



# THE FIELD NATURALIST

*Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club*

October – December 2015

Issue No: 4/2015



## CHARLOTTEVILLE BIOBLITZ 2015



Saturday 24th - Sunday 25th October

### GENERAL REPORT

*by Mike G. Rutherford*

For the fourth year in a row a team of enthusiastic naturalists gathered to see how many species they

could find in 24 hours. This event represented the first time that a Bioblitz has taken place in Tobago.

*(continued on page 3)*



**Diver over sponges and corals** *Photo: M. Charran*

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### Editor's note :

Many thanks to all who contributed and assisted with articles and photographs.

### Disclaimer :

The views expressed in this bulletin are those of the respective authors and do not necessarily reflect the opinion and views of the Trinidad and Tobago Field Naturalists' Club

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Quarterly Bulletin of the  
 Trinidad and Tobago Field Naturalists' Club

**October - December 2015**

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Postal: The Secretary, TTFNC, c/o P.O. Box 642, Port of Spain, Trinidad and Tobago

The event was organised by the University of the West Indies Zoology Museum and Department of Life Sciences and the TTFNC with help this year from the Environmental Research Institute Charlotteville (ERIC). The basecamp for the Bioblitz was the ERIC headquarters. For the duration of the event the ground floor of the building was transformed into a display area/laboratory/equipment store/cafe/tertia and looked after by Lanya Fanovich from ERIC and Eileen Rutherford.

Displays of preserved specimens and information banners were put up by the University of the West Indies Zoology Museum (UWIZM) and the TTFNC and supplemented during the event by specimens of animals and plants collected from all over the surrounding area. There were also two aquariums, one containing freshwater species such as giant prawns, fish and snails and one saltwater tank with zoanthids, brittle stars, hermit crabs and many more small creatures.

On Saturday 24<sup>th</sup> over 120 people assembled at 11am for a briefing before breaking into their respective groups to plan their surveying. At noon a horn was sounded and the Bioblitz began. The participants were a mix of undergraduate and postgraduate students and staff from the University of the West Indies and amateur naturalists and wildlife enthusiasts from all over Trinidad & Tobago. Members



### Ryan and Amy with the freshwater and marine aquariums

*Photo: M.G. Rutherford*

of Environment Tobago and North East Sea Turtles also attended the event bringing in some local knowledge.

A team of seven divers, led by Neil Cook from ERIC and including members of the Trinidad & Tobago Eco Divers Club, went out by boat to several dive sites around the coast; as well as a huge variety of corals and fish they were also lucky enough to spot several dolphins. The freshwater group led by Ryan Mohammed drove down to the Hermitage River and searched many of the small streams and ditches in the area whilst another aquatic team headed by Amy Deacon hit the beaches to snorkel and sample along the coast. For the Aquatic Group report see page 20.

A second boat, this time full of birders, went along the coast as far away as the St. Giles islands to watch for seabirds. Whilst another team of birders, led by Darshan Narang, set up mist nets near the Flagstaff Hill Road to catch, identify, band and release birds. For the Bird Group report see page 11.

At night this became the site for the bat team, led by Luke Rostant of Trinibats, to see what bat species were out there. By the end of the event they had caught and released 129 bats. Camera traps were set-up along forest trails to record mammals



### Displays at the basecamp

*Photo: P. Geerah*

at night and these provided some great results capturing images of a pair crab-eating raccoons. For the Mammal Group report see page 8.

The plant team led by Mike Oatham and guided by Dan Jaggernauth headed up Pigeon Peak, the highest point in the survey area at 572 metres, to look for plants with other members of the plant group searching the lower forests. For the Plant Group Report see page 23.

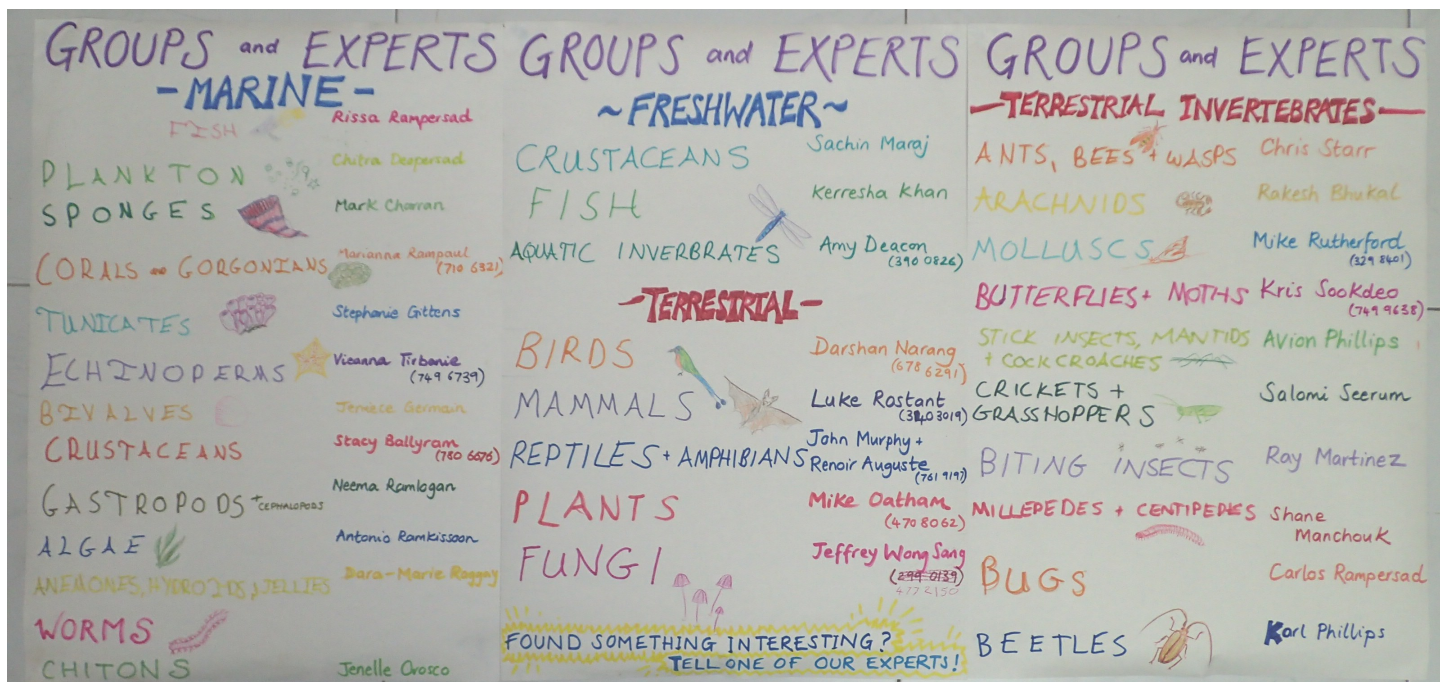
A team from the Serpentarium, brought over from Trinidad by Saiyaad Ali, and a team of visiting researchers from the USA led by John Murphy spread out into the forests to look for reptiles and amphibians, they had a great event finding many rare and unexpected frogs, lizards and snakes. For the Amphibian and Reptile Group Report see page 6.

Several smaller teams surveyed for terrestrial invertebrates including: Chris Starr looking for social insects; Kris Sookdeo and his team doing the butterflies and moths; Avion Phillips and members of the UWI Biological Society searching for various insect taxa; Ray Martinez and his group from the UWI Parasitology Lab caught mosquitos; Shane Manchouck collected centipedes and millipedes and a final group led by Rakesh Bhukal did arachnids. For the Terres-

trial Invertebrates Group report see page 15.

On the Saturday night people were still going strong, some were at basecamp sorting through soil and sand samples and using microscopes to identify what they had found until 4am. Others were still out in the darkness; diving and snorkeling in Man of War Bay and having close encounters with electric torpedo rays and octopus or walking the forest trails looking for nocturnal creatures such as spiders, scorpions, insects and reptiles until 3am or later.

Sunday morning arrived and some of the first up were the birders waiting for the dawn chorus, followed by the dive team heading out for their last underwater foray. Unfortunately, around 8am the weather took a turn for the worse and very heavy rainfall accompanied by thunder and lightning slowed everything down and also resulted in the public staying away from the guided walks and snorkeling tours that were on offer. However, by 10am the weather had improved and some visitors started to appear at the basecamp, families with young kids as well as tourists curious about all that was going on. They were treated to a wide variety of creatures on display with many lizards, snakes, frogs, insects, spiders and millipedes all crawling around in plastic tanks and bottles. After the event the larger animals were



Posters listing the groups and experts Photo: M.G. Rutherford



**Announcing the final results** Photo: S. Gittens

released whilst the invertebrates were taken back to the UWIZM for further identification.

Bioblitzers were counting and identifying right up to the last second, and when surveying stopped at noon on Sunday it still took another half an hour before the final tally was ready. Mike Rutherford read out the results on the steps of the ERIC building to a large crowd of eager participants and visitors with his daughter Zoe Rutherford writing up the numbers.

The count was as follows – 367 plants (including 23 algae), 30 fungus, 252 vertebrates (including 17 mammals, 75 birds, 27 reptiles, 13 amphibians and 120 fish), 319 invertebrates (including 32 crustaceans, 10 echinoderms, 53 corals, 4 sponges, 109 insects, 12 arachnids and 12 myriapods) and 4 others (bacteria) for a grand total of 972 species! This was the highest count yet for a T&T Bioblitz. Amy Deacon then presented prizes to the winners of the kids colouring competition and Dan Jaggernaut thanked the organisers and then it was all over for another year.

Thanks to all the people and organisations that took part. In particular a big thanks to the major sponsor of the event, First Citizens who have supported the Bioblitz every year. Thanks also to Atlantic for helping to cover the costs of the marine surveying. Thanks to the Tobago House of Assembly Department of Natural Resources and the Environment for the permit and use of the Rest House and thanks to Pat Turpin at Man of War Bay Cottages for accommodating many of the participants.

Next year the Bioblitz will be heading to one of the wildest sites yet – Port of Spain! The aim is to see how urban wildlife compares to the rest of the country and also to share the results of the previous four Bioblitzes with as many people as possible.

For more information please see the T&T Bioblitz, ERIC, TTFNC and UWIZM Facebook Pages. Or visit the Bioblitz website at [sta.uwi.edu/fst/lifesciences/BioBlitzHome.asp](http://sta.uwi.edu/fst/lifesciences/BioBlitzHome.asp) 



## AMPHIBIAN AND REPTILE GROUP REPORT

by John C. Murphy



### Underside of Tobago glass frog

Photo: R. Auguste

The Tobago Bioblitz produced some significant amphibian and reptile specimens as well as interesting natural history observations. The herpetology team found representatives of about half the species known from the island.

Frogs were observed despite the lack of rain prior to the event. The Tobago glass frog is probably the most important amphibian in terms of Tobago eco-tourism, and we heard these little translucent frogs calling along streams. Male Tobago glass frogs use large leaves overhanging a stream, like those of *Heliconia* as calling stations. Females come to the male, deposit their eggs and leave. The male remains with the eggs and guards them. A single male may guard five clutches of eggs at a time. When the eggs hatch, the tadpoles drop into the water below. We found males calling from leaves the size of a human hand because someone had cut down all of the vegetation along the stream. Destroying the habitat for valuable species is exceptionally poor management and a crime against nature. Cutting the vegetation along streams to make them look “groomed” makes absolutely no sense. It destroys habitat, kills wildlife, and damages the flood plain. Someone with a knowledge of ecology and glass frog biology needs to articulate this situation to WASA.

Tobago has three described species of frogs in the genus *Pristimantis*, all of these were observed or collected, as well as a tiny fourth species that appears to be undescribed. The presence of an undescribed *Pristimantis* is not too surprising given the number of species found in the Venezuelan coastal range.

Twelve of the lizard species observed were the most commonly seen species, the iguana, the matte, the zandolie, the giant crown anole and others. However, the big surprise was a lizard never before reported from Tobago – the tiger anole (*Anolis cf tigrinis*). The tiger anole is a Venezuelan coastal range species that uses the tips of the smallest branches to hunt for food, this little guy was hunting wasps. Anoles using this microhabitat are referred to as twig anoles – because their small size allows them to feed on insects in places other lizard species cannot go. No species of twig anoles have been previously reported from Trinidad or Tobago. We have collected tissue and will soon know if it is actually *Anolis tigrinus* or a related species, and what clade it belongs in.

We counted about eight boa constrictors on the road, most had been run over by cars. The common *Boa constrictor* is an important snake on Tobago because it is the apex predator and a partial solution



### Tiger anole

Photo: J.C. Murphy



### Boa constrictor

Photo: A. Brasswell

to the serious feral cat and dog problem. People on Tobago should make a serious effort to conserve these animals.

The Trinidad and Tobago endemic blind snake *Amerotyphlops trinitatus* was first discovered in Trinidad's Arima Valley in the 1956. No other specimens have been found on Trinidad but a few additional specimens have been found on Tobago. We found two more specimens during the Bioblitz, one was saved and we collected tissue for a molecular analysis. Our observations suggest it likes mature forests and uses decomposing logs with ant and termite nests. An even more uncommon species was found during the Bioblitz, the single-lined ground snake, *Atractus univittatus* (note that the correct



### Blind snake

Photo: J.C. Murphy

name for this snake is likely *A. fuliginosa*). This species was previously only known from only one Tobago specimen collected in 1978. While it is known from Colombia and Venezuela, no other Tobago specimens were collected until now. Scale counts suggest the Tobago population is most likely distinct from the mainland forms. Unfortunately the specimen was found dead in a drain and partially decomposed.



### John briefing the group before heading out to survey

Photo: M.G. Rutherford

The Amphibian and Reptile Bioblitz team was composed of herpetologists from Trinidad and the USA, and included: Daryl Abraham, Renoir Auguste, Saiyaad Ali, Siddeeq Ali, Tom Anton, Darius Baldeo, Kester Dass, John C. Murphy, Nalini Rampersad, and Vijay Singh. 🐸



### Charlotteville robber frog

Photo: M.G. Rutherford



## MAMMAL GROUP REPORT

by Luke Rostant and Mike G. Rutherford



### Batting

Bats can be considered the nightshift from the diurnal activities of birds, in that they are very important seed dispersers and pollinators, and help control insect populations. Trinidad and Tobago is blessed with a rich bat diversity of about 70 species, with most studies to date being conducted on Trinidad. It was a great opportunity, therefore, to trap in Tobago during the 2015 Bioblitz.

Though the Bioblitz didn't actually begin until Saturday at noon, much of the bat team had arrived by Friday to Tobago, and were thus anxious to set out the nets to trap bats. We set up 2, 12 x 2.6 m ground mist nets on Friday night from 7pm to 9pm at Pat Turpin's cottages in Charlotteville, and were able to trap 19 bats of 4 species (Table 1). The highlight of the night was the capture of a nectarivore which hadn't been caught in Tobago before: Geoffroy's hairy-legged bat, *Anoura geoffreyi*. Though not caught during the 24 hours specific to the Bioblitz, we still reported this important finding. The bat team was off to a great start!

The bat and bird teams often times work in concert with one another, helping to set the nets at dawn for the birds, and switching these out for the bats in the evening. Such was the case at the 2015 Bioblitz where we helped the birders during the day, and



### Greater long-tongued bat being fed

Photo: A. Tudor

then switched to 4, 12 x 2.6 m ground nets at about 6pm. In addition to this, we put up a triple high system with 3, 12 x 2.6 m nets, giving us a total surface of about 220 m<sup>2</sup>. The nets were up for 4 hours during which time 84 bats of 5 species were captured, with another species being seen in a roost.

The bat team woke up early in the morning on Sunday 25<sup>th</sup> October and again set 2, 12m nets on Pat Turpin's compound at 5am and trapped bats for one hour. During this hour, 43 bats of 4 species were captured.

By the end the group captured 146 bats of 8 species, roughly a third of the bat species recorded from Tobago. This consisted of the fruit eating *Artibeus jamaicensis*, *Artibeus cinereus* and *Sturnira lilium*; the generalist feeder *Carollia perspicillata*; the insectivorous *Micronycteris megalotis* and *Saccopteryx leptura* and the nectivorous *Anoura geoffreyi* and *Glossophaga longirostris*.

### Camera Trapping

There has been very little camera trapping in Tobago so it was with some excitement that we set up for the Bioblitz. Seven camera traps were set up at four different sites. Two were placed alongside the trail heading up to Pigeon Peak from the main road,



### Measuring a bat before release

Photo: L. Rostant



**Nine-banded armadillo** Photo: Camera Trap

two were placed along the trail leading down from Flagstaff Hill to Charlotteville, two were placed beside the Campbleton River and one was on the trail heading north past Pirate's Bay. The first six cameras were put out on the 23<sup>rd</sup> October and gathered in on the 25<sup>th</sup>. The Pirate's Bay trail camera had been out since 20<sup>th</sup> August 2015 as part of another project but as it was within the study area it was included in the Bioblitz.

The cameras were a mix of Browning Strikeforce and Bushnell Trophy Cams with infrared flashes. They were all set to take 3 photos per triggering. The results were poor for the Pigeon Peak and Campbleton River cameras with the only results being people and domestic animals. At Pigeon Peak it was mainly Bioblitzers that were recorded along with a domestic cat whilst at the river there was just one hunter with his dogs. However, one of the Flagstaff Hill cameras provided a wonderful result by capturing two crab-eating raccoons (*Procyon cancrivorus*) which even came up to sniff around the base of the camera.

The camera from the Pirate's Bay trail had several interesting photos from the previous two months including red-rumped agouti (*Dasyprocta leporina*) and nine-banded armadillo (*Dasybus novemcinctus*) as well as many mice and rats that were almost impossible to identify to species level. There were also several hunters with dogs captured on camera,


many of whom were active before the start of the hunting season on 1<sup>st</sup> October.

### Other Encounters

Mammals were also seen by various other groups during the surveying and sightings included Robinson's mouse opossum (*Marmosa robinsoni*), the common opossum (*Didelphis marsupialis*), red-tailed squirrels (*Sciurus granatensis*) and some small rodents which are likely to have been the Brazilian spiny tree-rat (*Makalata didelphoides*) and Trinidad spiny pocket mouse (*Heteromys anomalus*). The dive team also spotted a small group of dolphins just outside Man of War Bay, they were thought to be bottlenose dolphins.

Overall it was a good result for mammals with 17 species covering a wide range of families and including a new record for the island.

### Group Members:

Luke Rostant, Darshan Narang, Rondell Hamilton, Macarius Auguste Daveka Boodram, Janine Seetahal, Vernie Ramkissoon, Kareena Anderson, Karl Phillips, Laura Baboolal, Danielle Morong, Paul Crooks and Anesty Tudor. We would like to thank Trinibats for the use of equipment for the survey, and would especially like to thank Rondell Hamilton for his enthusiasm throughout, and his commitment to getting all the data entered. 



Bushnell

10-23-2015 18:30:45

**Crab-eating raccoons** Photo: Camera Trap



## FUNGUS GROUP REPORT

by Jeffrey Wong-Sang



**Fungus** Photo: P. Geerah

On the Saturday the briefing was at 11am at ERIC, one hour before the official start. This year's group consisted of Betsy Mendes, Roma Wong Sang and myself. We were ably assisted by Darius Baldeo and Jyoti Singh of the Sepentarium who happened to be heading in the same direction as us for our first walk along the Pirate's Bay Trail.


It was hot, and conditions were dry until we got past Pirate's Bay and headed into the forest trail and the cocoa trees. We passed a few houses and gardens with multiple crops. One farmer invited us to walk amongst the crops when we explained what our purpose was. Pickings were slow initially but picked up until we had a full tray of samples for preservation and identification. The short trail ended in the forest and we returned to base to sort the samples.

Sunday dawned bleak and cloudy with approaching thunderstorm imminent. We made a decision to still give a second trail a go and not give up and blame the weather so we decided to do the Flagstaff Hill trail to Charlotteville. Betsy, Roma, myself and Christopher Starr hitched a ride to the lookout with Kris Sookdeo, TTFNC President, and after some indecision, Starr and I headed down first with Roma and Betsy bringing up the rearguard. We were trying to outrun the incoming rains and were doing quite a pace downhill following Dan Jaggernaut's

trusty markers. It was dark under the tree canopy and the weather did not help in searching for fungi. Did the best we could and added a few more samples to the tray for preservation and identification. Avocado was abundant on the trail and in Charlotteville and I was able to get a few pears to add to my load.

As Starr and I reached the top of Charlotteville the heavens opened up and we sought shelter in the first empty garage. What a shower that was! Starr proceeded downhill after and I waited on Roma and Betsy. Two farmers on the trail gifted us a stick of cane so it appeared as if I had gone to reap crops versus mushrooming. The downhill walk was cool on the steep terrain and eventually we reached back to base about 10am.

Aidan Farrell and Pauline Geerah also contributed photos of fungus from their walks. Aidan did the Pigeon Peak trail and Pauline the Flagstaff Hill area.

Identification has again been an issue, despite some assistance from Professor Julian Duncan of UWI. The final count still stands at 30 with definitive identification to follow. For the first time I attempted sampling and preservation of fungi specimens and our first ever collection of the local Tobago fungi was on display at the basecamp for all to see and admire. 



**Jeffrey with specimens at basecamp**

Photo: R. Wong-Sang



## BIRD GROUP REPORT

by Darshan Narang and Faraaz Abdool



This year at Bioblitz Charlotteville, the birding team grew again and we increased the scope of our surveys. We conducted mist net surveys, general area searches as well as a marine trip to survey seabirds around St. Giles' Islands. In total, we recorded about 78 species of birds and had a couple of unconfirmed sightings of rare species. As any good birder will tell you that "little brown job" could be a female or juvenile of a common species or it could be one of the rare migrants that grace our islands every year.

Migratory species may use our country as their final destination, coming here to escape the frigid cold of the northern hemisphere, or they may simply be using the islands as stopover sites along their route to more southerly destinations. Some of the migrants encountered during this year's event include the common and widespread northern waterthrush (*Seiurus noveboracensis*) and an exceedingly rare cerulean warbler (*Dendroica cerulea*) spotted by Faraaz Abdool. The northern waterthrush is a common winter resident in Trinidad and Tobago and it frequents mangroves, rivers and streams, especially where there is thick cover, also gardens and cultivated areas near water. It is regularly present from the last week of September to the first week of May, many individuals, probably only transient. It feeds on invertebrates, especially in damp areas, often tossing leaves aside while foraging. The noticea-



**Northern waterthrush** Photo: F. Abdool



**Cerulean warbler** Photo: F. Abdool

ble tail bobbing and the densely streaked underparts is a giveaway for this solitary species, which can be easily seen when traveling along the Northside Road in Tobago.

The cerulean warbler is one of our migratory visitors, and a very rare one at that; it has been recorded only twice previously, both single records from Trinidad's Northern Range. This is the first record for Tobago for this globally threatened species. Cerulean warblers breed in the Appalachian Mountains in North America, and spend their winters in the northern reaches of the Andes. Due to habitat loss from human occupation as well as mountaintop removal for strip mining at their breeding grounds, 70% of the population of this species has vanished during the last three decades, and at this current alarming rate, the cerulean warbler might cease to exist by the year 2030. This particular individual was sighted at the top of Flagstaff Hill at the crack of dawn for only a couple of minutes as it foraged for insects along the branches of several trees. Based on the plumage of the bird, this was a young male on his first southern migration.

As with the Bioblitz in Nariva Swamp in 2014, we conducted a mist netting exercise at two locations within the Charlotteville area. On Saturday 24<sup>th</sup> we set up six mist nets along the Starwood Trail off the

road to Flagstaff Hill. This trail provided us with suitable mist net areas, since the existing trail served as our mist netting lane. As the nets used for this exercise were 12 meters long, we needed sufficient space to set out those nets to intersect the flight paths of the birds. Mist nets are commonly used to safely capture birds, in order to collect biological data on each individual such as species, age, sex, moulting strategy, mass and wing length. All of this information gives us important details on the life history of the birds as well as useful data on their health condition. All birds were banded with an aluminium leg band which allows us to identify each individual. Valuable information on that individual can be collected in the future if the bird is recaptured.

At the Starwood trail, we set up nets from 0600 hrs and closed nets at 1700 hrs for a total period of 11 hours. In total we caught 19 individuals from eight species. The most common species caught were ochre-bellied flycatchers (6), rufous-breasted hermits (5), copper-rumped hummingbirds (2) and bananaquits (2), with one individual each of fuscous flycatcher, palm tanager, red-eyed vireo and cocoa woodcreeper.

The banding was conducted by certified bird banners Carl Fitzjames and Daveka Boodram who were both trained at the Klamath Bird Observatory in



**Ochre-bellied flycatcher** Photo: L. Rostant

Oregon, USA. They were assisted in setting up nets and extracting birds by Kareena Anderson, Karl Philips, Rachel Boodoo and Jinella de Ramos. Numerous birders and visitors looked on with wonder as Carl and Daveka expertly banded each bird and collected the necessary data. Shutter clicks away as the experts held the bird in the aptly named “photographer’s grip” and the occasional bird was passed on to be handled by a birder for closer inspection. A close eye was kept on every bird to avoid any stress, since the welfare of each bird is our number one priority. Special mention must be paid to one of our youngest and most enthusiastic birders Zachary Ali. Zach has been birding for many years and is also an experienced raptor handler at a local wildlife rehabilitation centre. At only 11 years old, he held his own against our more seasoned birders and is an inspiration to all our local naturalists.



**Rufous-vented chachalaca** Photo: L. James

We had originally planned to mist net along the Pigeon Peak trail on the Sunday morning, but decided against it because the main purpose of banding for Bioblitz was to allow the public to view the mist netting and banding process. We conveniently set up mist nets throughout the compound of the Man O War Bay cottages, with the outdoor deck of the birding cottage used as our banding station. Only expecting a few individuals to fly into our nets from a heavily trafficked area, we were pleasantly surprised to capture the same number of individuals on Sunday morning as we did on an entire day of netting on Saturday. This highlights the importance of birds utilising more disturbed areas as their habitats.



**White-tailed nightjar** Photo: S. Baldeosingh

Hopefully when we are able to mist net and bird within the Port-of Spain area in Bioblitz 2016, we can further highlight the importance of urban spaces for birds. On the grounds of the cottages, we set up nets from 0600 hrs and closed nets at 1100 hrs for a total period of five hours. In total we caught 19 individuals from seven species. The most common species caught were copper-rumped hummingbirds (7), bananaquits (4) and rufous-breasted hermits (3).

The birders who conducted area searches had much better luck in observing a higher diversity of species within the study area. On Saturday and Sunday, various small groups of birders surveyed the area via foot, car and boat. Armed with binoculars, spotting scopes, long lens cameras, field guides and notebooks, birders recorded birds by sight and aurally along the Northside Road, Pigeon Peak trail, Flagstaff Road and within the village of Charlotteville. In total, 78 species of birds were documented for the area, through area searches, with the mist nets recording the one additional species. Some of the highlights for the area include the approachable Trinidad motmots and rufous-tailed jacamars, which are much harder to see and photograph in Trinidad. As most naturalists will know, the Trinidad motmot (*Momotus bahamensis*) is our representative of the "blue-crowned motmot" complex. For many years, all members of this group were considered to be conspecific (belonging to the same species), but have now been reclassified as representing five different species. The Trinidad motmot is the second endemic bird after the Trinidad piping guan on the islands

of Trinidad and Tobago. It is geographically isolated from other motmots, as no other representative of the blue-crowned motmot group occurs on the adjacent mainland in northeastern Venezuela. The Trinidad motmot shares many features in common with other blue-crowned motmots, such as the black centre of the crown, bordered below with a broad blue band; the broad black line (or "mask") through the eye; and the long tail with "racquet" tips. The Trinidad motmot is strongly rufous on the underparts, however. As in other motmots, the nest is at the end of a long tunnel in the ground. Although there is some information on the basic life history of the Trinidad motmot, the species has received relatively little attention from researchers (Schulenberg, 2011). In 2013, Mike Rutherford and Giovanni Bianco documented the use of anvils by the Trinidad motmot in Charlotteville, Tobago. They observed that Trinidad motmots were using rocks as anvils to break open snail shells and other hard-bodied prey items (Rutherford and Bianco, 2014).

Some other interesting forest species unique to the island of Tobago include the white-fringed antwren, Blue-backed Manakin and probably the most famous hummingbird species of Tobago, the white-tailed sabrewing (*Campylopterus curvipennis*) otherwise known as "Campy". Classified as vulnerable, these iridescent hummingbirds have a small range in Venezuela and Tobago. Deforestation, especially slash and burn agriculture, continues to be a significant threat to the population. In 1963, the Tobago population fell dramatically following the destruction of hurricane Flora, but it appears to be recovering.



**Trinidad motmot** Photo: F. Abdool

White-tailed sabrewings inhabit montane forests, light woodlands, and coffee plantations; in Venezuela, they have historically been common in Paria Peninsula and Cuevo del Guácharo National Park, Caripe, and Cerro Negro. While they typically forage in the low and mid-levels of the forest, they also feed in Venezuelan woodland canopies, sometimes feeding around aggressive hummingbirds. Males frequently sing from a perch when they aren't visiting bromeliads and banana trees. Males appear to glitter all over and exhibit a violet-blue throat and predominantly green upperparts. Females are duller with less blue, and gray mixed with green below. Both sexes have a white spot behind the eye and white outer tail feathers (Sedgwick, 2011).

The seabirders took off on Saturday afternoon on a deceptively calm sea in the secluded Man O' War Bay. Their mission was to survey the offshore St. Giles Islands located off the northeast tip of Tobago. These rocky outcrops of islands are the northernmost point of Trinidad and Tobago and rival the Galapagos in terms of bird life. Rising only about 350 feet and spanning 72 acres, St. Giles represents one of the Caribbean's most important seabird breeding colonies in the southern West Indies. They host the only breeding colonies of magnificent frigatebirds and red-footed boobies in Trinidad and Tobago. Audubon's shearwaters, brown boobies, brown noddies and red-billed tropicbirds also breed in considerable numbers (BirdLife International, 2015).



**Male magnificent frigatebirds**

Photo: L. James



**Red-crowned woodpecker**

Photo: L. Premchand

These were some of the target species for our brave seafaring birders.

#### Group Members:

Faraaz Abdool, Danya Alexander, Nadine Ali, Zakariyya Ali, Shawn Baldeosingh, Rachel Boodoo, Daveka Boodram, Jinella De Ramos, Carl Fitzjames, Newton George, Renee Gift, Kirby Harripersad, Kathleen Hinkson, Aliya Hosein, Lawrence James, Karan Kangal, Devan Mulchansingh, Darshan Narang, Aaron Peter, Karl Philips, Lisa Premchand, Joseph Ramsahai, Elizabeth Seebaran, Sharmila Tolan, Ann Williams, Gerard Williams. 🐜

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## TERRESTRIAL INVERTEBRATES GROUP REPORT

by Christopher K. Starr, Shane Manchouck, Kris Sookdeo,  
Rakesh Bhukal, Virmal Arjoonsingh, Mike G. Rutherford,



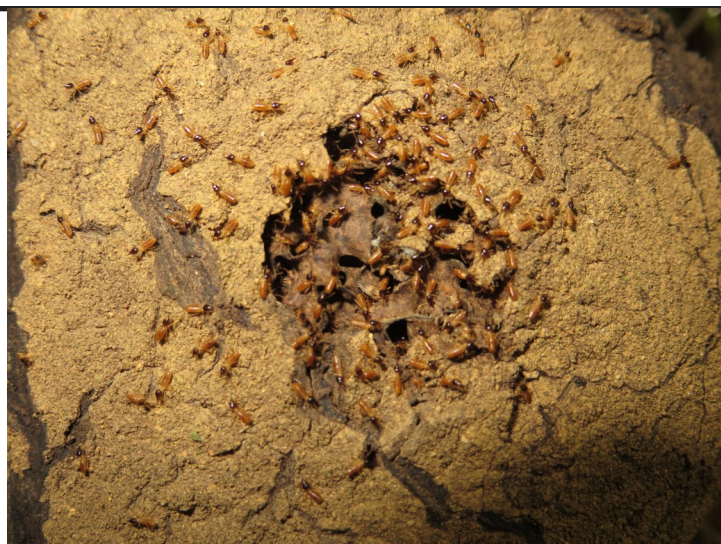
### Social Insects and Some Others - C.K. Starr

The popular ornamental Manila palm (*Adonidia merillii*), the common weeks coral-vine (*Antigonon leptopus*) and the sensitive plant (*Mimosa pudica*) are broadly attractive to bees and social wasps. This gives us a convenient way to find out which species are abundant in an area. I found no Manila palm in flower in Charlotteville, but I had good luck with the other two.

The stingless bee *Melipona favosa* was by far the most abundant visitor to the two weeds. Two other stingless bees (*Plebeia* nr. *frontalis* and *Trigona nigra*) were present in much smaller numbers, as were two unidentified sweat bees (Halictidae). Conspicuously absent were large carpenter bees (*Xylocopa* spp.), of which one species is recorded from Tobago (Hardy & Starr, unpubl.).

As expected, there were no honey bees (*Apis mellifera*), as would have been present in large numbers in Trinidad. Beekeepers in Tobago prefer to keep the less defensive European races, which they can do as long as African honey bees have not yet reached the island, as they did in Trinidad in 1979. They will probably reach Tobago eventually, in which case they may well depress populations of such native bees as *M. favosa* through vigorous competition. European honey bees do not form feral colonies in the tropics, so that the absence of *A. mellifera* around Charlotteville shows that no one is keeping bees nearby.

I found no social wasps at coral-vine or sensitive plant, an unexpected result. In fact, my few observations are consistent with the hypothesis of an overall reduction in social-wasp populations in Tobago, as may be happening in many parts of the world. Tobago has just four species of social wasps (Hardy & Starr, unpubl.). In my wanderings I saw just two colonies, both of the commonest species, *Polybia occidentalis*.



**Termite nest** Photo: M.G. Rutherford

A remarkable feature of Tobago's solitary-wasp fauna on which no one has commented is the apparent absence of three mud-nesting species that are all abundant in Trinidad: *Sceliphron fistularium* (Sphecidae), *Trypoxylon albitarse* (Pemphredonidae) and *Zeta argillaceum* (Vespidae) (Hardy & Starr, unpubl.; Starr & Hook 2003). One could reasonably expect to find ceilings and sheltered walls of old buildings richly festooned with mud nests, but even the old Cocoa House at the edge of Charlotteville is completely bare. There is a puzzle here to be solved.

Without making a focused effort, I noted the presence of several conspicuous ants: the common bachac *Atta cephalotes*, *Ectatomma ruidum*, *E. tuberculatum* and the tactac *Odontomachus* sp. Trinidad's largest ant, *Pachycondyla crassonoda*, is not known from Tobago.

Three species of higher termites (Isoptera: Termitidae) are by far the most abundant in both islands (Scheffrahn et al. 2003). All nest on tree trunks and main branches, so that it is not hard to estimate the relative numbers of their colonies. In walking through secondary forest near Charlotteville, I rec-

ordered the first 100 colonies that I encountered: 12 *Microcerotermes arboreus*, 60 *Nasutitermes corniger* and 28 *N. ephratae*. These results are similar to those from a comparable survey in the northeastern half of Tobago some years ago, but strikingly different from those at three sites in Trinidad (Merritt & Starr 2010). Relative to these latter, Tobago has a much lower proportion of *M. arboreus* and a somewhat lower proportion of *N. ephratae*.

I noticed one colony of webspinners (Embiidina) on the trunk of a large tree.

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### Other Insects and Myriapods - S. Manchouck

Avion Phillips, Brandon Mohammed, Carlos Rampersad, Dillon Suepaul, Shane Manchouck and Salomi Seeram were part of a group investigating invertebrates. We conducted surveys along two trails identifying and collecting the species observed



**Grasshopper** Photo: M.G. Rutherford



***Pandiroidesmus rutherfordi*** Photo: M.G. Rutherford

within their phylum of study. The phyla of invertebrates surveyed by this group included, myriapods, phasmids, cockroaches, beetles, bugs, grasshoppers and crickets.

Centipedes and millipedes were observed and data of identification was collected and recorded along the four trails and around the living quarters of the Charlotteville area. Two trails were completed in daylight whilst two others were similarly observed and information was collected between 9.00 pm and 3.00 am. It was noted that myriapods were more active at night. A series of methods such as raking leaf litter, pit fall traps, sifting through leaf litter and examining decaying matter were used to collect samples.

Initially our trek was easy as the path was well maintained and fairly dry, however, our trail soon deteriorated in a thick muddy forest. Our journey took us across a river where a giant centipede *Scolopendra* sp. measuring about seven inches was observed scurrying along a river bed. It soon disappeared into the soft soil of the riverbank. Other common species such as the yellow-banded millipede, the tiger centipede, flat-backed millipede and yellow-spotted millipede were observed and some collected.

Pit fall traps were utilized on the night of the 24th October along the Pirates Bay trail at intervals of approximately 100m. These traps were set in different vegetation types and were left for about 10

hours. However, whilst this method was successful in capturing various types of arachnids and arthropods, no members of the Myriapoda subphylum were caught. One pit fall trap was also set up along the trail near the ERIC headquarters by a river bank. This too was also unsuccessful in capturing the desired specimens.

Most specimens were collected and observed along and off the Pigeon Peak trail; this can be attested to its isolation from civilization and the presence of various ideal habitats for myriapods. Other trails surveyed were observed as being well maintained and cleaned regularly. The proliferation of millipedes and centipedes in such areas may be seen as a threat to local residents or tourists who utilize the said paths on a frequent basis. Species such as the *Pandirodesmus rutherfordi* and the members of the Scutigridae family were detected in soil samples and leaf litter collected from the different trails.

A total of 19 different species belonging to 11 different families of myriapods were observed and recorded. The recently discovered species millipede, *P. rutherfordi*, was collected in leaf litter on the Pigeon Peak trail. This data is subject to change with further investigation and analysis of specimens and records collected.



**Two-banded satyr** Photo: M.G. Rutherford



**Flower moth (*Syngamia florella*)**

Photo: P. Geerah

### Lepidoptera - K. Sookdeo

The Lepidoptera team had a tough time in Tobago as butterfly and moth activity was generally much lower than at any of the previous Bioblitzes. The team started by hanging fruit bait traps at several locations including gardens at the back of the basecamp at ERIC and then along the Flagstaff Hill road. Surveying at the top of Flagstaff was poor but improved when the group stopped at a cattle pasture in one of the minor roads off the main road where several clumps of black sage attracted a few species.

After Flagstaff, the group did a series of drive and stop surveys along Camden Road. Unfortunately, only a few species were observed. Back at basecamp, a short uphill trek on the trail behind the basecamp brought nothing of interest but did help us identify a good light trap location for later that evening (a small rest shed on the trail).

That night, the light trap was turned on at about 7:00pm. A few species started to trickle in including two surprises, the riordinid *Melanis electron* and a hesperiid. Disaster struck however, when it started raining. Thankfully the shed made it easy to pull the equipment under and, when the rains stopped about 30 minutes later, to continue the operation. Productivity was low and, with the weather looking uncertain, the light was switched off about an hour later.



**Silver argiope spider** Photo: N. Bridglal

By the next morning, things had only worsened with the skies really opening up. Not good weather for butterflies! On checking, the traps helped us scrape up a few more species but that was pretty much it for the rest of the morning. None the less the group eventually managed to get a decent total of 44 lepidopterans.

### Arachnids - R. Bhukal & V. Arjoonsingh

The arachnid group assembled at the ERIC building on Saturday morning just before the official start of Bioblitz 2015. The team consisted of 7 enthusiastic naturalists and with sweep nets and collecting vials in hand made our way to the first survey site where various collecting methods were employed to survey our first group of arachnids, the spiders. These collecting methods consisted of mainly visual surveys and actively searching through vegetation with the use of sweep nets. All specimens were collected by gently leading them into collecting vials where they were later taken to base camp for identification. These survey techniques were repeated for all other sites.

At night the arachnid group assembled once again for our second session of surveys, but this time for the infamous nocturnal arachnid group: the scorpions. Our numbers at this time almost doubled as we were joined by several volunteers from other day time survey groups. A safety talk was given on the

proper handling and collecting techniques of these animals as the venom of many species is highly toxic and potentially lethal. At approximately 8 pm we made our way to the same survey sites that were previously used for spiders but utilized different survey techniques.

Ultra violet flashlights with a wavelength of 395nm was primarily used to actively search for these mysterious night creatures. When scorpions are illuminated with UV light they fluoresce or glow due to a reaction with a chemical in their exoskeleton. Although the function of this reaction is not fully understood, it allows for easy collection of these animals and makes the study of them in the field relatively easy. The other method utilized simply entailed turning over rocks, logs and other debris as scorpions are known to inhabit these microhabitats.

At the end of the survey, no scorpions had been observed, much to the dismay of the group. A single specimen however was contributed by a member of another group while surveying their taxa. This specimen was later identified as a female *Tityus trinitatis*, which is endemic to Trinidad and Tobago and is also the most venomous scorpion in all of the West Indies.

When the identification of all arachnids were finally concluded, a total of 12 species were found for the end of the event but this total may increase after specimens are identified back at UWI.



**Tityus scorpion** Photo: R. Bhukal

## Other Invertebrates - M.G. Rutherford

A team from the Department of Life Sciences Parasitology Lab surveyed for arthropods of medical and veterinary importance along the Pigeon Peak and Pirate's Bay trails as well as around the basecamp. This included mosquitoes, sand flies and ticks. The methods used to find adult mosquitos were using CDC Light Traps, human bait and sweeping vegetation and other resting places. Larval mosquitoes were collected from pools of water found in bromeliads and bamboo clusters as well as streams, pools and human made containers such as cisterns and piles of rubbish. Altogether 15 species of mosquito were recorded along with one sand fly and one tick. All of these had been recorded previously from Tobago.

Terrestrial molluscs were surveyed by myself along the Pirate's Bay Trail, Flagstaff Hill trail and around the basecamp. Specimens were collected by hand and a sample of leaf litter and soil was examined. The motmot anvils (see Bird Group Report) provided many specimens of the larger snails *Plekochielus glaber* and a few *Austrocyclotus rugatus*. Smaller species were found in the leaf litter sample and in disturbed areas near human habitation there were the widespread hardy species such as *Subulina octona* and *Helicina dysoni*. Two slug species were found. Both are thought to be invasive species which have spread through agricultural practices; one, a leather-leaf slug, was actually found crawling up the front door of the ERIC building early on the Sunday morning. In total there were nine species of terrestrial mollusc recorded.



**Leatherleaf slug** Photo: M.G. Rutherford



**Terrestrial flatworm** Photo: T. Anton

Samples of water were collected from Man-o-War Bay and Pirates Bay the week before the Bioblitz and taken back to a lab at UWI where they were examined for bacteria and other microorganisms by Akilah Stewart. Based on biochemical tests the bacteria *Klebsiella* sp. was identified in Pirates Bay and *Shigella* sp. was identified in Man-o-War Bay. Additional screening for fungus resulted in 3 different colonies of fungi being found in the Pirates Bay sample. Two were easily identified as *Penicillium* sp. and *Aspergillus* sp.. Freshwater samples were also collected on the day of the Bioblitz from spring sites, which included Pigeon Peak, Campbleton, Pirate's Bay and Charlotteville. Results are currently being processed.

Other interesting invertebrate finds included a terrestrial flatworm and some earthworms, these were not identified to species level.

### Group Members:

Virmal Arjoonsingh, Rakesh Bhukal, Siobhan Cumming-Lumsden, Alicia Geerah, Pauline Geerah, Lester James, Kristy Khemraj, Shane Manchouck, Raymond Martinez, Brandon Mohammed, Raveena Mohammed Pariag, Avion Phillips, Carlos Ramperasad, Mike G. Rutherford, Rajiv Seenath, Catherine Seepersad, Salomi Seeram, Rachel Shui Feng, Allana Singh, Kris Sookdeo, Christopher K. Starr, Dillon Suepaul





## AQUATIC GROUP REPORT

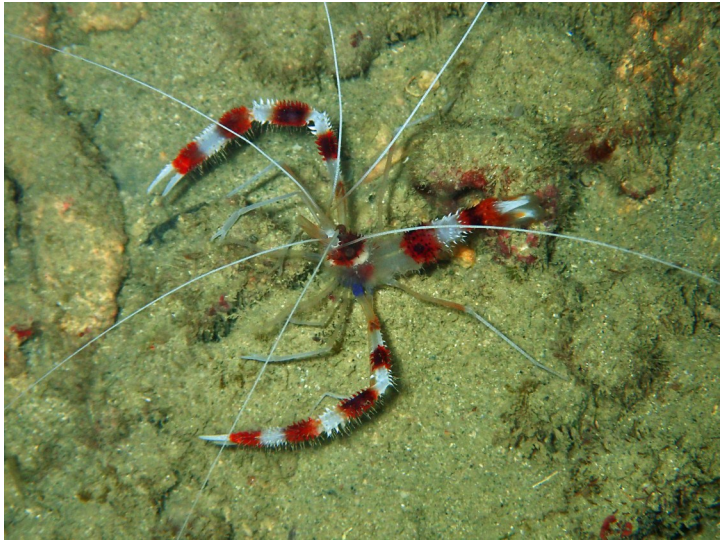
by Amy Deacon, Ryan Mohammed and Neil Cook



### From river to reef: counting Charlotteville's aquatic species

This year the Aquatic Group had no shortage of volunteers. Perhaps this was unsurprising given that the weekend offered a fantastic opportunity to dive, snorkel and explore the coral reefs and coastal streams of this beautiful corner of Tobago, which is exactly what we did!

The SCUBA-qualified arm of the aquatic team (Marianna Rampaul, Raj Mahabir, Mark Charran, Stacy Ballyram, Chitra Deopersad, Guy Marley and Kiono O'Garro), alongside ERIC staff members Neil and Jacob, set off at 12pm on the dot. Over the weekend they covered sites right from the shores of Charlotteville to the island of St Giles, in a series of day and night dives. Sites were chosen to offer a variety of habitats, and theoretically maximise the number of species seen. They included shore dives and boat dives, soft coral gardens, reef walls and current-swept reef slopes. Armed with cameras, dive slates, sediment sampling equipment and fully loaded tanks, they recorded fish, invertebrates, corals, marine plants and anything else they came across. Stand out sightings included bottlenose dolphins (seen both from the boat and underwater), a



**Banded coral shrimp** Photo: M.G. Rutherford

rarely-seen seahorse, cryptic electric rays, basket stars, a curious tarpon and a critically endangered hawksbill turtle.

Despite the impressive diversity of marine life seen, the team also spotted patches of diseased coral at the site known as 'Landslide'. Invasive species were also noted; diving off Iguana Bay on Saturday afternoon, Raj carried a spear and bag and returned with 20 invasive lionfish (*Pterois* sp.). On the bright side, some of these provided a delicious supplement to our roti dinner thanks to Raj's careful culinary skills. Another invasive marine species was also recorded – the cup coral *Tubastrea coccinea* is originally from the Indo-Pacific but, like the lionfish, was found thriving at the Iguana Bay site.

While out on the boat as part of the diving team, Chitra used a plankton tow to collect a sample of plankton from the water. Back at basecamp she painstakingly searched through the concentrated samples using a microscope late into the night. This proved to be well worth the effort; as well as finding several larval forms of creatures we had already recorded – such as tiny sea urchins, crabs, barnacles and squid – she also noted many taxa that would not have been seen without her methodology, such as coccoliths, protists and a butterfly snail.



**Guy and Stacy collecting a sediment sample** Photo: M. Charran



### Cladocerans and ostracods

Photo: C. Deopersad

While the divers concentrated on the deeper or harder to access sites, the remainder of the marine group (Amy Deacon, Neema Ramlogan, Stephanie Gittens, Jenelle Orosco, Jeniece Germain, Antonio Ramkisson, Dara-Marie Raggay, Emily Jodhan, Jarrah Jodhan, Kylash Jodhan and Pavel) journeyed on foot to Pirate's Bay, accompanied by members of the Plant Group keen to document the coastal vegetation. The steep twenty minute walk left everyone raring to jump in the refreshing water and get counting!

Equipped with a few waterproof guides and two underwater cameras, they snorkelled primarily on the right hand side of the bay, although a few ventured to the left and in the sandy-bottomed centre. Aside



### Electric ray

Photo: M. Rampaul

from the usual shallow reef fish species, of particular interest were the rocky, coral-covered underwater boulders, which were teeming with life. Here, they noted three species of sea urchin, an abundance of bearded fire worms, Christmas tree worms, social featherdusters, and, where the top of the boulder was occasionally exposed to the air, we saw fluorescent pink and blue limpets and prehistoric-looking chitons.

In the sandy areas careful observers could spot camouflaged swimming crabs, which were completely invisible, buried in the sand until disturbed, when they quickly moved to another spot with their claws in a defensive posture. If you looked away for a sec-



### Soapfish in barrel sponge

Photo: M. Charran

ond, they would have once again disappeared under the sand, with only their eyes visible. A single specimen was captured for identification back at basecamp. Other sandy bottom species included the 6-keyhole sand dollar. To identify some of the smaller animals that live in the sandy habitats, several cores were taken from the beach, to be sieved and sorted through back at basecamp.

Before heading back to ERIC, we surveyed the rocky shore for intertidal molluscs, and discovered several different species hiding in the shady crevices including the intricately patterned periwinkle *Littorina ziczac*.



**Zebra periwinkles** Photo: P. Geerah

Parallel to these marine activities, the freshwater contingent (Ryan Mohammed, Kerresha Khan, Sachin Maraj and Reynaldo Christie) headed off the Hermitage River, west of Charlotteville, accompanied by some members of the Arachnid Group. Here, they began some preliminary sampling with hand nets while walking in and along the river in search of suitable areas in which to seine, use the cast net and deploy fish pot traps.

At this site, two species of invasive aquatic snails were noted (*Tarebia* sp. and *Melanooides* sp.) along with one native snail *Nerite* sp. The most abundant fish species was the freshwater mullet, *Agonostomus monticola*. Several freshwater prawns (*Macrobrachium* spp.) were also recorded. The night deployment of the fish pot at this site (between 8pm and 9pm) captured a single American eel, *Anguilla rostrata*. This was a significant discovery, as the last time this species was detected in Tobago was in 1997 during Dawn Phillip's PhD surveys. Other species captured in the pots at the Hermitage site included the sleeper goby, *Gobiomorus dormitor*, and an impressively large freshwater prawn.

At the opposite extreme of the boundaries of the Bioblitz survey area, the team visited the Doctor River in Speyside Village. Here, similar species were noted with two exceptions: the swamp eel, *Synbranchus marmoratus* (local name: zangee) which is similar in form to the American eel but only distantly

related, and the marine snapper *Lutjanus griseus* (pague) at the blocked river mouth. The fish pot at this site did not yield any specimens to add to the list. Upstream at the Doctor River at the main road cross was also sampled by the entire team and two large manicou crabs (*Rodriguezus garmani* – formerly in the genus *Eudaniela*) were noted.

Back in Charlotteville, smaller sites were sampled by walking along the streams. Here the team found that the water quality was impacted by domestic waste. Finally, two additional sites were assessed on the way to collecting the fish pot at Hermitage on Sunday morning. No fish were noted at these sites, just one of the two invasive snails. In total six sites were sampled and crustaceans, molluscs and fish were the major findings. Tadpoles were also noted at the streams, but not identified as these were left to the experts within the Reptile & Amphibian Group to grapple with.

All in all, the Aquatic Group had its most species-rich Bioblitz yet: 30 species of algae, 57 cnidarians (including corals, gorgonians and anemones), 40 crustaceans, 14 echinoderms, 122 fish, 44 molluscs, 17 sponges, 22 worms, and 15 'others' including protists and tunicates. This adds up to a total of 361 species, and represents over one third of the total species recorded during the weekend! 🐛



**Giant freshwater prawn** Photo: K. Khan



## PLANT GROUP REPORT

by Mike Oatham



### Expectations

The first Bioblitz for Tobago took place in NE Tobago, based in the picturesque town of Charlotteville. For us the Charlotteville Bioblitz represented a chance to explore a part of Trinidad and Tobago that we have not had a chance to examine botanically in detail before. The area around Charlotteville is not that different in climate to areas of Trinidad, such as the coast where the Northern Range encounters the sea, however there is a distinctly more Antillean flavour to the ecosystems — as found northwards into the Lesser Antilles. The flavour is felt in the slightly different vegetation communities, the presence of species such as the silver thatch palm (*Coccothrinax barbedensis*) and in the steep winding roads leading to small villages in beautiful bays.

Some areas of interest in the Bioblitz area were Dry Rainforest on ultramafic rocks that have been reported for Tobago. Elsewhere in the world vegetation communities on ultramafic soils have a high proportion of rare or unusual species that have evolved to cope with the toxic soil conditions on the ultramafic rocks. The coastal vegetation communities were also of interest as they have been severely degraded and destroyed elsewhere in Trinidad and Tobago but have some large intact exam-

ples in NE Tobago. The Montane-Lower Montane vegetation communities in the Main Ridge Reserve were another target because they were usually intact native vegetation communities in the islands of the Caribbean and they often are home to plant and animal species of restricted distribution. Some of the species we were on the lookout for were either endemics, rare, or not found in Trinidad: the iconic silver thatch palm (*Coccothrinax barbadensis*), the Tobago endemic *Duguetia tobagensis*, the palm *Prestoea acuminata* and the tree ferns *Cyathea pungens* and *Cnemidaria spectabilis*. We were also curious to see *Rivina humilis* which occurs only rarely in Trinidad and *Amyris ignea* which is recorded only in Chacachacare but is recorded for coastal vegetation in NE Tobago.

### Methods

Armed with an abundance of enthusiasm and a new and improved sampling strategy, Team Plant was ready for our fourth Bioblitz. From our experience from the three previous Bioblitz events we have learnt how to maximize our species list. The area was examined on the USDA Forest Service map of ecosystems and the topographic map. All the different ecosystem types were noted and the access points (roads and trails marked on the maps and known to group members and Bioblitz organizers) were also noted. The group was split into three for the first day (12 midday to 5-6pm) in order to cover the maximum number of ecosystem types given the topography and availability of access points. One group concentrated on walking a trail to reach the highest point in the area (Pigeon Peak) which also boasted undisturbed Montane and Lower Montane vegetation in the Main Ridge Forest Reserve according to the USDA Forest Service map. Another group used a vehicle to access as many different ecosystem types as possible from Flagstaff Hill down to Hermitage Bay on the coast. They covered more ecosystem types but did not move away from the road. The third group tackled the walk to Pirate's Bay taking in coastal and disturbed vegetation communities. Groups encountered secondary vegetation (cocoa



***Inga* sp. from Pigeon Peak**

Photo: M. Oatham



### Coral vine

Photo: M.G. Rutherford

plantations, abandoned and active estates) and also native vegetation communities (in various stages of degradation). Each group maintained a list of plant species visually sighted (identification certain- mainly common species) and they also collected specimens of plant species they were unsure of. In the evening of the first day and into the next morning, all specimens collected were examined and compared to keys and photographs from the literature for identification. New species were added to the list and already listed species were confirmed. On the morning of the second day, a core group combed the grounds of the Man of War Bay Cottages for further species. It was a grey, rainy ending with few botanizing opportunities. Team Plant however was still working on specimens from the zealous collecting the previous day.

### Results

Approximately 345 species were observed in the Bioblitz area around Charlotteville in NE Tobago. This is the greatest number of plant species observed in the 24 hours of a Bioblitz to date. A very large number of vegetation communities were found in the vicinity of the Charlotteville Bioblitz area and were visited including Lower Montane Forest (licania-serrette forest at Pigeon Peak- thanks to the guidance of Dan Jaggernaut, without who we would not have reached), Lowland Rainforest

(crappo-cabbage palm forest), Semi-Evergreen Seasonal Forest (sandbox-cogwood-hogplum forest), Dry Evergreen-Littoral Woodlands (seaside grape-manchineel thicket), Deciduous Seasonal Forest (simaruba-silverthatch-dogroot thicket), Young Secondary Forest, Secondary Forest- Former Cocoa plantation and Bamboo Thicket. The Xerophytic Rainforest (balata- blue copper forest (on Ultra-Mafic Soil) was not reached due to lack of access points and lack of time. Gardens around the Man of War Bay cottages were also visited.

No endemics were found and few rare species. The uncommon palms *Prestoea acuminata* and *Coccothrinax barbadensis* were observed however not many individuals of silver thatch palm were found, definitely fewer than expected. The *Rivinia humilis* was found but the *Amyris ignea* was not observed during the Bioblitz. The tree ferns *Cyathea pungens* and *Cnemidaria spectabilis* were observed to be common on the summit of Pigeon Peak.

The natural vegetation communities visited are fragmented and much reduced from their natural extent and so represent interesting and valuable features of the natural heritage of Tobago.

### Conclusions

The range of altitudes and rainfall gradients allow the concentration of many different vegetation communities in the small area around Charlotteville. A mix of management practices that left a mosaic of natural ecosystems, active agricultural ecosystems and abandoned agricultural ecosystems contributed




### Stinging nettle

Photo: M.P. Oatham

to the high density of vegetation communities in the area of the Bioblitz. Methods for rapidly observing plants and reducing the number of specimens that need to be collected has increased the ability of the plant group to record the maximum number of species in the 24 hours of the Bioblitz. However, this method relies heavily on the knowledge in plant ID of a small group of people and in particular on Mr Winston Johnson, recently retired from the National Herbarium of Trinidad and Tobago. This means a large number of plant species were observed during the 24 hour period of the Bioblitz.

**Group Members:**

Mike Oatham, Doreen Jodhan, Winston Johnson, Linton Arneaud, Nigel Austin, Danielle Morong, Nandini Bridglal, Delezia Singh, Chernell Crooks, Adanna Alexander, Wyvonne Crooks, Kahani Oatham, Dan Jagernauth, and Aidan Farrell 



**Working on the identifications**

*Photo: M.G. Rutherford*



**The Bioblitzers outside the basecamp at the end of the Bioblitz. A big thanks to all who joined in another successful event.** *Photo: E.K. Rutherford*

## Volunteers and visitors during the Bioblitz. Big thanks to all who joined in!



The TTFNC thanks First Citizens for their generous support in the form of sponsorship of our Charlottesville Bioblitz 2015 and our 2016

TTFNC Annual Calendar.

The TTFNC also thanks the following organisations for partnering with us for the Charlottesville Bioblitz 2015:



**First Citizens**





Photos: E. Seeberan, C. Seepersad, M.G. Rutherford, K. Khan, E. K. Rutherford, M. Charran, J. Wong-Sang, R. Wong-Sang



## TTFNC QUARTERLY BULLETINS & INDEX ONLINE LINK :

<http://ttfnc.org/publication/field-naturalist/>



## Management Notices

### New members; Volunteers; Publications

#### New Members

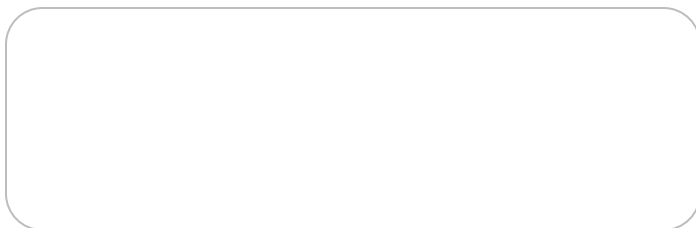
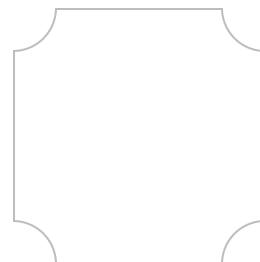
The Club warmly welcomes the following new members:

*Student members :* **Sharlima Rampersad**

*Ordinary members :* **Anne Hussein, Kumar Mahabir, Doon Rampharay**

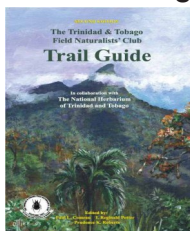
*Family members :* **Bruce Bird, John Gransaul, Jerry Wittet**

**NOTICE FROM THE EDITORS:** *Do you have any natural history articles, anecdotes or trip reports that could be published in The Field Naturalist? We welcome contributions from members. Please email your ideas or finished pieces to [admin@ttfnc.org](mailto:admin@ttfnc.org). We look forward to hearing from you*

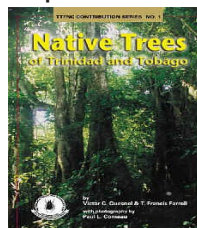


## PUBLICATIONS

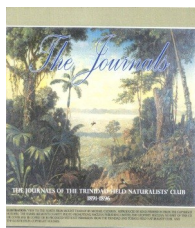
The following Club publications are available to members and non-members:



The TTFNC  
Trail Guide  
Members :  
TT\$160.00



The Native Trees  
of T&T 2nd Edi-  
tion  
Members :  
TT\$80.00



Living World  
Journal 1892-  
1896 CD  
Members :  
TT\$95.00



Living World Journal 2008  
Living World Journal back issues  
Members price : free



TTFNC 2016 Calendar  
Members : TT\$20.00

**Please support your club by purchasing the TTFNC 2016 Calendar!**  
**Now available from management and in bookstores. Members: TT\$20**

## MISCELLANEOUS

### The Greenhall Trust

Started in 2005, in memory of Elizabeth and Arthur Greenhall, dedicated artist and zoologist respectively, the Trust offers financial assistance to aspiring artists and biologists (in the areas of flora and fauna) in Trinidad and Tobago. Full details are available on their website: <http://www.greenhallstrust-wi.org/link.htm>

### Your 2016 Annual Membership Fees are Due:

Please view bottom right of the mailing label to check if your subscription has been paid.

### Submission of articles and field trip reports:

1. All articles must reach the editor by the eighth week of each quarter.  
Submission deadline for the 1st Quarter 2016 issue is February 26, 2016.
2. Electronic copies can be submitted to the 'Editor' at: [admin@ttfnc.org](mailto:admin@ttfnc.org)  
or directly to the editor or any member of Management. Please include the code QB2016 in the email subject label.