THE FIELD NATURALIST

Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club

January – March 2017 **Issue No: 1/2017**

Field Trip Report, Sunday 27 November, 2016
CAURA JUMBIE CAVE

by Nicholas See Wai

A group of fifteen members of the Trinidad and Tobago Field Naturalists Club gathered at the south entrance of The University Of The West Indies on the morning of Sunday 27th of November 2016. Their destination was the Caura Jumbie Cave. The group made their way down the Churchill Roosevelt Highway and then into the Caura Valley. The group stopped on a quiet road that was surrounded by

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Dan Jaggernauth briefs the group before they begin to hike to the cave *Photo by Jeffrey Wong Sang*

Inside This Issue

Editors' 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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FIELD TRIP REPORT - CAURA CAVE 2017

(Continued from page 1)

agricultural crops such as eggplant, ochro and paw paw. The group was also greeted by the sound of a striped cuckoo (*Tapera naevia*). In Trinidad and Tobago, the striped cuckoo is also known as 'wife sick'. After a briefing by trip leader Dan Jaggernauth the group set off on their journey to the cave. As the group made their way into the forest, a turkey vulture (*Cathartes aura*) was seen perched at the top of a Tree. The bois canot tree is also known as cecropia (*Cecropia glaziovii*). Cecropia is used to make musical instruments such as flutes and guitars. The tree is also planted in areas that are prone to erosion. Cecropia is also used for medicinal purposes. The leaves are used in the treatment of illnesses such as pneumonia and asthma. The leaves can be used to treat Parkinson's disease. Moving on a little further, another large bird was seen perched in a tall tree. This time, it was a grey headed kite (*Leptodon cayanensis*). This species can be seen in areas of open woodland and swamp forests. Its range stretches from Mexico to Trinidad, and parts of southern South America such as Peru and Argentina.

Once in the forest, Dan took a slight detour. He led the group to some large rocks. Some members got closer while others watched from a distance. After the large rocks the trail went uphill. The ground was slippery, which caused many members to tread carefully. Upon approaching the cave, some large sharp rocks were seen. After climbing over the rocks, the group arrived at the entrance of the cave. Dan then cautioned people to be quiet, since the cave is home to Africanized bees (*Apis mellifera scutellata*). Africanized bees or 'killer bees,' as they are called, are a subspecies of the western honey bee. Africanized bees are feared by many people because of their sting. When they are provoked, they have been known to chase people for long distances. The presence of the bees discouraged many people from entering the cave. Dan and Mike Rutherford were the only two brave souls who entered the cave. When Dan returned, he said the smell of guano was very strong. He also said that the layout of the cave was very confusing, since there were many chambers inside the cave, and one can easily get lost. After leaving the cave we returned to the cars by a different route.

Tracks at the start of the trail. Suspected ocelot (left) and crab-eating raccoon. *By Amy Deacon*

Dan then led us to a plot of land that was being used to grow crops such as portugals. After crossing a shallow stream the group made their way to the top of a small hill. At the top of the hill, the members came upon a lovely view of the surrounding area. Smooth-billed anis (*Crotophaga ani*) and crested oropendolas (*Psaracolius decumanus*) were seen. After a short rest the group returned to the cars, thus bringing another successful field trip to an end.

Dan Jaggernauth and Mike Rutherford find an encyclopedia entry on caves in the bus shelter. *By Amy Deacon*

'Naturalist In' Series

IN THE NEW NEW WORLD

A Review by Christopher K. Starr

A Review of: Philip Henry Gosse 1851. A Naturalist's Sojourn in Jamaica. London: Longman, Brown, Green & Longmans. This piece is 42nd in a series on 'Naturalist In' books. Previous reviews can be accessed at www.ckstarr.net/reviews_of_naturalist.htm

Philip Henry Gosse (1810-1888) was born in England into insecure circumstances. His early life was marked by hardship and often dire poverty. Because he had to go to work at an early age, Gosse had little formal schooling. However, there was much reading and writing at home at a time when the British working class was becoming increasingly literate and publishing was an expanding industry.

Gosse was physically sound and a thorough field naturalist, never happier than when out collecting and observing. He continued his excursions almost to the end of his life. He was a proficient writer of both popular science books and original natural history, illustrated with his own precise drawings and plates. His son, Edmund Gosse (1890, 1907), wrote two biographical accounts of P.H. Gosse, whom he said was "less in sympathy with the literary and scientific movement of our age than, perhaps, any writer or observer of equal distinction."

In 1832, at the age of 22, Gosse underwent a sharpening of his overall outlook that included a desire to devote himself to both natural history and religion. His life from that point was marked by definite purpose and, as expected, his writings were firmly in the natural-theology tradition. He became a stalwart of the Plymouth Brethren, whom his son called "a byword of bigotry and unlovely prejudice." They were regarded by the general public of that time much as the Jehovah's Witnesses are today, although with less warmth.

This all makes Gosse sound like a dreadfully compromised naturalist, yet that is far from the case. His observations were rigorous and reliable, as evidenced by his correspondence with Charles Darwin, who utilized some of Gosse's observations in the service of his theory of evolution. For his part, Gosse -- although a biblical literalist committed to the special creation of all species -- remained in fruitful communication with Darwin even after the appearance of *On the Origin of Species*.

Gosse with his son Edmund in 1857

Likewise, his scientific attitude was solid. This latter is seen in his approach to the lock-and-key explanation of insect genitalia. It had often been remarked that these tend to be both complex (at least on the male side) and species-specific, so that in principle one could identify species in many groups according to genitalia alone. This gave rise to the hypothesis — widely accepted until recently — that species specificity provides a mechanical guard against wasteful false mating. Even as he endorsed this

Two frogs endemic to Jamaica, *Osteopilus crucialis* (left) and *Eleutherodactylus luteolus* (right). The latter was long thought to be extinct until it was found in 1953, more than a century after Gosse discovered it.

attractive idea, Gosse (1883) noted that it still required scientific demonstration. He was not about to rest on the idea (central to religious reasoning) that if it feels right it must be true.

Gosse's subject was the living organism in its natural habitat. At the same time, he often took animals into captivity in order to study them better. He was in open revolt against the excessive attention of his time to dead museum specimens, disregarding the living animal.

This is not to suggest that he despised taxonomy, just that he recognized its limitations, especially with respect to tropical animals. Given the state of information at the time, Gosse did a remarkably good job of identifying species and was careful to give scientific names, even of the species mentioned only in passing. He even described several new species.

As a young man, Gosse made two trips to North America, first to Newfoundland and Québec (Gosse 1840) and then to Alabama (Gosse 1859). During 1844-1846 he spent 18 months in Jamaica, an island that he had chosen because it was biotically little known. Like Henry Walter Bates and Alfred Russel Wallace a decade later (see reviews 30 and 31), he aimed to finance his visit through the sale of specimens to private collectors and public institutions.

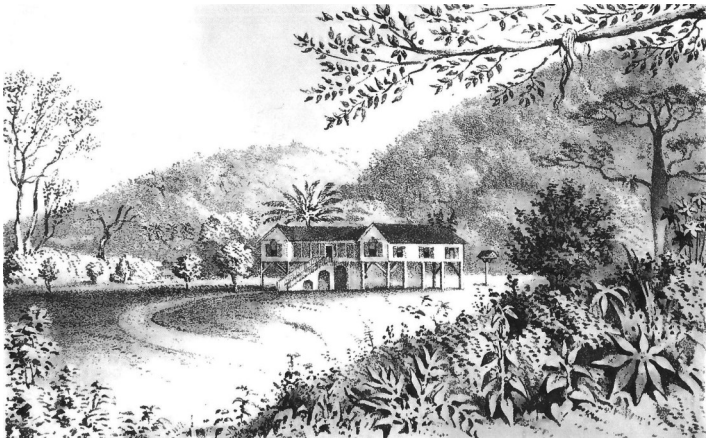
There had been one earlier major natural-history effort in Jamaica. In a 15-month effort starting in 1687, Hans Sloane (1707, 1725) had collected about 800 species of plants, mostly new species. Sloane's personal collections later formed the nucleus of the British Museum (Natural History).

As expected, Jamaica was a rich hunting ground for Gosse, and he established a daily collecting routine. During the early period he was impressed by one novelty after another on a daily basis. His main attention was to the birds, leading to a book (Gosse 1847) that brought knowledge of the birds of Jamaica to a new level, including definite records of almost 200 species. The present book, then, is mainly about animals other than birds.

In another respect, Jamaica was a disappointment. He did not find the expected profusion of large and showy lepidoptera and beetles, which actually seemed less abundant than in Newfoundland and Alabama. Even so, unlike Newfoundland and Alabama, Gosse actually liked Jamaica.

Even so, he was socially quite isolated. He knew no other naturalist in the island except Richard Hill, a magistrate and native Jamaican in Spanish Town, who provided many personal communications. This book is by Gosse "assisted by Richard Hill".

He stayed at Bluefields, a former sugar estate near the shore in the southwest of the island and about eight kilometres from the summit of Bluefields Mountain. The mainstay of Jamaica's economy, the sugar industry, had been in decline since before 1800, so that during Gosse's visit plantation society was in a state of advanced decay. Very shortly afterward it was ruined by removal of the preferential tariff on sugar. Slavery had been abolished a decade earlier. Bluefields was neglected and largely allowed "to resume the original wildness of nature". It was bad for the owners, but it suited Gosse's purposes very



Bluefields, Gosse's base in Jamaica

well.

A Naturalist's Sojourn in Jamaica is in the form of a diary. The 84 chapters bear titles such as "Bluefield Mountain", "Sea-Urchins", "The Venus Lizard", "The Pond Turtle", "Periodical Rain", "The Brush-Footed Spider", "A Swarm of Dragon Flies", "The Red Hairy-Tailed Bat", "The Liguanea Mountains", "Nocturnal Forest Sounds", "Gregarious Trees". These amount to a few long essays and a great many short ones. The method -- seen in some other naturalist-in books -- is to begin with a particular observation on a given date, then to expand and generalize.

As an example, the description of a large estate house leads to an enumeration of the wild creatures living in it. Among other topics to illustrate his range: the lizard *Thecadactylus laevis* re-growing its tail, the red hairy-tailed bat *Lasiurus rufus* and great-eared leaf bat *Macrotus waterhousei*, yellow boa *Chilabothrus inornatus* and the incubation of its eggs, colour changes and the display of the dewlap in anoles, the orb web of *Argiope argentata*, the beetle *Pyrophorus noctilucus* with conspicuous glow spots on the thorax and abdomen, the abundant arboreal colonies of *Nasutitermes*, the *Conurus flaviventer* nesting in old *Nasutitermes* nests, rain-fly swarms and the process of dealation, the calabash tree *Crescentia cujeto* as a host of epiphytes, the sting of a scorpion (with a clinical description of the pain and other symptoms), and wild hogs, including hunting and cooking them. He was rhapsodic about tree ferns, while analytical at the same time. I regret that he seems never to have encountered the endemic iguana, *Cyclura collei*.

It bears mention that Gosse's description of nesting by a solitary wasp (*Sphex* sp.) indicates that her prey is not dead but disabled. This presaged Fabre's (1855) demonstration that the prey is paralyzed by stinging.

Gosse's fine sense of landscape is seen not only both in the text and some of the eight full-page plates. The extensive index is an indication of seriousness.

His prose is often either vivid or purple, depending on how you look at it. Here, you can decide for yourself:

"The wild scream of the Kildeer Plover is suddenly heard, and up springs a flock of these birds, which wheel in swift flight around the traveller's head, and alight close to their first station. In the rushy shallows of the stream the stately form of the Snowy Gaulin is seen, deliberately wading hither and thither; or watching, motionless and silent, for his aquatic prey. Plump Peadoves, with large liquid gentle eyes, walk about on the turf beneath the pimento trees, picking up the fallen fruit, or the seeds of papilionaceous weeds; and now and their reiterated cooing, a very soft and mournfull sound, comes from the bordering woods, falling gently and soothingly on the ear."

Gosse never returned to the tropics, even as he remained an important and engaging English naturalist. That is worth another book review. 

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Bird Group Trip, July 17, 2016

CALTOO TRACE

by Kamal Mahabir

The weather in the week was extremely bad with floods in Caroni and Fishing Pond. So bad that Feroze phoned on Friday asking whether we should cancel the scheduled visit to Caltoo Trace on Sunday 17th July 2016. We decided to wait out Saturday with a caveat that if it rained we would definitely have to postpone. Well it turned out that there was little or no rain and the trip was given the go ahead.

Now, some time ago, Martyn Kenefick mentioned that there were Azure Gallinules at Caltoo and I volunteered to get there early -around 5:15am if anyone was also willing- to attempt to spot them. Feroze good-humouredly marketed us as the "insane" referring to the birding start time. Frankly, I was unsure if anyone would be interested in making the trip at that ungodly hour when no sooner than the notice was out, Stuart Millar called me to confirm. Confirmation also came from Tarran Maharaj, Davis Gunn, Sabira with youngster Zack Ali and Kay Hinkson confirmed Jalaludin Khan and Lawrence James. So there it was, the "insane crew" had materialised.

Someone told me that they would be there at 5am so at 4:45am I was parked at the corner of Caltoo Road listening to the calls of the Gray-necked wood rails and the Ferruginous Pygmy Owls. I was pleasantly surprised to see Maxine Hirst pull up and then Devan Mulchansingh both using Waze technology to guide them there. At

A flock of blue and gold macaws *Kamal Mahabir*

The rare blue ground dove *Kamal Mahabir*

5:30am we started walking south from the agricultural office along the riverside in search of our target bird. The Insane Crew now numbered eleven.

The weather was good and the team kept the bird tally ticking but it was Bird No. 23 that stopped us cold in our tracks. Lawrence James agitatedly gestured us away from observing a crowd of Giant Cowbirds perched atop a tree to a field opposite where there was a distinct blue coloured bird in open perch. BLUE GROUND DOVE! Cameras excitedly clicked away, exclamations of delight prevailed and grinning faces abounded all around. A lifer for ten of us! Lawrence had seen this before when he was very young. Devan quickly checked his field guide and confirmed that it was a RARE, shy Trinidad resident. The enormity of it sunk in when it was noted that the azure gallinule was a scarce resident. Rare trumps scarce any day!! Normally five blue and yellow macaws flying towards us would be would definitely be a highlight but even this sighting seemed somewhat lacklustre compared to the blue ground dove.

The walk was continued along to the end of the road but our target bird, the azure gallinule was not sighted. The team then met with the second batch of birders (the "sane" team) back at the agricultural office to continue with some more birding at Maridale Road.

See overleaf for complete list…

BIRD LIST FROM THE CALTOO TRACE TRIP

1. Black-bellied Whistling-Duck 2
2. Great Egret 1
3. Little Blue Heron 1
4. Cattle Egret 1
5. Striated Heron 2
6. Black Vulture 2
7. Turkey Vulture 2
8. Savanna Hawk 2
9. Gray-necked Wood-Rail 4 *heard*
10. Purple Gallinule 1
11. Limpkin 2
12. Southern Lapwing 5
13. Wattled Jacana 2
14. Rock Pigeon (Feral Pigeon) X
15. Pale-vented Pigeon 1
16. Ruddy Ground-Dove X
17. Blue Ground-Dove 1 *perched in the open with no.16 for a few minutes*
18. Striped Cuckoo 1 *heard*
19. Greater Ani 4
20. Smooth-billed Ani 12
21. Ferruginous Pygmy-Owl 1 *heard*
22. Short-tailed Swift 5
23. Black-throated Mango 2 *male and female*
24. Copper-rumped Hummingbird 1
25. Rufous-tailed Jacamar 1 *heard*
26. Lineated Woodpecker 1
27. Yellow-headed Caracara 2
28. Yellow-crowned Parrot X
29. Orange-winged Parrot X
30. Blue-and-yellow Macaw 5 5 *seen flying and later 3 perched. Assumed was the same bunch.*
31. Black-crested Antshrike 2
32. Barred Antshrike 2
33. Plain-brown Woodcreeper 1
34. Pale-breasted Spinetail 2
35. Yellow-bellied Elaenia 1
36. Pied Water-Tyrant 5
37. White-headed Marsh Tyrant 4
38. Great Kiskadee 4
39. Tropical Kingbird 6
40. Rufous-browed Peppershrike 1 *heard*
41. Gray-breasted Martin 10
42. House Wren 1
43. Tropical Mockingbird 6
44. Masked Yellowthroat 1
45. Masked Cardinal 1
46. Silver-beaked Tanager 1
47. Blue-gray Tanager 2
48. Palm Tanager 15
49. Blue-black Grassquit 4
50. Bananaquit 4
51. Giant Cowbird 30
52. Yellow Oriole 1
53. Yellow-rumped Cacique 2
54. Crested Oropendola 4
55. Violaceous Euphonia 1

Many thanks to The Insane Team, comprising : Lawrence James, Stuart Millar, Maxine Hirst, Devan Mulchansingh, Davis Gunn, Sabira Ali, 12yr. old Zack Ali, Kay Hinkson, Jalaludin Khan, Tarran Maharaj, Kamal Mahabir.

January - March 2017

STRATEGIC PLAN UPDATE

by Amy Deacon

One of the achievements of our 125th Anniversary year was the development of a strategic plan to clarify the club's vision and help us focus on our goals. This new section aims to keep membership up to date with the club's progress towards these goals.

Short Term Goals

Outreach

This quarter the club was represented at several events, including the National Energy Centre STEM fair in Couva, and the Orchid Society show. Thanks especially to Dan Jaggernauth, Jeffrey Wong Sang and other members who volunteered their time and enthusiasm.

The club assisted with a TV6 documentary on Chacachacare, Special thanks to Mario Young for the use of his boat, and all other members who gave up their time to assist.

Family Event

Planning began for this event to take place in July in Samaan Park, Chaguaramas.

Publications

Living World: Journal of the Trinidad and Tobago Field Naturalists' Club is now available as Print on Demand for those who desire a hard copy. It is also freely available online, along with the rest of the archive.

Medium and Long Term Goals

Land Acquisition

Management are actively pursuing the potential purchase of plots of land. Members are encouraged to let Management know if they become aware of any promising possibilities.

Membership

The club welcomed 20 new members this quarter—well above the usual number for this period.

A welcome letter has been composed and circulated to all members, and will be sent to all new members going forward, The idea is to ensure that new members are aware of the available opportunities to get more involved in club activities. This will both strengthen the club as well as encourage members to stay beyond their initial first year.

A copy of the full strategic plan can be requested by email to admin@ttfnc.org. Constructive comments and suggestions from members of ways to work towards these goals are always welcomed.

Your Ideas and Observations

A Quarterly Update

A call for caterpillars!

I am investigating the coordinated movement of *Hylesia* larvae, more commonly known as "shinny worms" or "chenille". These caterpillars show an unusual processionary behaviour when moving between resting spots and feeding sites. By walking nose to tail and keeping in physical contact with one another, they take on the appearance of a dark mass, resting in a large circular patch on tree trunks during the day, and forming trails on evenings to feed at the tops of trees. They have so far been observed only on guava trees.

The caterpillars themselves may be brown or black, and covered with long hairs, although the appearance varies between species and between instars of the same species. They range from about 2cm to 5cm. They will be most visible as a large contiguous hairy carpet or in their trails. Some species have been observed resting in leafy nests among the branches of the trees. I am currently working on colonies of two species, *H. nanus* and *H. metabus*, which were reared from a single aggregation on a guava tree in my backyard, and would like to replicate my experiments with more wild caught individuals to find out what the mechanism is behind their interesting coordinated behaviour.

If you spot them please take note of the location, and contact me at stefaniewhite94@gmail.com but be careful not to handle them with bare hands as their hairs can be highly irritating to the skin.

Stefanie White

***Hylesia* sp. caterpillars on a guava tree (left), and close-up.** *By Stefanie White*

Capybaras caught on camera from the Beetham Highway at around 4.50pm (above) and droppings near the Rice Fields. *By Selwyn Gomes and Kamal Mahabir*

Capybara in Caroni

Several members have reported evidence of capybara in and around the Caroni rice fields over the last couple of years. Mike Rutherford used his camera traps to capture footage of a group near to the Crematorium in 2015 and in March of this year Kamal Mahabir spotted droppings around the Rice Fields (see above).

Most recently, Kris Sookdeo and Selwyn Gomes both reported seeing individuals on the side of the Beetham Highway. The origins of this population is unknown, but may be the result of failed farming attempts, or accidental releases. Anyone seeing capybara in the wild may report their sightings to the club. More information can be found in Mike Rutherford's Nature Note in the 2016 issue of *Living World*.

The Editors

Please send us your ideas and observations to admin@ttfnc.org for inclusion in the next Bulletin!

Geology Trip Report, September 25, 2016

OILSANDS

by Reginald Potter

Sunday 25th September was the annual "Geological" field trip. The leader was Philip Farfan as in the last few years. The theme this year was Oilsands. These are outcrops of oil-bearing sands that have been bio-degraded and weathered, leaving the exposed sands available for quarrying for road surfacing material or to recover the oil content. The prospect of oil recovery is currently in the news as there is a proposal for such a scheme which would have considerable environmental impact.

After the normal stops to collect participants on a southern field trip, at Central Bank, Grand Bazaar and Mon Repos roundabout, plus collecting Haroon Hosein beside the road at La Romain, we headed south on the old Southern Main Road, along Mosquito Creek and down to the Point Fortin roundabout. There we had a brief stop for those who had not brought food to buy "doubles." I did not confirm the exact head count but at that point we totaled 12 vehicles, and it was a problem thereafter to keep this crowd together.

The first viewing was at the HDC housing project in Point Fortin to see the physical evidence of the Los Bajos fault. This is a major NW – SE tear fault that displaces the surface geology horizontally some distance around 16 kilometres, or possibly more. Structures like faults can rarely be seen in "soft" rocks such as exist in south Trinidad, and when seen close up it is often impossible to detect whether one is looking at a major or minor fault. The existence and magnitude of such a fault must be deduced by mapping a large area and thus noting the displacement of outcrops. At Point Fortin the Los Bajos fault actually passes through the HDC site and under some of the 2-storied housing blocks.

Philip first provided an explanation of oilsands by giving an interesting demonstration. He filled a glass with marbles representing sand grains. He then filled the glass with Coca Cola representing oil. Then by drinking the Coca Cola he demonstrated what happens when oil is produced from sand – the sand remains and the oil is gone. There is no need for 'subsidence' when the oil is removed as the sand grains have their own structure or 'packing'. He explained that "oilsand" as we know it is the product of bacterial degradation of oil, which makes it heavy, thick and viscous, then when it is exposed in or nearer to the atmosphere, most remaining light fractions evaporate leaving a thick sticky mess between the sand grains and we call it "oilsand".

He then showed us some heavy oil oozing out of the ground as round pitch-like patches on the ground – the "grass" around the buildings, except that in this rather sterile area created by HDC scraping away all the topsoil leaving only oilsand and shale as the gardens of the buildings. There is not a tree in the area and even ornamental bushes appear only in pots. (Presumably the grass-cutting costs at this site are low!) Philip explained that these patches are oil being squeezed out of the fault by the pressure of the surrounding rock. The patches were in a straight line passing below one of the blocks, and by extrapolation presumably several others. Nearer to the cars and across a road, the line of the fault can again be seen where oilsand (very weathered and grey coloured) is seen abutting sand that is not oil saturated. The difference in resistance to weathering can be seen where the oilsand stands higher than the 'normal' sand, and this difference has developed in the relatively short time since the site was bulldozed for building. Surprisingly there is no damage visible in any of the buildings, but Phillip joked that eventually someone may find their kitchen in somebody else's bathroom.

Keeping the group together had already become a problem as two cars had become separated from us, but eventually managed to find us before we departed for the next site. This was the Stollmeyer oilsand quarry, just north of Guapo. There we all drove on the unsurfaced road and turned into a large open excavation with a cliff at one side, and a pond at the other below a lower excavated cliff. Just visible on the high cliff was a pumping oil well. Philip described what we were looking at as

equivalent to being inside an oil reservoir if we imagined the strata extending over us. Oil sand was exposed in the cliffs and, in fact, in the ground we stood on. We moved on from there and drove up to the pumping well (in fact there were 2 of them) where he explained that these wells were drilled deeper into the oilsands to a depth where the oil was still liquid and able to flow through the sand grains to the well bore. A view of the thick oil was seen by opening a sample valve at the wellhead. This oil can be heavier than water and sinks.

From the Stollmeyer quarry we moved off for the next stop which was the New Horizons oil company in Parry Lands. This involved returning back south, down the road passing through Guapo, and turning left into Parrylands road. Once we had passed the houses near the Southern Main Road we travelled on and on with numerous turn offs that lead to various parts of this enormous shallow oil field, operated by different companies. As we neared the destination, going very slowly, keeping the next few cars in sight and waiting several times for them to catch up, I got a call from Feroze that he was lost with Selwyn. It was extremely difficult to explain the way through this labyrinth so Selwyn decided to return home before he got more lost. When we arrived at New Horizons base we saw cars behind us turning down a wrong road, followed by all behind them! Knowing this is a dead end we waited until the last had entered before chasing after them and directing them back to base. Eventually 10 vehicles made it to the destination including Sheldon Brown in his ancient Russian Lada!

New Horizons have developed the field by directionally drilling from several central locations. This reduces the number of drilling sites necessary thus saving the environment, which is largely secondary forest. Hence at one site there are

Clockwise from top left: Phillip Farfan gives members an introduction to the geology of South Trinidad; A geological map of Trinidad; Members gather at the Stollmeyer oilsand quarry; A view of the quarry.

several wellheads, most of which are fitted with their patented controller known as the 'Smart Pumper'. This is an interesting device that senses the fluid level in the well and controls the rotary pump to match the inflow from the oilsand formation. Hence 'pump off' is avoided in which serious wear can result from over pumping the well. These pumps are all monitored from the office by electronic data transmission so failures or problems can be quickly detected.

The office site is also planted with herbs and one employee has made a sizeable garden from which he quickly harvested enormous paw paws, and plantains for an opportunistic sale to the group.

Phillip directed us to a hilltop recreational covered viewing deck also constructed by the company from which we had a very pleasant view to the north of the forest, San Fernando bay and the Hill, and onward to the Northern Range. This hilltop is formed again by the increased resistance to erosion of the oilsand relative to the shales and silts that are not oil saturated. We lunched at the viewing deck then continued to a location where a landslip had occurred and bulldozing benches into the oilsand had created another view of the area and the numerous well sites. This area is where the first 'commercial' oil discovery was made in 1907. Although oil had previously been discovered in Aripero, around the Pitch Lake, a large 'gusher' discovery was made in this area and in 1910 the first cargo of crude oil was made from La Brea. The earlier discoveries had not managed to achieve commercial development for a variety of reasons, including lower flow rates, remote and difficult location in deep forest, the dangers of transporting by ship the gassy crude oil, market demand etc.

The next stop was next to the Pitch Lake at La Brea. Avoiding the Visitor Centre with its pestering 'guides' we turned off on the south side of the Lake along a road being widened but not yet surfaced, to the La Brea Industrial Park – 'Labidco'.

This provided good views of the Lake and where it descends to the sea we stopped on a flank of the Lake – which is an enormous crater at the top of a low hill. All along the left side of the road are industrial establishments with large stocks of pipe and equipment serving the oil and gas industry. From this point we had a view of 5 stacked offshore drilling rigs, shipping, and in clear view, the 'topsides' structure of bpTT's next gas development 'Juniper'. I explained to the group that what we were looking at is the next most significant development in Trinidad's economic fortunes. The multi-decked structure will be moved to the quayside and lifted onto a transportation barge. The 'jacket' will have already been placed on the sea floor and secured, and the topsides will be lifted by an enormous crane barge, and placed onto the jacket structure. This will receive gas flowed from wells completed on the sea floor in deeper water, and piped to the platform. Production is due to start next year and add the first additional revenue stream to our struggling economy, but sadly, not enough to make up current shortages due to falling production and low prices. Also visible were the many offshore platforms of Brighton oilfield and to the southwest, Pointe Ligoure and Soldado fields.

Philip answered a question on the origin of the Pitch Lake by explaining that pitch is different from oilsand (as used in road surfacing) in that pitch is composed of heavy residual oil, clay, and water in approximately thirds. There is very little to no light fractions to distill out of pitch since this has been lost to evaporation long ago. It is believed that to achieve this mix the oil seepage must have occurred subsea, but the cause of the crater is more difficult to explain. The depth of pitch is about 250 feet. He directed us to pitch outcrops in the road cutting appearing as hard grey material that was obviously different to the surrounding soil. We examined these closer and found a definite sulfurous smell in the immediate vicinity.

The field trip ended here since we had been driving a long time with numerous stops and the day was getting late, with a long drive home. Hence we did not visit the Darwent Well at Aripero (which the Club had seen on previous trips)

Our thanks to Philip Farfan for a most interesting and well explained field trip.

Bird Trip Report, January 15, 2017

MOUNT ST BENEDICT

by Matt Kelly

The trip was led by Feroze Omardeen. There were 17 participants. The day was sunny and hot. We identified 55 species. Highlights were a blue-tailed emerald hummingbird and a pair of white hawks in an aerial engagement.

Our first Rally Point was at 6:15 AM outside Mt. Hope Hospital entrance guard booth. While waiting, I searched in vain, even resorting to my binoculars, for a doubles stand nearby, and had to be sorely disappointed. We really need to reconsider some of these meeting points! While waiting there for about 10 minutes, I saw at least 2 to 3 dozen orange-winged parrots fly over. They were all heading from West to East. We moved on up to Mt. St. Benedict to meet the rest of the group.

Mt St Benedict was the vision of the Right Reverend Mayeul de Caigny, O.S.B., of Bahia, Brazil, the Lord Abbot of Mt. St. Benedict who came to Trinidad on December 27, 1911 seeking an exceptional site for a new Benedictine monastery. The property was purchased in 1912, and work began immediately by the newly arrived monks. By 1918, the steady stream of pilgrims to the site could already find that the church, the dining hall, and many of the main buildings were finished and electrified. Also finished were the access roads, as well as a guest house, the water system, the bridge to the water reserve, a cemetery, apiaries, gardens, and groves. Over the years, the compound has grown to its present impressive state. Many religious pilgrims and visitors still come from everywhere to visit this tranquil, uplifting, peaceful place.

In the May 2, 1959, edition of the Catholic News, it was reported:

"Dr. Fidel Castro (32) the Cuban Prime Minister, paid a quick stop-over visit to Mount St. Benedict on Wednesday morning last, while on his way to Rio de Janeiro. Dr. Castro who was educated at Havana's Jesuit-run Belen College and who belonged to the Catholic University Students movement while studying law in Havana University, said that Cuba is beginning a new era in which the Christian spirit will prevail..."

We then commenced our hike to Mt. Tabor, led by Lawrence James, who was very knowledgeable of this area. The trail started off along on old bench trail, right off the parking lot, then crossed an old,

Members of the Bird Group on the road at Mount St Benedict

decaying, decrepit, rickety bridge, built into a very steep rock face that was mentioned as existing in 1918. Is this bridge that old? I worried about the entire group walking on this structure all at the same time. It held. We passed the well house for Mt. St. Benedict's water supply. The trail wound its way up the mountain on a nice bench trail. Feroze remarked about, "the interesting vegetation in the deforested area near the top, including the savannah serette (*Byrsonima crassifolia*), which is typical of the Aripo savannah."

When we were near the peak the trail forked. The upper (right) fork led to the very top of Mt. Tabor, while the lower fork headed back down. Standing there, at that fork, in the bracken fern (*Pteridium aquilinium*), there is a really grand and picturesque view of the valley below, while numerous black vultures lazily soar to and fro over the scene. The view took in the coast of Venezuela, sweeping down to the Trinity hills and including Brigand Hill. Lawrence offered to lead some of us to the summit, which was about a 10 minute walk up the right fork. About 6 of us went. At the very peak of Mt. Tabor, we found the ruins of the original Abbot's house. There were some old mango trees still around the grounds, looking like they are still bearing, which the original monks had planted. Lawrence said that back in time, when the building was occupied, the trees and brush would have been all cleared away. He said the original structure, with its large flags, would have been seen from Caura, down in the valley below. Now, the only thing left standing are these old stone walls, some held up by several stone ramparts facing towards Caura. Apparently, this structure was abandoned due to the difficulty of keeping a water supply.

Bird life had been somewhat scarce since we left the parking lot.

While walking on the trail, I noticed a small object, about the size of a ping-pong ball attached to a thin vine tangled across the trail. Upon examination, it was a small wasp's nest, that I had never seen before. Being out in the open, and across the trail, it was disturbed by the first few people to pass. When I got to it, it was apparently vacant. It was made of hardened mud, had 19 cells, and was shaped to a point on the bottom, as though the design included a "drip edge". [See photo] I contacted Christopher Star regarding this find and he responded:

"That is Trypoxylon manni. Members of its genus are usually solitary, but some of them have social habits to one extent or another. T. manni is one of those. I judge that you found an old nest. If it had been an active one, you would probably have found several adult females in it."

"That is a wasp. We have no hornets in this region. The nest is made of mud, and note that it is a single horizontal comb, the same basic structure as jack spaniard (Polistes spp.) nests. This is an example of convergence, as the two groups are not closely related. One other thing. As your photos show, there is a mud projection downward from the middle of the comb, something I haven't noticed in any other wasp comb. As far as I know, no one has suggested a function for this, but it seems almost certainly to be a drip tip, such as are at the ends of leaves of many plants in the humid tropics…The wasps, themselves, are slim, little inconspicuous creatures that I don't believe I have ever seen away from a nest."

We headed back down, into the Caribbean Pine plantation (*Pinus caribaea*) to meet the majority of the group who had opted to rest in the thick, soft, spongy layer of the long pine needles. We had a commanding view of the Maracas Valley below and Mt. El Tucuche. It was here that we had our most interesting sighting of the day. Two white hawks flew in front of us, and they seemed to engage with each other in the air, with one as the aggressor and the other as defender. They almost seemed to lock talons in the air. This behavior has been recorded in other large raptor species, such as the American bald eagle, as a mating ritual. We left not knowing if

Old crabronid wasp nest (*Trypoxylon manni)*

Two white hawks fighting in mid-air
Photos by Lawrence James

we were witnessing a love dance or an aggressive attack.

Lawrence got some amazing photos. After a zone -tailed hawk passed, and some rest in the shade, we headed down, with a stop at the fire tower. More great panoramic views could be had with the effort of climbing the stairs. The tower structure is still very sound. We finished the trip by trying to coax out more birds with some more owl calls, but by now, it was "siesta time" for most of the birds. It was a great day, with a good bird list and a great group of people. I look forward to the next trip!

BIRD LIST FROM MT ST BENEDICT TRIP

1. Little Tinamou (*Crypturellus soui*) 2 *Heard calling in forest.*
2. Black Vulture (*Coragyps atratus*) 30 *Ubiquitous, flying overhead all day.*
3. Turkey Vulture (*Cathartes aura*) 3 *Sitting on a tower.*
4. White Hawk (*Leucopternis albicollis*) 2 *Courting or fighting.*
5. Zone-tailed Hawk (*Buteo albonotatus*) 1 *Passed overhead a few times.*
6. Ruddy Ground-Dove (*Columbina talpacoti*) 6
7. White-tipped Dove (*Leptotila verreauxi*) 2
8. Ferruginous Pygmy-Owl (*Gaucidium brasilianum*) 1 *Heard.*
9. Short-tailed Swift (*Chaetura brachyuran*) 4
10. Rufous-breasted Hermit (*Glaucis hirsuta*) 2
11. Little Hermit (*Phaethornis longuemareus*) 1
12. Ruby-topaz Hummingbird (*Chrysolampis mosquitus*) 1
13. Tufted Coquette (*Lophornis ornatus*) 1
14. Blue-tailed Emerald (*Chlorostilbon mellisugus*) 1
15. Copper-rumped Hummingbird (*Amazilia tobaci*) 6
16. Peregrine Falcon (*Falco peregrinus*) 1 *Passed overhead.*
17. Lilac-tailed Parrotlet (*Touit batavica*) 12 *Two groups flew over.*
18. Orange-winged Parrot (*Amazona amazonica*) 20 *Give or take.*
19. Green-rumped Parrotlet (*Forpus passerines*) 14
20. Barred Antshrike (*Thamnophilus doliatus*) 3
21. Southern Beardless-Tyrannulet (*Camptostoma obsoletum*) 7
22. Forest Elaenia (*Myiopagis gaimardii*) 1
23. Yellow-bellied Elaenia (*Elaenia flavogaster*) 7
24. Yellow-breasted Flycatcher (*Tolmomyias flaviventris*) 8
25. Great Kiskadee (*Pitangus sulphuratus*) 6
26. Boat-billed Flycatcher (*Megarynchus pitangua*) 2
27. Tropical Kingbird (*Tyrannus melancholicus*) 6
28. White-bearded Manakin (*Manacus manacus*) 1
29. Rufous-browed Peppershrike (*Cyclarhis gujanensis*) 1
30. Golden-fronted Greenlet (*Hylophilus aurantiifrons*) 6
31. Red-eyed Vireo (*Vireo olivaceus*) 1 *Calling in forest.*
32. Southern Rough-winged Swallow (*Stelgidopteryx ruficollis*) 2
33. House Wren (*Troglodytes aedon*) 12
34. Rufous-breasted Wren (*Thryothorus rutilus*) 1
35. Long-billed Gnatwren (*Ramphocaenus melanurus*) 4
36. Cocoa Thrush (*Turdus fumigatus*) 1
37. Spectacled Thrush (*Turdus nudigenis*) 6
38. Tropical Mockingbird (*Mimus gilvus*) 16
39. Yellow Warbler (*Dendroica petechial*) 7
40. Golden-crowned Warbler (*Basileuterus culicivorus*) 1
41. White-lined Tanager (*Tachyphonus rufus*) 1
42. Silver-beaked Tanager (*Ramphocelus carbo*) 2
43. Blue-gray Tanager (*Thraupis episcopus*) 7
44. Palm Tanager (*Thraupis palmarum*) 40 *Give or take.*
45. Turquoise Tanager (*Tangara mexicana*) 10
46. Blue Dacnis (*Dacnis cayana*) 4
47. Green Honeycreeper (*Chlorophanes spiza*) 2
48. Blue-black Grassquit (*Volatinia jacarina*) 11
50. Bananaquit (*Coereba flaveola*) 10 *At least.*
51. Grayish Saltator (*Saltator coerulescens*) 10
52. Shiny Cowbird (*Coereba flaveola*) 4
53. Yellow Oriole (*Icterus nigrogularis*) 2 *Pair.*
54. Crested Oropendola (*Psarocolius decumanus*) 1
55. Trinidad Euphonia (*Euphonia trinitatis*) 4
56. Violaceous Euphonia (*Euphonia violacea*) 5 *One pair at nest.*

Club Trip Report, October 30, 2016

RIO SECO

By Stephanie Warren-Gittens

About 25-30 persons set off for Rio Seco, bright and early on the morning of October 30, 2016 on the trail at the end of Salybia Matura Trace. The sunny skies promised a good day of hiking, for what for some persons consider a short and easy hike; however, this trip would prove to be quite eventful later on.

We were briefed by Dan and Selwyn (who introduced the Australian High Commissioner as one of the day's guests). Heading into 'snake' country as Selwyn termed it, an area known for being frequented by mapepire; some of the inexperienced among us were cautioned on their ill-advised choice of ¾ pants. Also, we were warned of the depth of the pool at the fall, some 6.7m at last check; however, this fluctuates based on the weather conditions, foreboding in hindsight perhaps?

Then we were off. A hut used for recreation was pointed out on the right, shortly after we started. We also briefly stopped again so that Dan could share some points of interest regarding the Mora forest and the Mora seed, which dominates the forest floor along the trail.

As we continued along the trail, the weather changed and it began to rain; which didn't bother us too much, as in some areas the canopy filtered the drops, though in other areas we got quite a soaking.

By the time we arrived at the fall we were not only drenched in sweat from the humidity, but also from the rainfall. However, the rain stopped by the time we reached the pool.

One benefit of an early hike start is beating the crowd at the pool, as we were the first there and could enjoy the fall to our liking with little disturbance. Some chose to take a dip/swim in the pool and set up at various points along the edges of the river. Selwyn geared up in his snorkel and reported that the visibility was quite poor in the pool, however he did see one or two fish. One or two others explored the stream.

A lizard (brown with spots) was spotted on the left, he escaped, however, before a good picture could be taken of him. Some dragonflies played merrily over the water's surface, while two types of fish braved the shallow edges of the pool.

After about an hour at the pool, it was observed that the water flow increased and just as that

R-L: *Mora excelsa* seed germinating; Dan Jaggernauth talking to the group; some unusual orange parasol mushrooms *Photos by Stephanie Warren Gittens*

A reminder of how quickly a previously calm river can become dangerous.

Photo by Stephanie Warren Gittens

observation was made, the colour changed indicating that we needed to get out immediately. Within minutes the pool/river level increased from the calm conditions just before.

A very dramatic scene was unfolding: six persons, including two children, were trapped in the middle of the river in a somewhat safe zone for the time being. By this time, some other visitors to the fall arrived. One by one, two of the stranded women attempted to cross; however this was very difficult as the river level was much higher hiding some of the rocks below. The current was also much stronger and if not for one or two of the able bodied visitors, the women may have been pulled along by the current. The two, however, women made it safely across, .

Dan then attempted to secure a rope across the river so that the others could attempt to make it across; this had to be abandoned as the current was too strong. As such, the stranded others returned to the bank on the other side and waited out the hazardous conditions. Dan took this time to capture (photograph) the river in this swollen state. Eventually at around 12:00pm, the others got across, with help from another group and at this time the current was not as strong. What an adventure!

The trail out was quite tame as compared to the mini-rescue mission; two other groups came and left upon seeing the river conditions. The remnant of a tree trunk was observed covered in termites. Also, a sixth form Environmental Science class was busy collecting samples in mid-river and someone was heard commenting that they had seen two zangees.

Further along the trail, on the way out, two bats were also spotted flying about, and just before crossing a small stream, a sudden movement in a puddle caught my eye. On closer observation, a small female jumping guabine (*Anablesoides hartii*) was spotted in a puddle, presumably having travelled over land to reach it. All in all a good day was had and the two boys probably had a good story to give their classmates the next day.

NATURE IN THE NEWS

A quarterly summary of local environmental news

by Kris Sookdeo

JANUARY

Fears raised over Guanapo water

It was revealed that a 2014 study by the UWI showed that lead was leaching into surrounding water from the Guanapo landfill. The Caroni Water Treatment Plant, the country's largest producer of drinking water at 75 million gallons per day, receives water from the Guanapo area. WASA subsequently sought to allay safety fears, indicating that it utilized a rigorous process that tests for heavy metal contaminants, including lead, and its water is regularly monitored in keeping with WHO guidelines.

Wrong hummingbird on driver's permit

The design of the new T&T driver's permit was the source of some disappointment as it appeared to feature the non-native ruby throated hummingbird of North America, at best possibly having been confused with the native ruby-topaz hummingbird.

Poachers caught

Five men were found to be hunting in Matura without hunting permits and with two unlicensed rifles.

FEBRUARY

Turtle rescued from net

The life of at least one turtle was saved after Game Wardens were alerted to the presence of turtles in a fishing net in Salybia. Two turtles were already dead and the surviving turtle was cut free. All were green turtles (*Chelonia mydas*). It was not specified whether they were accidentally ensnared or deliberately targeted. (Video clip at http://ctvtt.com/ctv/index.php/c-news/news/item/46650-wardens-saves-sea-turtle).

Dead dolphin at Mosquito Creek

The carcass of a bottlenose dolphin was photographed at Mosquito Creek, after the body was placed on the sea wall. The cause of death is unknown.

MARCH

Illegal birds seized

The owner of a pet shop along the Caroni Savannah Road, Chaguanas, was found to be in the possession of protected birds: a yellow-headed amazon parrot (offered for sale at a price of $1,000) and two saffron finches.

In an unrelated incident, the Minister of Agriculture indicated that "recent operations carried out by the Ministry led to the seizure of 22 yellow and blue macaws, with 15 of them being babies".

Beach Jazz banned

The EMA has blocked the hosting of Tobago Beach Jazz on Turtle Beach as the area is a nesting site for sea-turtles. Turtle Beach is one of three index beaches monitored in Tobago by the Turtle Village Trust during the sea turtle nesting season.

Waste management progress?

A consultation on the issue of banning the manufacture, import and use of styrofoam for food and beverage containers in Trinidad and Tobago was held on March 15. The key decision coming out of the meeting was the formation of a working committee comprising government ministries and private sector stakeholders to chart a path forward. The Minister of Planning and Development indicated that the Ministry is in support of a ban but "wanted to follow a process in accomplishing this".

Meanwhile in Tobago, the THA on March 24 passed a motion to phase out polystyrene foam products on the island.

On a similar note, a cabinet decision was taken in March that the mandate of SWMCOL be expanded to include the ability to recycle and manage waste disposal, thereby becoming the authority for recycling on the island. The changes were expected to be made over the subsequent three months.

Bug Group Profile No. 1

WASPS

by Christopher K. Starr

With this issue the Bug Group of the Field Naturalists' Club opens a series of portraits of some of our outstanding land arthropods.

Known in ordinary speech as "bugs", these comprise three great groups. Of these, the insects make up the bulk of known species of animals and about half the total known species of living things. The arachnids are also extremely diverse, and you are all accustomed to encountering them in daily life. The myriapods (centipedes and millipedes) are much less conspicuous, but you certainly come across them from time to time.

Club stalwart Gerhard Schipp recently asked us about an odd nest of social wasps he had noticed near his home. It was immediately recognizable from his photos as *Synoeca surinama*, known in Trinidad as the djèp-tatu from the creole words for "wasp" and "armadillo". It is similarly known as the armadillo wasp in several other languages on account of the distinctive form of its nest. The wasps, themselves, are uniformly dark, gun-metal blue and about the size of the familiar Jack Spaniards (*Polistes* spp.).

S. surinama is a swarm-founding wasp (maribon), so that a new colony is initiated rather abruptly by a mass of queens and workers. The swarm settles at an acceptable site, and the workers set to forming a nest. They make a comb of brood cells with an over-arching envelope and a single entrance hole at one end. In just a few days there is an entire new nest in place.

Typical one-lobed nest of *Synoeca surinama* on a tree

By Gerhard Schipp

If the colony prospers it may run out of available brood cells. Then it extends the nest further up the substrate, with a new envelope to cover the new comb, and again a single entrance hole at the end. Although the nest is continuous, the two lobes are readily apparent. In Trinidad I have very seldom seen a nest grow beyond three lobes, but I am informed that in Brazil they commonly get much larger. And in Costa Rica I was pleased to find an active nine-lobed nest of the very similar *S. septentrionalis*, by far the largest I have ever seen.

People fear the djèp-tatu, and with good reason. If a colony is molested, it can mobilize a force of some hundreds of swiftly flying, stinging defenders. However, unless a swarm or an established colony is situated low on a tree by a playground or anywhere else that it poses a threat to the innocent, my advice is to leave it alone. Especially farmers and gardeners should be happy to have these and other social wasps in the neighbourhood, as they serve as natural biological-control agents.

You have probably heard that when a honey bee stings someone, the bee usually cannot extract her stinger and ends up dying. This is true. Human skin is quite rubbery, and the bee's sting lancets have backward-directed barbs that are held in the skin like fish hooks. The lancets are the business end of the stinger, a pair of tiny needles that piece the skin and allow venom to penetrate. And that is why honey bees are subject to *sting autotomy*.

But here is what you probably didn't know: almost all wasps and bees have such barbs on the lancets. In most species, these are few in number and not very big, so that they give the stinger traction, while allowing it to be pulled out with ease. Years ago, a student and I devised an *index of serration* to combine the number and size of the lancet barbs, relative to the size of the stinger. The jack spaniard *Polistes lanio* has six barbs on each lancet and a serration of 0.65. As you may know from experience, she has no

difficulty stinging -- sometimes repeatedly -- and then flying off. Honey bees, in contrast, typically have 8-9 pair of barbs and an average serration of 2.43.

What about *S. surinama*? She typically has 12 barbs per lancet. These are smaller than the honey bee's, but it still gives her a high serration of 1.60. So, what happens when she stings? You have probably been able to avoid the experiment, but a solid djèp-tatu sting in human skin usually results in sting autotomy

Figure 1.

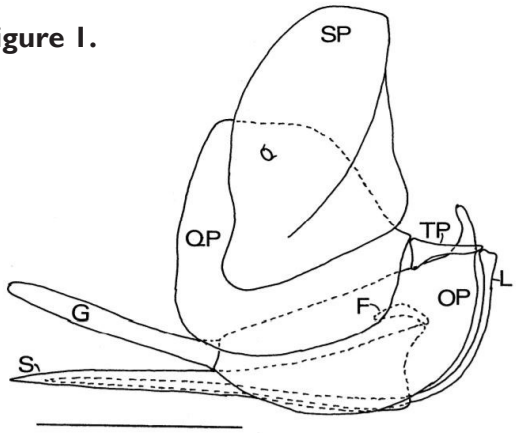
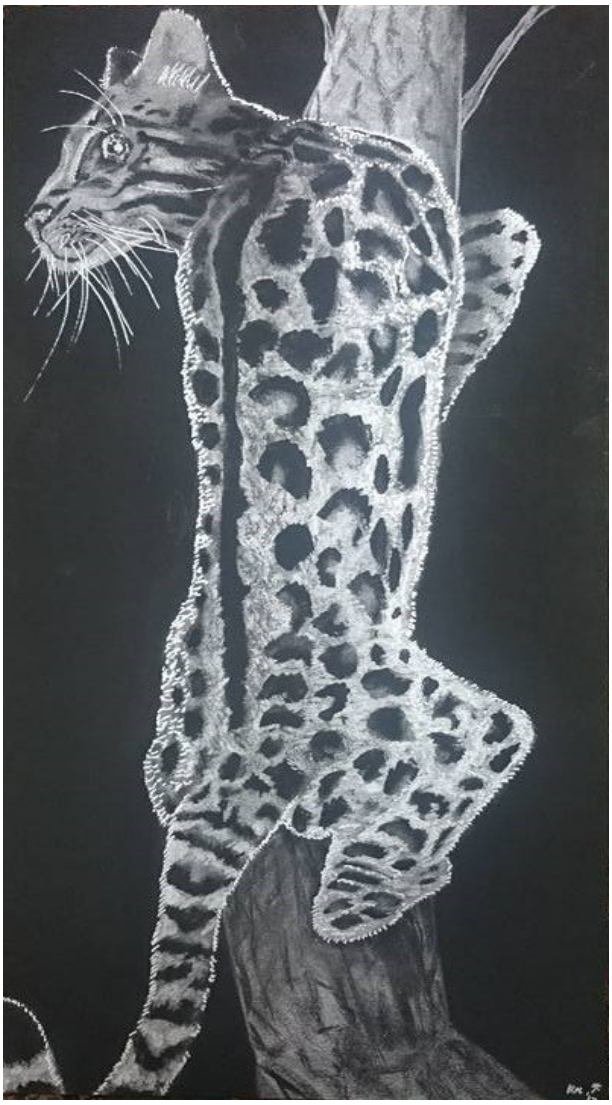


Figure 1: Stinger of *Synoeca surinama* in left side view, with the components partly spread out. The total length is about 2 mm. The paired, needle-like sting lancets (L) are the business end of the apparatus. Moved by the triangular plate (TP) and guided by the enveloping sting shaft (s), they penetrate the skin and direct venom into the wound. As in the honey bee, the lancets are barbed near the tip and so are not easily withdrawn from the wound. Scale bar = 1 mm.



Environmentally Sensitive Species skilfully painted in acrylic by Katrina Khan: Golden Tree Frog, Ocelot and West Indian Manatee (painting entitled '*Elemental*').

Art Showcase

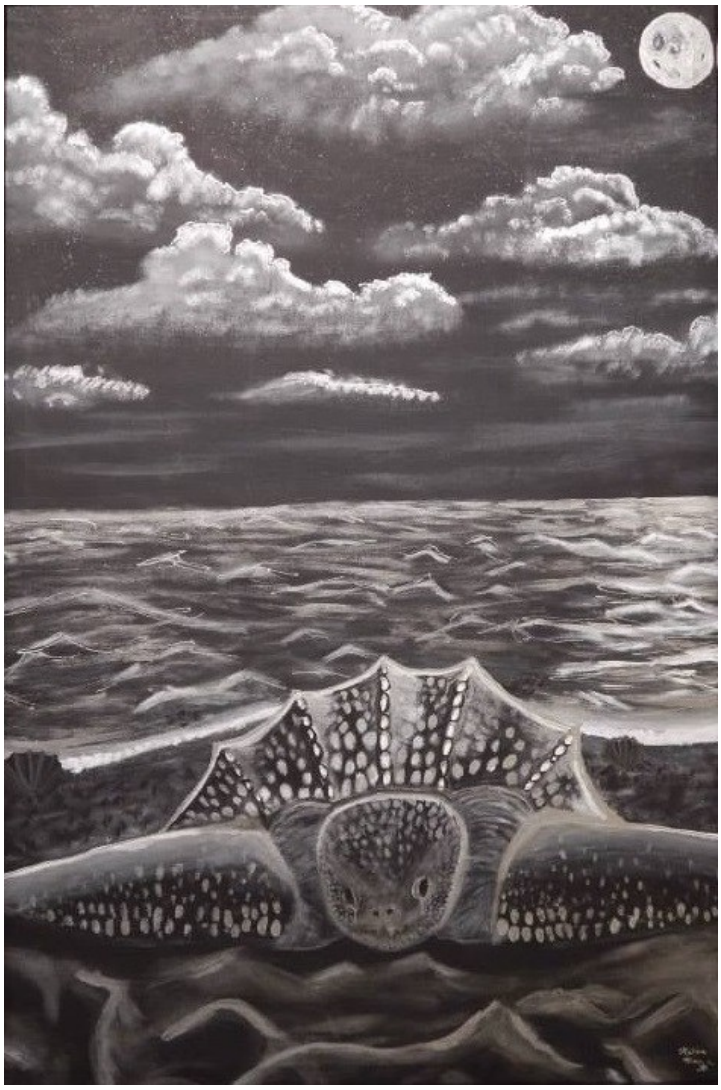
SHINING SHADOWS

by Katrina Khan

Shining shadows these will soon be if we don't do something immediately. My lifelong passion for wildlife and biodiversity, especially in the marine environment, permeates everything I do. Anthropogenic pressures on the diverse ecosystems that exist in Trinidad and Tobago have had devastating impacts on our flora and fauna, and there aren't enough people in the wider society who understand, know or even care. I decided to take advantage of a unique opportunity to shine a light on some of our individuals under threat.

Since 2012, the Art Society of Mount Hope has held an annual art exhibition. This fifth exhibition was set to be the largest yet, set to be held at the National Academy for the Performing Arts – Lord Kitchener Auditorium and boasting over 200 pieces from artists around the country. As an amateur artist (or more accurately, someone who relieves stress through paint) I was nervous to show any of my pieces on such a grand scale. My only previous exhibition experience was my entry into the Environmental Management Authority's Poster and Art Competition to Highlight Environmentally Sensitive Areas and Species in Trinidad and Tobago 'Environmentally Sensitive Areas and Species… through my eyes' in 2014. I entered two pieces for that competition, one of which came tenth and went on to be featured in their 2015 calendar.

I chose to depict the sensitive species in black and silver acrylic paint, a palette that was stark with contrast and almost melancholy in mood. Night, darkness, yet a shining hope kindled in those lucky enough to catch a glimpse of the rare species in the painting. That was the aim, to show the reality that these animals are on the verge of disappearing into darkness, yet there is a glimmer of hope for those who dared to care. Trinidad and Tobago is a unique country with regard to its biodiversity. These beautiful and elusive creatures will fade like shadows in the night and will remain as shining memories if not protected in time.



"Innate Return" *By Katrina Khan.*

TTFNC member Katrina Khan is a Health, Safety and Environment (H.S.E.) professional with a background in Environmental and Natural Resource Management, Marine Biology, Zoology and Tourism Development and Management. Katrina has a passion for experiencing cultures as well as art, poetry and the natural sciences. Her lifelong enthusiasm for sustainability, coastal conservation and the marine biome inspired her to form the Facebook page 'Marine Minded'. She uses this platform to share information on current ocean events, human relationships with the sea and interesting facts to promote awareness and encourage public participation.

Memoirs

DISCOVERING FUNGI BIODIVERSITY IN T&T

by Jeffrey Wong Sang

My initial fascination with fungi began in 2011. It started with the discovery of the orange-veiled lady mushroom during a regular walk with my wife and friends at the Bamboo Cathedral, Chaguaramas. Fascinated by its beauty and uniqueness, I was motivated to search and discover more of these little known gems of nature and added them as subjects of my ongoing photography. Soon enough, my curiosity with fungi mushroomed as the number of photographs of various families of the fungi kingdom grew for the next four years. At that point, I was not particularly interested in doing anything else with the fungi. I thought it was a different hobby which I kept to myself and was not sure anyone else shared my interest in Trinidad and Tobago.

In 2013, following a telephone meeting with Mike Rutherford, Curator, Zoology Museum at UWI, I was invited to assist with the fungi count in the TTFNC/UWI Bioblitz that year in the Arima Valley at Asa Wright. I joined the Trinidad and Tobago Field Naturalists' Club (TTFNC) soon after, and led

It is important to capture the undersides of mushrooms when taking photos as features such as the gill filaments can be key to their identification. *Photo by Jeffrey Wong Sang*

the only fungi group in the twin-island state since then. TTFNC opened doors for me by allowing me to access little-known and/or restricted areas to search and discover fungi.

Gathering and sharing knowledge

In May 2014, I checked with the local herbarium for assistance in identifying fungi and also for research material. I was introduced to a retired professor whose knowledge is limited. As local libraries had few fungi books, I started importing reference books to help in identifying and expanding my knowledge. I now have a personal reference library collection of 20 plus books which cover fungi near our line of latitude and surrounding countries.

I started my Facebook page "Mushrooms of Trinidad and Tobago" in November 2014 in a bid to discover where else in the islands fungi were to be found, and also to test the waters to see if there were any more people "crazy" about mushrooms like myself and who would be willing to share their experiences and photos with me to start a database. Well as you can see, there are more crazy people than I thought as I now have a following of more than 700 people at this time of writing. Most of the persons on the Facebook page just like to see the pretty "shrooms" and want to know which ones they can eat or smoke, hence my disclaimer on my site.

Preservation

In August 2015 , it struck me that it would be more educational to exhibit my fungi photographs to people and be able to teach children in the schools about fungi and their natural beauty and importance, way beyond mushrooms in Chinese cuisine and on pizza. In my bid to raise public awareness, I wanted to be able to have a dynamic display hence I started preserving various specimens in bottles to be more visually appealing.

The accepted method for preserving fungi is "drying" but that causes shrinkage and discolouration of most of the specimens. They are also much easier to store. Based on trial and error, I settled on methanol as a preservative as it was what I could afford on a self-funded budget. With my expanding collection, I have decided to recycle glass

Jeffrey with a *Macrocybe titans* at Asa Wright Nature Centre

jars and have stopped purchasing same for now in my bid to contribute to the green scene. I still have many chemistry questions as I find the coloured mushrooms lose their colour in the methanol and need a way to "*fix*" the colour before I plunge it into the methanol. So I am still trying to seek a solution to this issue.

I have also experimented, with the assistance of a local lab, in the process of lastination, which is a preservation method using acetone and silicone. I was told that the specimens that I had dropped off to the lab may have been too delicate as the technician was not pleased with the outcome. This is still I believe a viable option for the hardier fungi and is still to be pursued, time and resources permitting.

Identifying fungi

With no prior knowledge of the science of fungi and still being considered a non-scientist by most individuals, and with no resident mycologist or anyone else to teach me, I depend on pictures in the books and on foreign help on websites for identifying fungi. My mushroom walks involve logging

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the location of the fungi, photographing the specimens, collection and storage, documentation and now preservation. I still do need help in identifying the fungi as most often my identifications are a "best guess." In TTFNC, I have a few members who will walk with me and fuel my passion for fungi.

Mike Rutherford still helps me sort through my crazy ideas, steers me on a more stable path if needs be, and continues to provide me with invaluable support and advice when I need it.

I continue to seek and collect local fungi and have started an alliance with Carl Fitzjames, the leading forest guide in one of the main areas for fungi – Brasso Seco. I leave him with containers and he calls me when he has collected specimens and I go to collect them; so he is always in the bush and seeking my interest. I also have other hike leaders such as Mario Russell, Courtenay Rooks, Kayman Sagar and Marc de Verteuil who are aware of my mission and are willing to assist with pictures and locations. They are all part of my Facebook page. Friends and others continue to share their own discoveries in whichever neck of the woods they are, even in other Caribbean islands!

The fungi collection is outgrowing the space allocated at home and I now seek a permanent home for the samples whilst I continue to add to the growing museum.

In 2016, I intensified efforts to educate and raise awareness of the local fungi, by first presenting to TTFNC in July at the "members' evening". This changed everything for me as members were now conscious of what I was actually doing on most field trips. I even get TTFNC members sending me fungi photos and locations to add to the database.

Since then, I have done several public displays at the Orchid Show, as part of the TTFNC display at Trincity Mall, Bioblitz 2016 in the Botanical Gardens, and STEM 2017 at NESC, Couva. From all indications and direct feedback, people appear to be enthused and that encourages me to continue my pursuit of this project. I have also just met Dr. Adesh Ramsubhag , UWI's Head of the Department of Life Sciences, at UWI, who has expressed an interest in providing assistance in the project.

Since the start of this project, my aim has been to ensure the Fungi kingdom gets its due recognition in Trinidad and Tobago's rich biodiversity. In that light I will continue to try to identify accurately as many specimens as possible whilst continuing my search for a suitable location for the collection.

Jeffrey with President Anthony Carmona at the 2016 Bioblitz in the Botanical Gardens, Port of Spain.

Memoirs

EXPEDITION TO LA VACHE CAVE

by Hans Boos

With over half a dozen known and explored caves on the island of Trinidad where it was known there were oilbirds, D.W.Snow (1961,1962) listed two on the north coast accessible only from the sea.

The first is listed for the Island of Huevos, the second westerly island between Trinidad and the Paria Peninsula of Venezuela, which, as far as I can discover, has not been visited or assessed for over a century. The second one, located on the northern tip of La Vache point, had equally been almost forgotten by the members of the Trinidad and Tobago Field Naturalist' Club for as long as anyone could recall.

So in 1980 Ian Lambie suggested that members should make an effort to get to this cave and record if there were still oilbirds, the guacharos, *Steatornis caripens is* nesting in this almost inaccessible location.

At the time I owned, in partnership with my brother, Julius, a small fiber-glass pirogue, the "Guele Rouge," and I offered to take a small group to attempt an exploration of this cave.

So one weekend morning in the mid-1980s Ian Lambie, David Rooks, Dr Victor Quesnel, all longstanding members of the Club, with me at the helm, set out from the mooring in the bay next to where Cruise Inn is now situated, and headed out the first Boca. We rounded Point Rouge (Entrada Pt. on the map.) and turned east into a cloudy dark sky, hovering over the island of Saut D'eau and nearby Medine Point.

The usual large swells that eternally roll into the first Boca were unusually swollen and lifted the small boat like a cork, as I had to literally steer and navigate every oncoming wave. As we droned slowly east, the wind began to freshen and blow white spume off the wave- tops and into our faces, and I could see ahead a huge black cloud hovering over the entire north coast and which had already obscured the coastal cliffs and the islands that were near our targeted destination.

Although I was the "captain" at the helm, I informed the others of the deteriorating conditions and asked for a vote as to whether we should continue. Unanimously they circled their hands in the air as a signal for us to turn back.

Then I realized that turning such a small boat against an oncoming sea had to be a tricky manoeuvre, but when we fell into a significantly large trough, I gunned the engine and raced up the oncoming face of the wave, and as we paused at the top, I put the helm hard to the left, and skimming along the top of the wave caught the energy of its passing and sped down the same passing face at an angle. This way we were literally surfing along with the wave direction, and as successive waves caught up with us I managed to keep us speeding along, heading west, frantically trying to keep ahead of the rain we could now see racing up behind us and large cold drops were pelting us like watery bullets. I could see the flash of lightning snaking out of the clouds astern and thunder cascaded around us.

I managed to round Point Rouge and enter the waters of the first Boca as a deluge of rain crashed down on us. Victor is especially susceptible to cold temperatures and he was shaking almost uncontrollably lying in the bottom of the boat, as sitting on the cross seats had become hazardous in the rough ride into these calmer waters.

Turning to the right around Blanchette Point on Monos island, I was looking for shelter in any of the many holiday houses in Grand Fond Bay, (or Turtle Bay as it is nowadays sometimes called), and spotting one of the Boy Scout Troop houses, I steered the "Guele Rouge" there, for we were now rapidly filling up with rain water, despite the bailing efforts of the other crew members.

Mooring quickly at a ramshackle jetty, we hustled Victor up to a veranda-like porch which afforded us some dry shelter. Luckily we had brought along some thermoses of hot coffee and we all were relieved to get out of the wet and the cold, which

Clockwise from top left: **Pirogue 'Guele Rouge'; View of La Vache point; Trinidad's North Coast; the mouth of La Vache cave.**

was being made even colder by the strong breeze that was still accompanying the rain.

We stayed there until the storm passed away to the west, but as we could see that there was more rain on the way, at the first clear period we re-embarked and made a beeline back to the mooring in Alcan Bay, where we parted, disappointed that La Vache Cave was still on the horizon but would have to wait for a better day.

This better day came a couple of weeks later in November of 1980, with the offer from Nelson Andalsio, who owned a larger and sturdier pirogue, to take us on the expedition; so we embarked, the same crew, with a nephew of Ian's, and headed, in bright sunshine, along the same route our first ill-fated trip had travelled.

As we got to La Vache point it was difficult to discern where the cave actually was situated, but a dark shadowed cliff-face looked promising, so we asked Andalsio to take us in closer, and as we approached we could see that the shadow led to a deeper darkness, and there was the cave. The tide was high and there were large swells we could see rolling into the interior of the cave and we could hear the low booming as they crashed against the inner walls.

Therefore it was prudent to back the pirogue slowly into the opening, so in the chance of a bigger ocean swell washing us dangerously into the cave, Andalsio could gun the engine and take us to safety.

In reverse, we slowly inched into the darkness until the roof overhead completely darkened our view, but we began to hear the characteristic squawking and cries of Oilbirds, and for a few seconds our flashlights picked out the pale undersides of the birds as they took flight in panic, before the cave suddenly became filled with a dense cloud of oily smoke from the outboard engine. We shouted to Andalsio to get out as quickly as possible, as we were being choked by the dense smoke.

As we sped into open water outside the cave there was no more smoke evident, so I went to

Andalsio and we examined the engine, and sure enough the exhaust was excessively smoky.

Knowing a little about these motors, I asked Andalsio if he had used the right mix-ratio of oil to gas to run the engine. His reply was, "Oh yes. It's a brand new engine and I do not want it to burn out, so I put twice the recommended oil so this would not happen." I looked at him dumbfounded. I asked him if he did not consider this mix gumming up the plugs and shutting us down in such a perilous position as he had just put us?

All he retorted was a speculative "Oh!"

Going back into the cave was therefore out of the question, until Andalsio said he had a small plastic dingy, and maybe one of the crew could paddle into the cave after the smoke had cleared. He pulled this "Dingy" off the roof, the boat's cabin, and it turned out to be a moulded, plastic toy-like boat, only safely useable in a swimming pool, not in the waters off the north coast.

But he was adamant it was safe and offered to demonstrate, and throwing it into the water, he climbed in and began to paddle around, admittedly very buoyant and maneuverable.

He came back aboard and Ian said he was willing to have a try, so motoring as close to the cave mouth as was feasible, Ian lowered his bulk (in excess of 230 lbs, I would guess) into the bobbing little plastic craft. I handed him his camera and he began to paddle off. When he was about fifty feet away he suddenly began to yell and we could see he was sinking, and he was almost waist deep already, holding his camera above his head.

I screamed at Andalsio to hurry to his aid, but he chose at that crucial moment to begin to refill the gas tank. Luckily the engine was still running so I elbowed him out of the way and taking the tiller made a sharp turn and swept past the sinking Ian, someone grabbed the camera from his raised hand, and we made another turn to pluck him out of the sea where he was swimming away from the sunken dingy.

When we retrieved this plastic toy, we discovered that perhaps Ian's weight was too much for the glues that had welded the two moulded parts together and it had just split apart, and as a result began to take in water and sink. Not trusting to risk any more trials to the quirky Andalsio, we asked him to abort any further ideas he might have and to take us back to the dock where we had embarked.

So ended the La Vache exploration. But at least we confirmed the birds were there.

Several times over the following years, I would go to the lookout on the Maracas Bay road, overlooking Balata Bay, and stand on the low wall fringing the parking area, to look over the jungle spilling down the slope to the east, and just as the last light began to fade, like wind-blown sheets of brown paper, Oilbirds would waft up out of the darkness, buoyed on the rising breeze from the sea below, and disappear into the jungle on the mountain behind.

Perhaps they were from La Vache Cave.

TTFNC QUARTERLY BULLETINS & INDEX ONLINE LINK :
http://ttfnc.org/publication/field-naturalist/

Management Notices

New Members

The Club warmly welcomes the following new members:

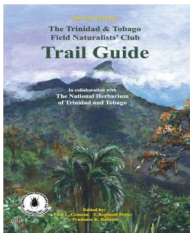
Robert C Boos, Annette Sirju, Siddeeq Ali, Calvin Bennett, Parasuram Sirju, Alexis Marianes, Richard Smith, Richard and Françoise Brindle, John Bruce Milne, Katrina Khan, Luisa Fernandes, Sterling Manchouck, Ryan Mannette, Michelle Cazabon-Mannette, Nandita Rastagi, Lea Blondel, Dillano David Rapsey, Justine Deonarine, Jarome Russell Ali.

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. We look forward to hearing from you!***

Trinidad and Tobago Field Naturalists' Club
P.O. Box 642, Port of Spain, Trinidad and Tobago

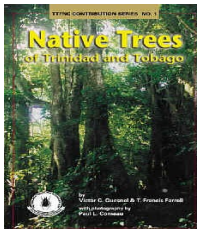
PUBLICATIONS

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



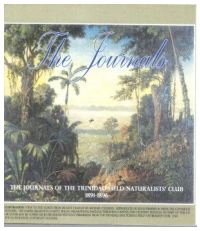
The TTFNC Trail Guide

Members : TT$160.00



The Native Trees of T&T 2nd Edition

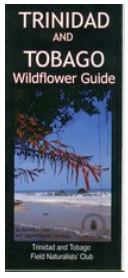
Members : TT$80.00



Living World Journal 1892-1896 CD

Members : TT$95.00

Living World Journal back issues
Members price : free



Laminated wildflower guide
Members : TT$50.00 each

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

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Submission of articles and field trip reports:

1. **All articles must reach the editors by the eighth week of each quarter.**
2. **Electronic copies can be submitted to the editors at: admin@ttfnc.org or directly to the editors or any member of Management. Please include 'QB2017' in the email subject label.**