Exploring diversification of spiders on volcanic islands: the cases of *Tetragnatha* (Society islands) and *Wendilgarda galapagensis* (Isla del Coco)

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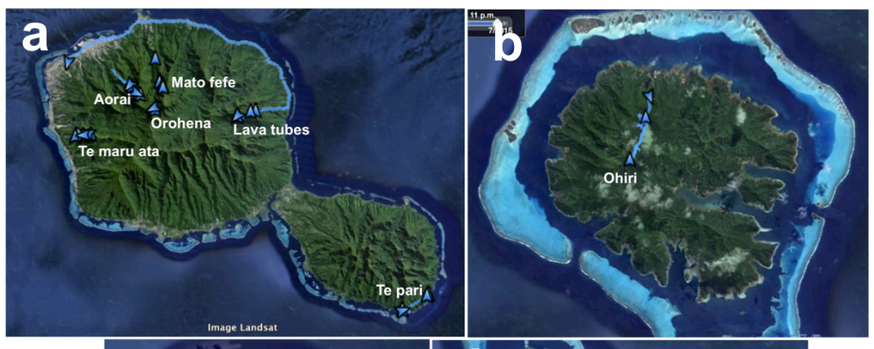
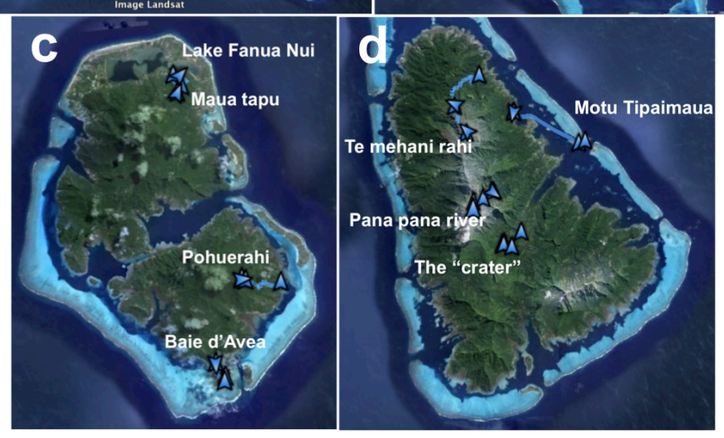
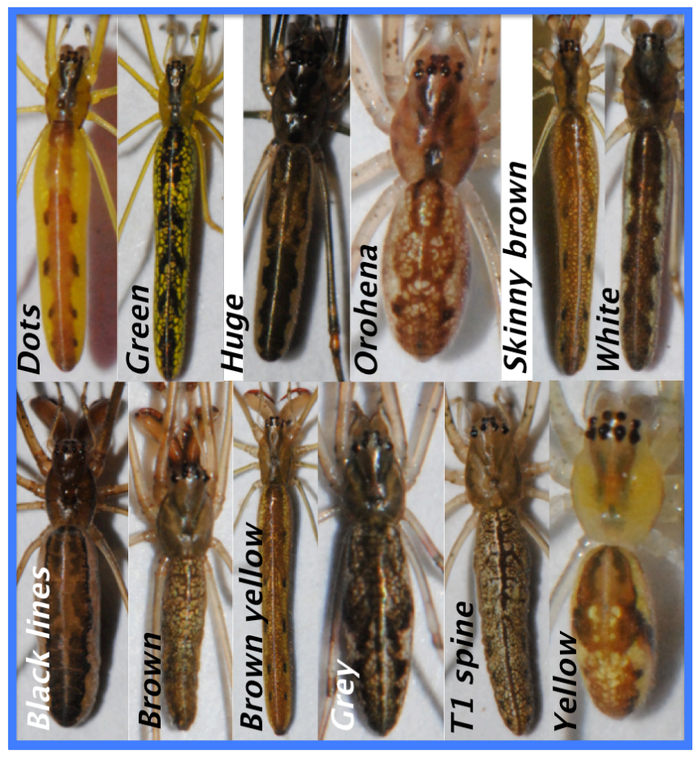
Diversification patterns of *Tetragnatha* spiders on Society Islands (June-July, 2015)





Collecting sites. (a) Tahiti, (b) Taha'a, (c) Huahine and (d) Raiatea. Society Islands, French Polynesia.

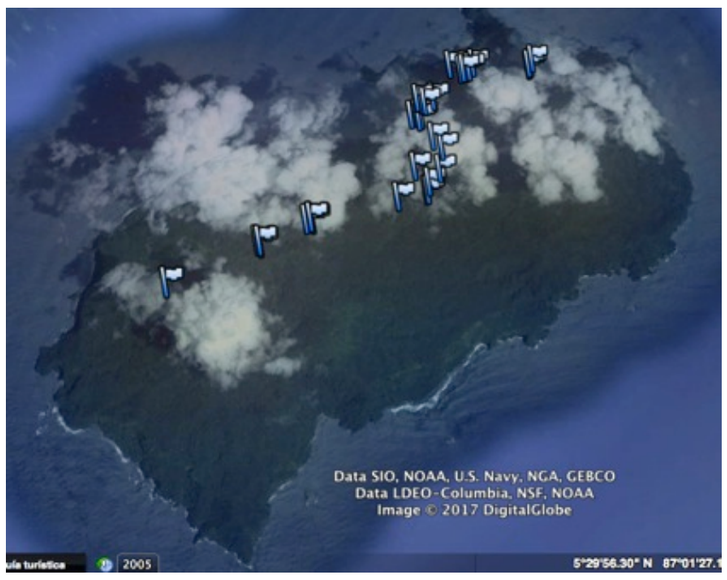
Field activities. (a) Group picture with Te Rau Ati Ati a Tau a Hiti Noa Tu association before the helicopter ascent to Mt. Orohena (Tahiti), (b) Illustration of day collecting method in Te maru ata (Tahiti), (c) Camping site (Te maru ata, Tahiti) and (d) Taking pictures during sample processing.



Examples of *Tetragnatha* spiders collected in Tahiti. Common names were assigned only during the identification process.

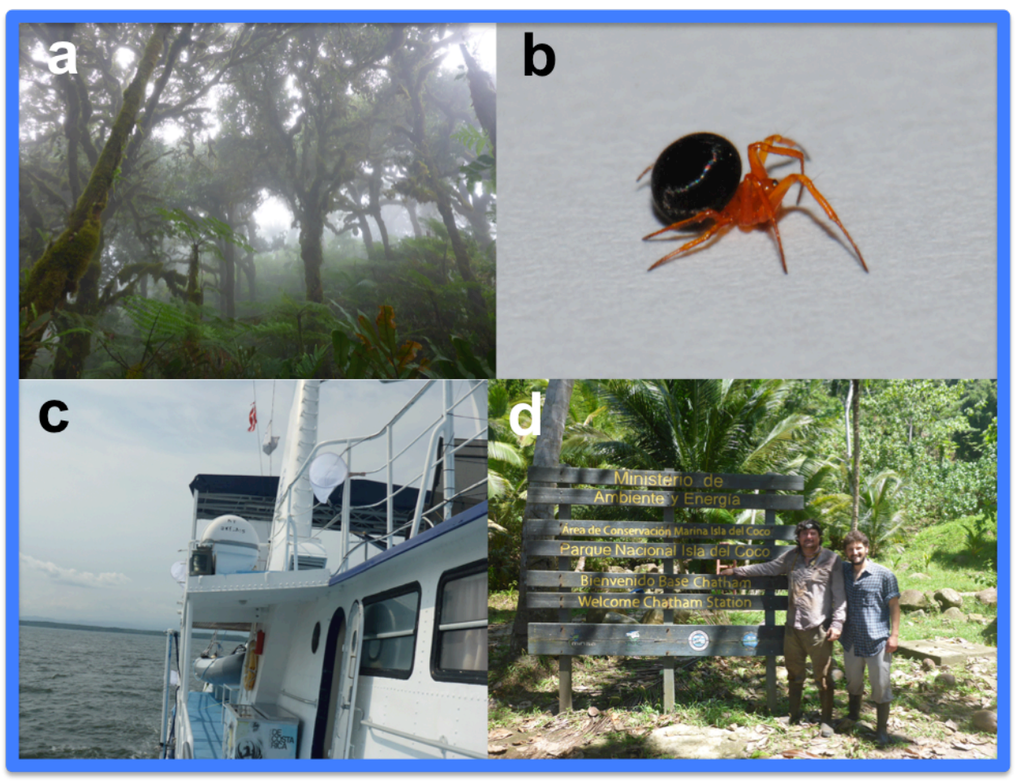
Objective: Expand the sampling of *Tetragnatha* spiders from remote locations on the Society Islands (Tahiti, Raiatea, Taha'a and Huahine) in order to do a molecular phylogeny to examine origins of colonization and diversification patterns.
Progress: After field collection, specimens were sorted and identified. Then, I performed DNA extractions and preparation of genomic libraries. They were sequenced using Next Generation Sequencing technology and the respective mitochondrial genomes were assembled. These sequences are been included in a phylogenetic analysis with nearly 90 species from the Pacific Rim and its islands. The phylogenetic tree will be used to answer the questions presented in the objective.
Outreach activities: During the fieldwork we were interviewed 2 times by the local news paper Tahiti-Infos and currently I am preparing a poster with pictures of arachnids from the Society Islands.
Funding: Percy Sladen Memorial Fund. The Linnean Society of London

Early stages of sympatric speciation? Preliminary characterization of the genetic consequences of niche partition in *Wendilgarda galapagensis* (Araneae, Theridiosomatidae) on the Isla del Coco (August, 2017)



(up) **Collecting sites on Isla del Coco (Costa Rica)**

(right) **Fieldwork.** (a) Cloud forest at 400 m, (b) *W. galapagensis*, (c) Collecting aerial plankton on the way to the island and (d) with the costarican arachnologist Carlos Víquez at Bahía Chatham.



Objective: Identify a potentially incipient sympatric speciation process mediated by behavioural differences.
Progress: Field work was successfully completed with the finding of the 3 web types and enough specimens for population genetic analysis.
Outreach activities: Two seminars at the Estación Biológica La Selva; a hands-on workshop about phylogenetic reconstruction for curators and staff from the Museo Nacional de Costa Rica, and (3) a poster about arachnids from the island is in preparation.
Funding: Percy Sladen Memorial Fund. The Linnean Society of London

Web-types. The species *W. galapagensis*, endemic to Isla del Coco, spins 3 different types of webs: (a) Water type, (b) Aerial type and (c) Land type. Specimens from the 3 web-types were collected and will be sequenced to test if genetic clusters are formed associated to the web-type, geographic distribution or the whole island corresponds to a single panmictic population.

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