto” por las marcas. Estas marcas solo se extienden a la mayoría de las escamas en individuos grandes. Los especímenes pequeños no tienen marcas. Nada parecido a este patrón de color se ha reportado antes en ningún otro pez óseo.

De acuerdo a Peter Raven, conservacionista y presidente emeritus del Missouri Botanical Gardens, Tyson Roberts está “dejando un legado al muestrear la fauna de peces de agua dulce tropical, justo en un momento en que la misma se encuentra en un dramático descenso.”

Roberts, Tyson R., *Scleropages inscriptus*, a new fish species from the Tananthayi or Tenasserim River basin, Malay Peninsula of Myanmar (Osteoglossidae: Osteoglossiformes). *Aqua* 18 (2):113-118.

◀ Photo of the holotype of *Scleropages inscriptus*
Foto del holotipo del *Scleropages inscriptus*



SEMINARS

GAMBOA SEMINAR

Mon., May 14, 4 pm
Yann Gager
University of Konstanz
Gamboa schoolhouse
Benefits of group hunting in an aerial insectivorous bat

TUPPER SEMINAR

Tues., May 15, 4 pm
Fred Gould
North Carolina State University
Tupper auditorium
Genetic pest management: past, present and future

PALEOTALK

Wed., Mar. 16, 4pm
Rebecca Koll
University of Florida
CTPA
Palynology as a proxy for Biogeographical studies in Panama

SAVE THE DATE

SYMPOSIUM

Tropical Vegetation and Rising Temperatures: Functional Basis of Ecological Response

MAY 31TH, 8:30 A.M

Organizer:
Klaus Winter (STRI)
Earl S. Tupper Research and Conference Center

ARRIVALS

Jessica Jacobitz

University of Konstanz

Unlocking the mysteries of sleep: improved learning as a shared functional benefit
Gamboa

Kyle Coblentz

Tulane University

Conflicts among members of interacting symbioses: How do symbiotic fungi influence plant defense against leaf-cutting ants?
Gamboa

Katherine Heineman

University of Illinois Urbana-Champaign

Effect of soil borne resources on the structure and dynamics of lowland tropical forests
Fortuna

Courtney Collins

University of Georgia

Comparing the functional traits of lianas and trees in a lowland tropical forest
Barro Colorado Island (BCI)

Paula Trillo

Smithsonian Tropical Research Institute (STRI)

The evolution of primary and secondary sexual characters in *Acromis sparsa*
Gamboa, Naos Marine Lab

Justin Yeager, Corinne Zawacki

Tulane University

Evaluating the impacts of anthropogenic habitat disturbance on an aposematic signal
Bocas del Toro

Rachelle Adams, Jacobus (Koo) Boomsma, Pepijn Kooij, Panagiotis Sapountzis, Morten Schioett

University of Copenhagen

Evolutionary ecology of fungus growing ants
Gamboa

Phillip Nguyen

University of Florida

Temperature responses of leaf dark respiration and their implication for tropical forest carbon balance
Gamboa



ELTI hits 50-conference milestone in Panamá

The Environmental Leadership & Training Initiative, a joint effort by STRI and Yale's School of Forestry & Environmental Studies, held its 50th event at Panamá's City of Knowledge.

Some 15 experts spoke at the conference, which addressed the challenges and environmental risks associated with industrial-level resource extraction and exploitation in the tropics.

Panamá, with major hydroelectric and mining projects and a valuable timber industry, has much to gain from ELTI's expertise. Organizers hope the event will help guide sustainable policy in these areas.

"We are helping to inform debates with science and experiences from around the tropics," says Javier Mateo-Vega, ELTI's director. "Our role is to serve as honest brokers of information, showcasing a variety of perspectives on these contentious issues."

ELTI realiza su quincuagésima conferencia en Panamá.

La Environmental Leadership & Training Initiative (ELTI por su siglas en inglés), un esfuerzo

conjunto entre el Smithsonian en Panamá y Yale's School of Forestry & Environmental Studies, llevó a cabo su reunión número 50 en la Ciudad del Saber de Panamá.

Unos 15 expertos hablaron en la conferencia, la cual abarcaba retos y riesgos ambientales asociados a la extracción y explotación de recursos a niveles industriales en los trópicos.

Panamá, con grandes proyectos hidroeléctricos y mineros, además de una industria maderera valiosa, se puede beneficiar grandemente de la experticia de ELTI. Los organizadores esperan que el evento ayude a guiar las políticas de sostenibilidad en esas áreas.

"Ayudamos a informar los debates con ciencia y experiencias provenientes de los trópicos," comenta Javier Mateo-Vega, director de ELTI. "Nuestro rol es servir como intermediarios honestos con información, presentando una variedad de perspectivas para estos asuntos conflictivos."



ARRIVALS

Laura Crothers

University of Texas at Austin

Assessing the condition-dependence and fitness consequences of male warning color brightness in *Dendrobates pumilio*, the strawberry poison dart frog
Bocas del Toro

Peter Marting

Arizona State University

Testing for collective personalities in Azteca ant colonies
Gamboa

Anne Meylan

Florida Fish and Wildlife Conservation Commission

The ecology and migrations of marine turtles of Bocas del Toro Province, Panamá
Bocas del Toro

Peter Meylan

Eckerd College

Hawksbill turtle population recovery and research in the Comaraca Ngobe-Bugle Chiriqui Beach /Escudo de Veraguas and the Bastimentos Island National Marine Park
Bocas del Toro

Merlin Sheldrake

University of Cambridge

Assessing the importance of litterfall for tree growth and nutrient dynamics by a large scale litter removal experiment in tropical deciduous forest in Panamá
Barro Colorado Island (BCI)

Seirian Sumner

Institute of Zoology

Mares Palacios, Cesar Rafael
University of Cambridge
Nest drifting behaviour in paper wasps
Galeta Station

Olaf Thomsen

University of Oldenburg

Biased evolutionary transitions in mode of development: can differences in morphology and digestive function be linked to evolvability of gastropod development?
Naos Marine Lab

DEPARTURES

Eldredge Bermingham

To Washington, D.C. / New York, N.Y.

To attend the Annual Meeting for the Chairs of all Smithsonian Units Advisory Boards then travel to New York City to meet with Lisina Hoch and back to DC., to attend Conservation Council meeting at National Zoological Park.

Helene Muller-Landau

To Zurich, Switzerland

Invited speaker in a conference and also meet with European colleagues to discuss current collaborative research and possible future collaborations.

Vielka Chang-Yau

To Washington, D.C.

To attend SIL Seminar: Collaborating for Results and Meetings.

Edgardo Ochoa

Fort Pierce -SI Marine Station, Florida / Orlando, Florida

Site visit to the Smithsonian Marine Station at Fort Pierce and attend the Rebreather Forum 3 in Orlando.

Ben Turner / Tania Romero

Edgewater, Maryland

To do soils work at the new Center for Tropical Forest Science - Plot at Smithsonian Center for Research and Conservation at Edgewater, MD.

NEW PUBLICATIONS

Van Putten, B., M.D. Visser, H.C. Muller-Landau & P.A. Jansen, 2012. Distorted-distance models for directional dispersal: a general framework with application to a wind-dispersed tree. *Methods in Ecology and Evolution*. DOI: 10.1111/j.2041-210X.2012.00208.x

Kay, Adam D., Shik, Jonathan Z., Van Alst, Andy, Miller, Katie A. and Kaspari, Michael. 2012. Diet composition does not affect ant colony tempo. *Functional Ecology*, 26(2): 317-323. doi:10.1111/j.1365-2435.2011.01944.x



Photo courtesy of Luz Oviedo

A group of Girl Scouts talked to paleontologists working near the Panama Canal.
Grupo de chicas exploradoras conversando con paleontólogos trabajando cerca del Canal de Panamá.

Panama Fossil Finds at the USA Science Festival

Distance was no barrier to interns and scientists working in Panama who joined the 2nd USA Science and Engineering Festival in Washington DC on Apr. 27-29.

Members of the Panama Canal Project-PCP PIRE (a partnership between the University of Florida and STRI) connected from the field via Skype. Festival—goers asked questions as scientists dug fossils from the Canal expansion earthworks under Panama's Centenario Bridge.

At the festival booth, visitors examined otoliths—fossilized bones that help researchers to identify ancient fish—as well as shells and shark teeth. They handled casts of fossil mammals including the newly discovered miniature camel, *Aguascalientia panamaensis*. The fossil seeds in the display were collected from Tonosi, Panama, which was an

island 40 million years ago and is now mainland.

More than 3,000 exhibitors participated in the festival. PCP-PIRE members also took the exhibit to the U.S. National Science Foundation headquarters. NSF officers also chatted directly with the crew working along the Panama Canal.

Fósiles descubiertos en Panamá en el Festival de la Ciencia en los EEUU

Las distancias no tienen barreras para los pasantes y científicos que trabajan en Panamá y participaron del Segundo Festival de la Ciencia y la Ingeniería en Washington D.C., EEUU del 27 al 29 de abril.

Miembros del Panama Canal Project-PCP PIRE (una asociación entre la University of Florida y el Smithsonian en Panamá) se conectaron desde el campo vía Skype. Los

asistentes al Festival hicieron preguntas a medida que los científicos desenterraban fósiles de los trabajos de expansión del Canal de Panamá bajo el Puente Centenario.

En el kiosco del festival, los visitantes examinaron ololitos, huesos fosilizados que ayudan a los científicos a identificar peces ancestrales, además de conchas y dientes de tiburón. Tocaron moldes de fósiles de mamíferos, incluyendo los del camello en miniatura, *Aguascalientia panamaensis*, descubierto recientemente. Las semillas fósiles aquí presentadas se colectaron en Tonosí, Panamá, que hace 40 millones de años era una isla, ahora es tierra firme.

Más de 3,000 exhibiciones participaron en el festival. Miembros del PCP-PIRE también llevaron la exhibición a la sede del U.S. National Science Foundation. Oficiales de esta fundación conversaron directamente con el equipo que trabaja a lo largo del Canal de Panamá.

Do picky eaters shape plant communities?

Hundreds of plastic containers filled with seeds of all shapes and sizes line the shelves of a greenhouse on Barro Colorado Island. Several times a week Sofia Gripenberg, post doc from the University of Turku in Finland, checks to see what else is in the containers. She's often surprised.

She discovers what's been inside the seeds, eating their rich endosperm. Often it's a larva that emerges after days or weeks as a beetle or a moth.

Tachigalia trees only produce seeds once a lifetime and then die. The beetles crawling out of Tachigalia seeds belonged to two species she has not found on any of the 400 other plant species she has studied.

Her discovery that many seed predators are picky eaters found in only one plant species is part of the answer to a bigger question about what allows so many plant species to coexist in tropical forests. A herd of beetle larvae may eat all the seeds under their favorite tree, making room for other tree species to grow there.

Sofia Gripenberg, a postdoctoral researcher from Finland's University of Turku who is studying the importance of insect seed predation in tropical forests, checks containers with seeds at a greenhouse on Barro Colorado Island.

Sofia Gripenberg, investigadora postdoctoral de la University of Turku en Finlandia, revisa envases con semillas en un invernadero en la Isla Barro Colorado. Ella estudia la importancia de la depredación de semillas por insectos en los bosques tropicales.

Questions/comments
Preguntas/comentarios
STRINews@si.edu

¿Son los comensales quisquillosos quienes dan forma a las comunidades de plantas?

Cientos de envases plásticos llenos de semillas de todas formas y tamaños están alineados en las repisas de un invernadero en la Isla Barro Colorado. Varias veces a la semana Sofia Gripenberg, estudiante de post doctorado de la University of Turku en Finlandia, los revisa para ver que más hay en los envases. A menudo queda sorprendida.

Descubre lo que ha estado dentro de las semillas alimentándose de su rico endosperma. A menudo es una larva que emerge como un escarabajo o una mariposa nocturna después de días o semanas.

Los árboles de Tachigalia solamente producen semillas una vez en su vida y luego mueren. Los escarabajos que salen de las semillas de Tachigalia pertenecen a dos especies que Gripenberg no ha encontrado en ninguna de las otras 400 especies de plantas que ha estudiado.

Su descubrimiento de que muchos depredadores de semillas son comensales exigentes que se encuentran solo en una especie planta es parte de la respuesta a una pregunta mayor: ¿Qué permite que tantas especies de plantas coexistan en los bosques tropicales? Una manada de escarabajos pueden comerse todas las semillas bajo su árbol favorito haciendo más espacio para que otras especies de árboles crezcan.

Photo by Beth King