



STRINNEWS

JUL 3, 2015

Do plant alchemists brew tropical diversity?



This weevil (Curculionidae) is one of the many thousands of insects collected on Barro Colorado Island by Tupper Fellow Brian Sedio.

Este gorgojo (Curculionidae) es uno de los tantos colectados en Isla Barro Colorado por Brian Sedio, becario Tupper.

Full story: www.stri.si.edu/issuu.com/strinews/panama

SEMINARS

BEHAVIOR DISCUSSION GROUP MEETING

Tues., Jul. 7, 2pm
Yossi Yovel

Tel-Aviv University

Tupper Large Meeting Room

Sensory perception for foraging decision making, the bat's point of view

TUPPER SEMINAR

Tues., Jul. 7, 4pm
Sabrina Russo

University of Nevada

Tupper Auditorium

TBA

BAMBI SEMINAR

Thur., Jul. 9, 7:15pm
Phyllis Coley

University of Utah

Barro Colorado Island

The ecology and evolution of defenses in the tree genus, *Inga*, and host choice by insect herbivores

WHAT'S HAPPENING AT STRI?

FIELD COURSES and SPECIAL EVENTS

NSF-ARTS: Integrative Research and Training in Tropical Taxonomy Workshop on Tropical Phycology

Contact person: Rachel Collin

June 20 – July 5

ForestGEO Workshop at Gamboa Resort

Contact person: Kristin Powell

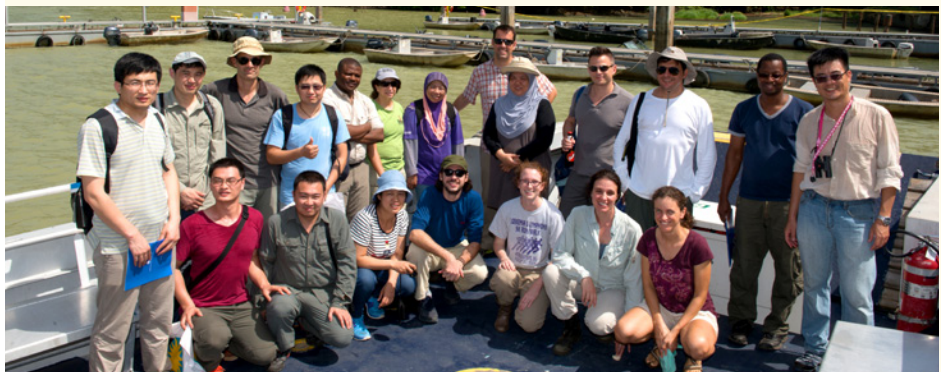
June 25 – July 9

Hydroids Workshop

Contact person: Rachel Collin

July 7 – 21

Members of ForestGEO from across the globe visited the network's original forest plot on Barro Colorado Island last weekend. / La semana pasada, miembros de ForestGeo de alrededor del mundo visitaron la primera parcela de bosque localizada en Isla Barro Colorado.





THE NATIONAL AIR SERVICE VISITS GALETA

On Thursday, July 2, Panama's national Air and Naval Service visited STRI's Galeta Point Laboratory as part of their training about environmental issues. 80 cadets between 18-28 years old learned about Galeta's mangrove, seagrass and coral reef ecosystems. They also handled several species of echinoderms and other marine organisms in the station's touch pools. They were extremely pleased with their visit and extended their appreciation to the staff at the station and the Smithsonian.

EL SERVICIO NACIONAL AERONAVAL VISITA PUNTA GALETA

El jueves 2 de julio, el Servicio Nacional Aeronaval visitó el Laboratorio de Punta Galeta como parte de la formación de sus cadetes en temas de ecología. La visita consistió de 80 jóvenes entre 18 a 28 años que luego de dividirse en varios grupos, aprendieron sobre los ecosistemas de manglares, pastos marinos y arrecifes de coral de Galeta. También interactuaron con los equinodermos y otras especies de los acuarios; al retirarse del área se mostraron sumamente complacidos, por toda la información y los nuevos conocimientos adquiridos y extendieron su agradecimiento al personal del Laboratorio y al Smithsonian.

ARRIVALS

Andres Vega
University of California –
Northridge
Aislamiento genético y de
comportamiento de la rana arborea de
ojos rojos
Gamboa

Allison Davis
University of Colorado
Demography and Intergroup
Relationships in *Cebus capucinus*
Barro Colorado Island

Holly Cronin
McGill University
Historical and Institutional Analysis of
Panama's Seaweed Industry
**Naos Marine Lab, Galeta Station,
Gamboa, Bocas Del Toro and Tupper**

Alan Ward
University of Oxford
Seed predation by insects in tropical
forests: a quantitative food web approach
Barro Colorado Island

Scott Collins
Butler University
Underwater light and visual ecology of
marine fishes isolated by the Isthmus of
Panama

Panama

Phyllis Coley, Thomas Kursar and
Gabrielle Ghabash
University of Utah
Defenses of young plants against
herbivores and pathogens
Barro Colorado Island

Diana Hsueh and Wade McGillis
Columbia University
Ana Palacio
University of Miami
Peggy Fong
University of California - Los
Angeles
Viktor Brandtneris
University of the Virgin Islands
Are Eastern Tropical Pacific reefs
becoming more resilient to ENSO?
Panama

Emily Weiss
Oregon State University
Hazel Berrios
Arkansas University
Evolution and ecology of a model sea
anemone mutualism in Pacific and
Caribbean mangroves of Panama
**Naos Marine Lab, Galeta Station, Bocas
Del Toro and Tupper**

Yui Matsumoto and Maria Miglietta
Texas A&M University
Magdalena Alpizar and Carolina Sheridan
Universidad de Costa Rica
Luis Martell and Stefano Piraino
Università del Salento
Pooja Nagale
Bombay Natural History Society
Sornsiri Phongphattarawat
Chulalongkorn University
Alena Sukhoputova
Moscow State University
Andrea Moncada
Universidad Central de Venezuela
Sarai Jeronimo
Universidad Nacional Autónoma
de México
Jonathan Lawley
Universidade Federal de Santa
Catarina
Davide Maggioni
Università degli Studi di Milano
Bicocca
**NSF-ARTS research and training in the
systematics of Hydrozoa (Cnidaria)
Bocas Del Toro**

strinews@si.edu

Questions/comments
Preguntas/comentarios



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DEPARTURES

Sean Mattson
To Bocas Del Toro
For dive training and frog research

Carmen Schloeder
To Maryland, USA
To attend the BioVision workshop
at the Smithsonian Environmental
Research Center

Nerea Nieto
To Bocas Del Toro
For BRS communications and TTT
course support

Hector Guzman
To Front Royal, VA
To attend a workshop on Movement
Ecology at SCBI-Smithsonian

Ana Endara
To Bocas Del Toro
To document field work at
Bocas station

PUBLICATIONS

Bouchard, S. C., O'Leary, C. R., Jenney, Wargelin,
L. J., Charbonnier, J.F. and Warkentin, K. M. 2015.
Post-metamorphic carryover effects of larval digestive
plasticity. *Functional Ecology*, doi:10.1111/1365-
2435.12501

Cadena, E. and Jaramillo, C. A. 2015. The first fossil skull
of *Chelus* (Pleurodira: Chelidae; Matamata genus turtles)
from the middle Miocene of Colombia. *Palaeontologia
Electronica*, 18.2.32A: 1-10.

Gross, A., Turner, B. L., Wright, S. J., Tanner, E. V. J.,
Reichstein, M., Weiner, T. and Angert, A. 2015. Oxygen
isotope ratios of plant available phosphate in lowland
tropical forest soils. *Soil Biology and Biochemistry*, 8: 354-
361. doi:10.1016/j.soilbio.2015.06.015

Hendy, A. J. W., Jones, D. S., Moreno, F., Zapata, V.
and Jaramillo, C. A. 2015. Neogene molluscs, shallow
marine paleoenvironments, and chronostratigraphy
of the Guajira Peninsula, Colombia. *Swiss Journal of
Palaeontology*, doi:10.1007/s13358-015-0074-1

Kellner, K., Ishak, H. D., Linksvayer, T. A. and Mueller, U.
G. 2015. Bacterial community composition and diversity
in an ancestral ant fungus symbiosis. *FEMS Microbiology
Ecology*, doi:10.1093/femsec/fiv073

Sellers, A. J., Ruiz, G. M., Leung, B. and Torchin, M. E.
2015. Regional Variation in Parasite Species Richness
and Abundance in the Introduced Range of the Invasive
Lionfish, *Pterois volitans*. *Plos One*, 10(6): e0131075
doi:10.1371/journal.pone.0131075

Seymour, B. M. and Aiello, A. 2015. Keeping the Band
Together: Evidence for False Boundary Disruptive
Coloration in a Butterfly. *Journal of Evolutionary
Biology*, doi:10.1111/jeb.12681

Somjee, U., Allen, P. E. and Miller, C. M. 2015. Different
environments lead to a reversal in the expression of
weapons and testes in the heliconia bug, *Leptoscelis
tricolor* (Hemiptera: Coreidae). *Biological Journal of the
Linnean Society*, doi:10.1111/bj.12544

Xu, H., Detto, M., Fang, S., Li, Y., Zang, R. and Liu, S.
2015. Habitat hotspots of common and rare tropical
species along climatic and edaphic gradients. *Journal of
Ecology*, doi:10.1111/1365-2745.12442



GAMBOA COFFEEHOUSE
SATURDAY July 4, 2015 GAMBOA CIVIC CENTER
STARTING AT 3:00 PM, Gamboa Pool, McGrath Field,
POTLUCK, BRING YOUR OWN...
PREPARE FOR A NIGHT TO REMEMBER





Smithsonian Tropical Research Institute

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RANA DORADA
August 14-30, 2015

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Resource Allocation Trade-offs Among Bornean Tree Species: Consequences and Mechanisms

Sabrina Russo
University of Nevada

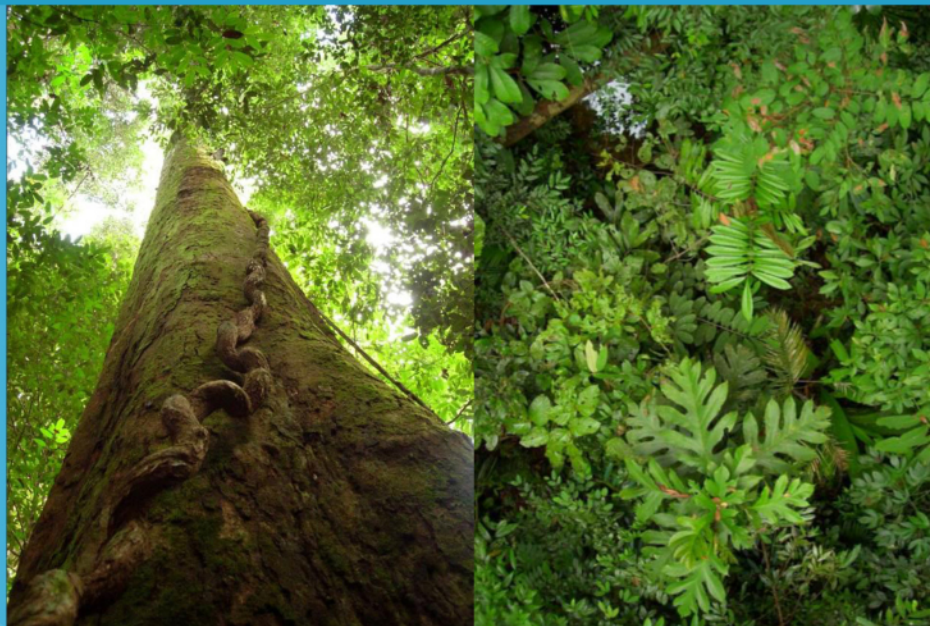
TUESDAY, JULY

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2015

4PM

Tupper auditorium



All organisms face trade-offs in how resources are allocated during a lifetime. For example, a juvenile tree growing in the understory of a closed-canopy forest accumulates carbohydrates via photosynthesis. Those carbohydrates could be used to make new leaves, or instead, they could be stored for future use, or used to synthesize defensive compounds. The evolutionary responses to these unavoidable trade-offs have produced a range of species' life history strategies. I will discuss the mechanistic basis for trade-offs in resource allocation that individual tropical trees make, how variation in resource availability affects those trade-offs, and how trade-offs at the individual level affect the distribution and diversity of tree species along environmental gradients in Bornean rain forest.



The pervasive role of RNA in the evolution of gen(om)es and cellular function

Juergen Brosius, **Wilhelms-Universitaet Muenster**

TUESDAY, JULY

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2015

4PM

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RNA was one of the first, if not the primordial macromolecule to solidly establish what we define as "life" on this planet. Interestingly, many evolutionary principles observable in extant cells, must already have existed in a cell that relied solely on RNA as its carrier of hereditary material, as well as constituting the major catalytical componentry. After several transitions from the RNA world to the RNP world or extant cells, RNA functions were gradually replaced by proteins and DNA respectively. Nevertheless, the role of RNA as functional entities of the cell and as contributor to genomic plasticity is much more pervasive than ever anticipated. Conversion of RNA to DNA as the new hereditary material has been drawn out for billions of years. The underlying process (termed retroposition) is one avenue to duplicate genes and to match them (by integration into different chromosomal environments) with novel regulatory regions. Also, this process contributes to novel protein coding domains or regulatory regions for existing genes in numerous ways. Within 100-200 million years, retroposition changes the face of genomes of multicellular organisms (with exception of conserved modules). Recruitment of novel genetic moduls out of this continuously changing mass is an important evolutionary force. As an aside, highly abundant classes of retroposed elements can be used as virtually homoplasy-free phylogenetic markers.

Furthermore, RNAs with important cellular functions did not become obsolete or marginalized as messenger RNA. Instead, novel molecules continue to evolve. For example, over the past few years, many non-protein coding RNAs were discovered and their functions elucidated. Cytoplasmic BC1 RNA or small nucleolar RNA Snord116/HBII-85, for example, arose in a common ancestor of a mammalian order or the taxa of placental mammals, respectively. Their deletion in mouse models leads to distinct phenotypes, that can serve as animal models for genetic disease, such as the neurodevelopmental disease Prader-Willi-Syndrome (PWS) in case of Snord116.

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PANAMA

The Neogene History of Tropical American Cone Snails

Jonathan Hendricks, San Jose State University

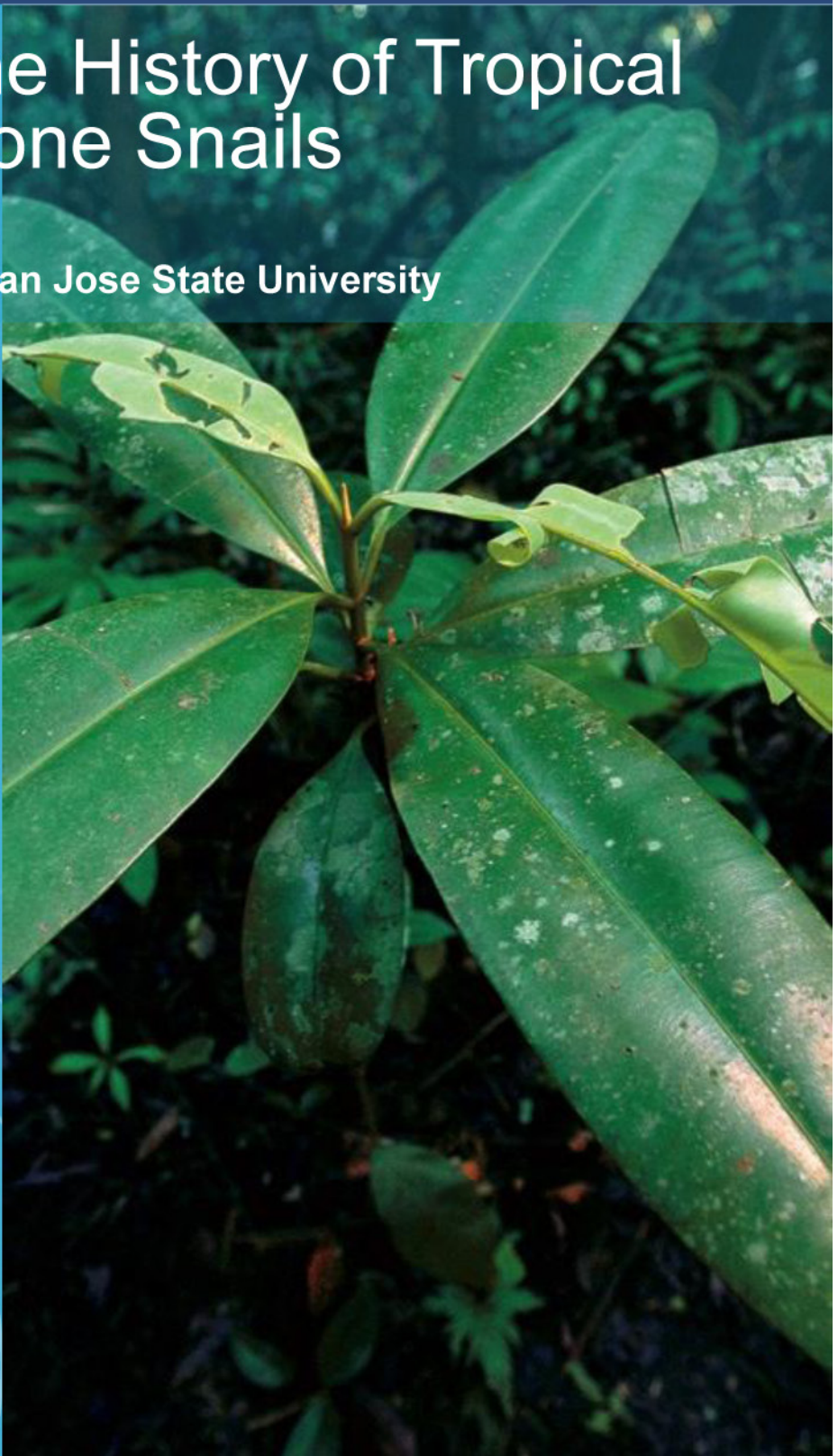
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TUPPER SEMINAR

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PANAMA

Fossil lianas and the Miocene rainforests of Panama

Nathan Jud, University of Florida

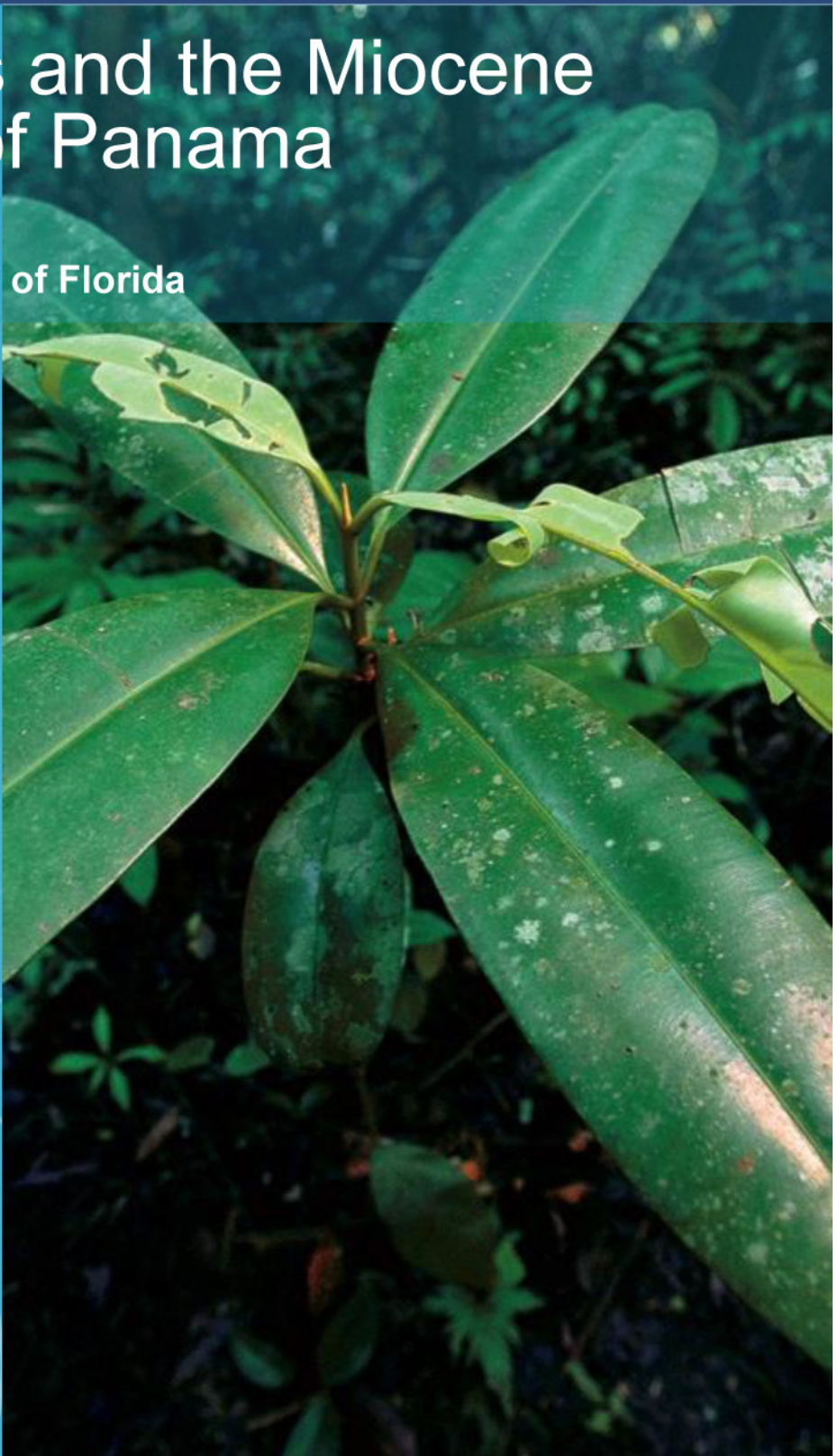
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