



Mud nest harvestmen artificially painted so they can be individually identified

Opiliones teaching science

Opilio Tracker is a science communication initiative that seeks a) to create educational (i.e. infographics, field guides) and audiovisual material (short videos) showing the behavior and diversity of Opiliones in the tropics; b) to do research regarding diversity and animal behavior using Opiliones as a study model and c) to expose local communities to educational opportunities using Opiliones. In order to accomplish the latter goal, Opilio Tracker partnered with the Tropical Island Biodiversity Studies Center of the School for Field Studies (SFS) on Isla Colón, Bocas del Toro province, Panama. Even Bocas the Toro is an archipelago known for its marine biodiversity, it has islands filled with lush tropical forests and it is definitely an understudied hot spot for Opiliones. Every semester, a community engagement project is developed during Saturday mornings, where SFS's students (undergraduate students with home institutions in the US) interact with local communities in Bocas, which for the most part, don't have access to good quality education opportunities. To provide some context, none of the islands in the archipelago have a University. Consequently, local people who wish to



Quindina morae male caring for eggs inside his nest





CRUBO and SFS students during and after the first workshop performed on Isla Colón, Bocas del Toro, Panama.

pursue a professional career, must travel frequently or move to the mainland, which is usually a non-economically friendly option. One of the closest Universities located on the mainland is CRUBO (Centro Regional Universitario de Bocas del Toro), a campus of the University of Panama. As part of one of the SFS's community engagement projects, ten science education undergrad students from CRUBO came on field trips with SFS, in order to gain experience in the field, given that most of their courses were online due to COVID-19. With this grant, I would bring students from CRUBO on more field trips, this time, to engage them in a short research project with the mud-nest harvestman *Quindina morae*. During these field trips, CRUBO students with the help of SFS students, will collect scientific data in the field, learn to analyze it using the free software Jamovi, and make a short presentation on their findings. Even though this will be a very short research experience, CRUBO students will be able to put into practice the scientific method and learn how to teach it using hands-on experiences to their future students. The first workshop was performed on April 15th, 2023. If possible, similar workshops would be performed at Las Cruces Research Station and Wilson Botanical Garden, a research station of the Organization of Tropical Studies (OTS), located in San Vito de Coto Brus, Puntarenas province, Costa Rica.

Field guides

With another part of the grant, I would like to create a field guide of the species of Opiliones of Bocas del Toro and another field guide of the species of Opiliones present on a very famous trail located in Gamboa, nearby Panama City called Pipeline Road, both with the aid of a professional graphic designer. The contribution of this grant would be essential for the growth of this project and would be very beneficial for the future conservation of the Bocas del Toro, Panama City and southern Costa Rican tropical rainforests.