MINISTRY OF PLANNING AND DEVELOPMENT

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The Buzz

Newsletter of the Biodiversity and Ecosystem Services Network Trinidad and Tobago (BES-Net TT) project

January 2023

Issue #5

Inside this issue

The Buzz is the quarterly produced newsletter of the Biodiversity and Ecosystem Services Network Trinidad and Tobago project (BES-Net TT).

This newsletter reports on progress made in the implementation of the BES-Net TT project over the period, 2021-2023.

The Buzz is produced by the BES-Net TT Project Management Unit.

New Year! New Masthead!

Dear readers, the BES-Net TT project team extends sincere best wishes to you for the New Year 2023! We are so happy to reconnect with you and share our latest, bright update!

For the past three issues of *The Buzz*, we have been teasing "more to come" on our masthead and now we are happy to reveal our very own mascot for *The Buzz*, a design based on our native bees! In this issue of *The Buzz* we share more on the mascot and other designs representing some of our main local pollinator groups.

Also in this issue, we share on progress of other project activities including current research to build improve knowledge of local pollinator species, and a wrap on last year's workshop series in Trinidad.

One again, enjoy reading and sharing this issue of *The Buzz*!

Native bees survey update

In our last issue of The Buzz, we reported on the start of the native bee survey which is being conducted in collaboration with the Trinidad and Tobago Field Naturalists' Club (TTFNC). The TTFNC is currently in the field working with farmers on their crop lands, conducting sampling exercises. At the start of February, a workshop will be held with stakeholders to demonstrate how the samples will be sorted prior to being sent for identification and genetic barcoding. The workshop, will be hosted at the Central Experimental Station, CENTENO, through the assistance of the Ministry of Agriculture, Land and Fisheries Re-search Division, and will also share on main physical characteristics of some of the key pollinators groups encountered in these surveys.

Seagrass research at the bays

In our first issue of The Buzz, we reported on the various research activities that would take place under the Science component of the BES-Net TT project. One of these activities involves research on seagrass communities. Dr. Kelly Kingon is the principal researcher leading this work at Williams Bay, Trinidad and at Bon Accord, Tobago. The BES-Net TT project team conducted a site visit during one of the sampling expeditions carried out at Williams Bay.

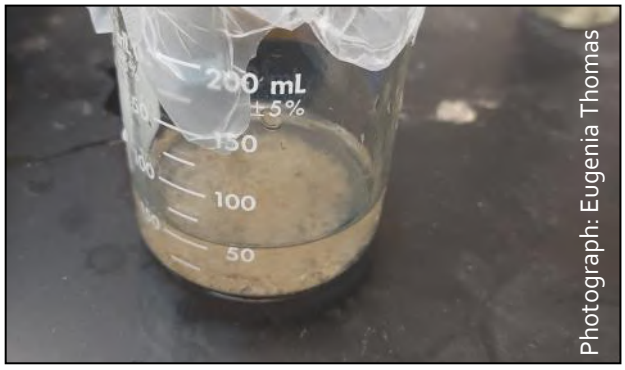
Each week, at sample sites in both islands, Dr. Kingon and her team members don wet suits and get into the water to investigate seagrass meadows. Their work involves surveying the sea bed to document flowering in seagrasses and the organisms that inhabit this unique area. Night-time surveys are undertaken as pollination among seagrass species found at these sites is believed to occur at night

The objectives of this survey include uncovering the flowering cycles of the seagrass species, which will help build understanding of their reproduction. The organisms responsible for pollination of these species of underwater vegetation are not well studied, and the research surveys their distribution, abundance and interaction with the seagrass flowers. The data yielded which therefore looks at factors influencing reproduction of seagrasses, can assist in the recovery of these species, which are generally in decline locally and globally.

This research is at the midway point and results will be shared at the end of the project. Stay tuned to our Facebook page for updates!

Dr. Kingon and assistants at one of the research sites.

This device, constructed with a bright light is lowered among the seagrasses to attract and sample organisms



The sample collected from the seagrasses is processed in the laboratory and prepared for identification of species.

Bat survey concludes

For a three-month period last year, a survey of bat species found at two forest sites - one disturbed and the other, undisturbed - was undertaken by a research team led by Mr. Darshan Narang. The study took place in Melajo, east Trinidad during the wet season. A final report was recently submitted

Bats, unfortunately, are considered by several persons to be pests. Elimination of bats, especially around human habitations, is usually a knee-jerk response to these flying mammals. From the BES-Net TT project's standpoint, however, bats are very important especially because of their role in plant pollination, and additional roles in control of agricultural pests and seed dispersal. Bats have a low reproductive rate, therefore by elucidating and documenting their important ecological roles to the public can assist in reducing their destruction by man.

The BES-Net project received a report at the conclusion of a research study on bats found in the Melajo area, which lies near to the Matura National Park Environmentally Sensitive Area. The survey was conducted using mist nets as the main tool for sampling of bats after sunset. The data collected gave a profile of the species of bats found at two sites described above and allowed for comparison of differences or similarities between the sites.

Photograph: Darshan Narang

Researchers on-site conducting the survey

A total of 168 individual bats across 19 species in three families (Phyllostomidae, Mormoopidae and Emballonuridae) were recorded. One hundred and three individuals (103) were trapped at the less disturbed site and 65 individuals were trapped at the other site, which had historically been cleared of all flora for aggregate extraction.

Photograph: Darshan Narang

One of the trapped bats being held by the researcher

Thirteen species were trapped at the undisturbed site and 16 species at the disturbed site. The most populous species found were *Carollia perspicillata* (Seba's short-tailed bat, 62 individuals) and *Artibeus jamaicensis* (Jamaican fruit bat, 57 individuals). Both species feed mainly on fruit (frugivorous bats). Less than ten bats were found for each of the other species. Two trapped species - *Glossophaga soricina* (Pallas' long-tongued bat) and *Anoura geoffroyi* (Geoffroy's tailless bat) - are nectivorous bats (feed mainly on nectar). Pollination by bats is carried out primarily by nectivorous bats and secondarily by frugivorous bats; carnivorous and insectivorous bats may do so inadvertently.

While none of the bats collected during this research study is classified as endangered, rare or threatened (according to the International Union for Conservation of Nature Red List for Threatened Species), under the Conservation of Wild Life Act, all species observed are protected locally.

Workshop Series Wrap

In our last issue of The Buzz, we provided synopses of the first four workshop sessions on pollinator management held at the Wa Samaki Ecosystems site in Freeport, Trinidad. We follow up with a description of the final two sessions.

Workshop 5: Building Pollinator Habitats, November 16 & 19

This workshop was the third facilitated by Mr. David Rostant on the topic of stingless bees, with a focus on the design of boxes in which colonies can be reared.

He introduced participants to some designs that are used in other parts of the world and indicated the extent to which these have been useful in local stingless bee management. Participants realized that local beekeepers have come up with modified designs through trial and error.

Mr. Rostant led participants to understand why two different box designs are needed. The type of design used depends on the main function of the hive: for splitting into daughter colonies or for honey production.

Mr. Rostant shares the modified hive design for honey production in Melipona sp. stingless bees.

Following this, Mr. Shane Ballah, BES-Net TT Project Manager, shared a presentation on plants which attract stingless bees. The information provided enabled participants to develop a checklist of plants that could possibly be planted to attract these bees for pollination, as sources of nectar and/or resin.

You can access recordings of some of these workshops at: https://www.youtube.com/@bes-nettt9350

Workshop 5: Building Pollinator Habitats, December 14 & 17

The final workshop was led by Mr. Erle Rahaman -Noronha of Wa Samaki Ecosystems. Mr. Rahaman-Noronha guided workshop attendees in initial reflections that are needed to assist in deciding on the purpose of the intended garden, choice of location and management planning.

Mr. Rahaman-Noronha presenting at the workshop.

Plant selection, identifying microclimates which are present or need to be created, water management and building the garden's functionality were additional considerations.

Participants later explored an on-site garden which demonstrated the main points shared in the "classroom" session. Participants became familiar with the local plants and asked questions about the garden, a plant nursery and compost area development.

Participants asking questions on the garden tour.

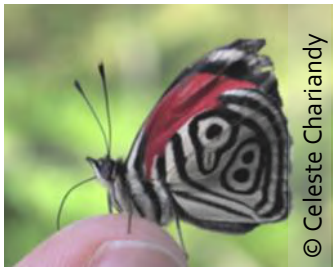
Meet the Pollinator Squad!

As reported on our front page, the masthead of our newsletter now features a special addition, a stylized version of one of our native bees! The cheerful green and black character was fashioned after a sweat bee (Tribe Augochlorini).

This character is not alone, but has a whole 'squad' of other pollinator friends, featured as true superheroes that help sustain our floral biodiversity and literally are responsible for putting out food on the table!

The other characters are a bat, butterfly and hummingbird, , all based on actual species that can be found locally in Trinidad and Tobago. These colourful pollinator superheroes all bear a large P ensign (for pollinator) on their body as the common element of the squad.

The artwork was made possible through the support of the BES-Net Global team, which assisted in securing the talent of graphic artist Mr. Juan Pablo Ramos Valadez, who created the squad through discussions and feedback from the BES-Net TT team. The support is acknowledged and greatly appreciated!



The new pollinator squad will be featured in some promotional items as the BES-Net TT team works to expand public awareness and knowledge of our local pollinator groups. Already they have been introduced on the project's Facebook and Instagram pages, where names for the characters are being solicited. Why not add to the fun? Visit these social media pages and share your suggestions. Welcome to the squad!

Above: "Pollinator Squad" members, Bat, Butterfly and Hummingbird, fashioned after local pollinators.

Natural delight

The BES-Net TT team visited lands in Mayo, Trinidad which were extracted as a quarry. The site, managed by Trinidad Cement Limited (TCL), is currently being rehabilitated, and there is an intention to develop a portion of the land as pollinator garden. The BES-Net TT team captured these photographs of rich diversity of flowering plants that are naturally springing up and covering the space, inspite of the spent nature of these soils. Already, pollinators are enjoying the safe space for food, shelter and pollination!

Upcoming activities this quarter!

3rd February: Workshop - Sorting and identification of pollinator species from trap samples

More on "Stingless bees in T and T" - Webinar on Zoom (Registration details on Facebook)

The Biodiversity and Ecosystem Services Network (BES-Net) is jointly implemented by:

We would love to hear from you and get your feedback on this issue of The Buzz!

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