THE FIELD NATURALIST

Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club

October - December 2010 **Issue No: 4/2010**

Annoying and Blood Sucking Arthropods of Trinidad and Tobago
1. Phlebotomine sand flies

by Elisha Tikasingh
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I suspect that nearly all members of the TTFNC at some point in time might have been bitten by sand flies. I say "bitten", because "bite" is the common term in use. But these flies do not bite because they do not have biting mouth parts, instead their mouth parts are designed for sucking blood. I will use the word bite because we all use that word when a blood-sucking insect tries to get a blood meal from us.

A *Phlebotomus pappataci* sand fly taking a blood meal.
Photo: Wikipedia. Frank Collins, Centers for Disease Control and Prevention, Atlanta.

There are two groups that are called sand flies in the West Indies and both groups are present in Trinidad and Tobago. The two groups belong to two separate families: Psychodidae and Ceratopogonidae. The term sand flies is really reserved for the former. I will deal first with the Psychodidae as two members of the Trinidad and Tobago Field Naturalists' Club who recently went into a forest in Guyana were bitten by species of this group and they both became infected with a nasty parasite called *Leishmania*. The other family, Ceratopogonidae will be discussed in a subsequent article.

The Psychodidae is represented in the Old World by three genera: *Phlebotomus, Sergentomyia* and *Chinius* and in the New World (NW) by three genera, *Warileya, Brumptomyia* and *Lutzomyia.* Two out of the three genera in the NW are found in Trinidad and Tobago: *Brumptomyia* and *Lutzomyia.* These flies

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

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October - December 2010

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Annoying and Blood Sucking Arthropods of Trinidad and Tobago
1. Phlebotomine sand flies

Elisha Tikasingh

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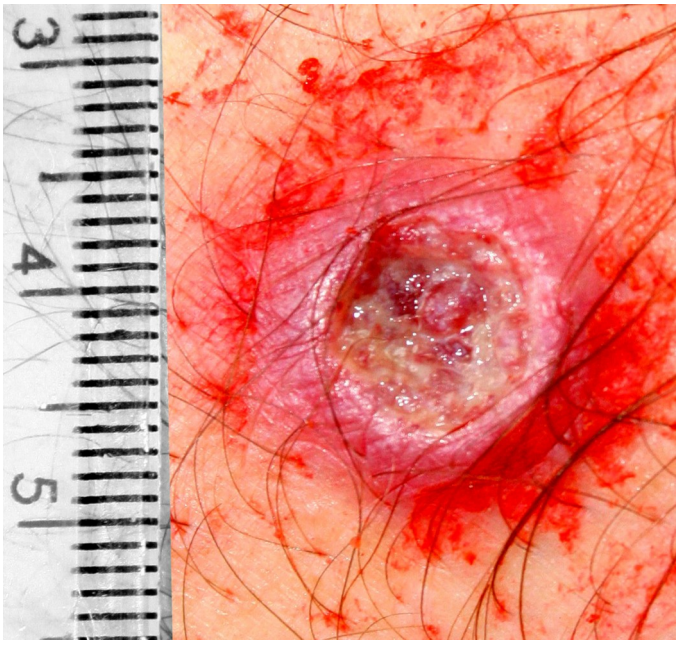
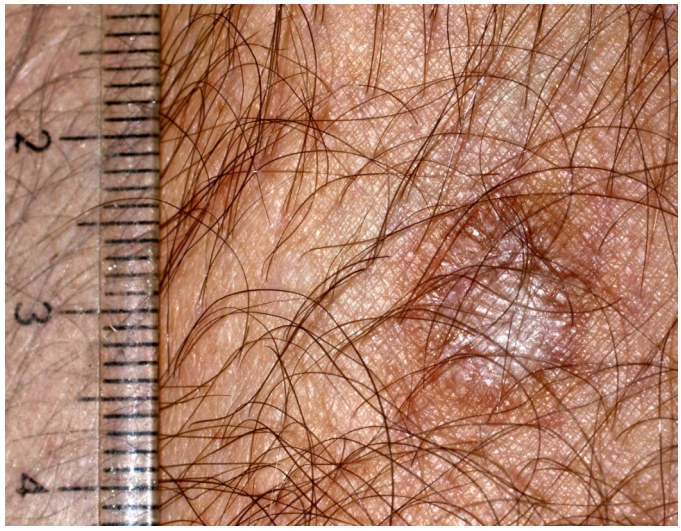
are also called "moth flies", midges and phlebotomine sand flies. They are small, 1.5 to 4.0 mm in length and are hairy. The wings are held upright when at rest. The males live on plant juices but the females must take a blood meal for the maturation of the eggs. The blood meal could come from cold blooded vertebrates, birds or mammals. These sand flies are not strong flyers and fly with a hopping movement, consequently, their flight range is limited. These sand flies are active mainly at night. They live in places where it is dark, where there is high humidity and rich in organic material on which the larvae feed. Such places could be under forest litter, in broken spaces in masonry on buildings, caves, animal holes in the ground and chicken houses. There is an egg - larva - pupa - adult cycle. An egg to egg cycle can last from six to ten weeks depending on the temperature.

There are 21 species of phlebotomine sand flies recorded from Trinidad: one *Brumptomyia* and 20 *Lutzomyia.* These sand flies have been collected by staff members of the Trinidad Regional Virus Laboratory from Chaguaramas in the west to Rio Grande forest in the east. We should however, not confuse the *Culicoides* (Ceratopogonidae) sand flies found at Maracas, Las Cuevas and other beaches with these sand flies. Although some species have been taken from Bush Bush forest there is a general lack of records from most of central and south Trinidad as well as Tobago. This lacunae in our knowledge is not an indication that sand flies are absent from these areas, but is simply due to the lack of studies undertaken in these areas.

Of the 20 *Lutzomyia* species collected in Trinidad, seven were collected biting man. The others were collected using various trapping methods such as light traps and oil traps baited with various types of vertebrates.



Skin sore due to infection with *Leishmania* before treatment.



Skin sore due to infection with *Leishmania* after treatment.

Phlebotomine sand flies transmit bartonellosis, a disease caused by bacteria and occurring at high altitudes in Peru, Bolivia and Colombia. They also transmit arboviruses elsewhere, but not in Trinidad and Tobago. They do however, transmit a nasty protozoan parasite called *Leishmania*. The

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Annoying and Blood Sucking Arthropods of Trinidad and Tobago
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disease is present in the Mediterranean, sub-Sahara, Middle East and Far East as well as in the New World. There are two main types: visceral and cutaneous. The latter is the more common form in Central and South America attacking the muco-cutaneous areas of humans, particularly the nasopharyngeal areas with ulcers and tissue destruction leaving horrible scars. The ulcers are very painful. Some forms of the parasite attack the lobe of the ears. Common names applied to the disease are chiclero's ulcer and espundia. Between 1926 and 1930 a total of 589 cases was hospitalised in Trinidad according to the Surgeon-General reports of that time (Tikasingh 1974). No reasons were advanced for the sudden appearance or disappearance of the disease. The parasite was rediscovered in Trinidad in rodents captured at Turure Forest (Tikasingh 1969). There is no doubt however, that sporadic cases in humans do occur in Trinidad. Thus, Mahabir and Bhaskar (1973) reported a case from Cedros although the Authors suggested that the infection might have occurred in Venezuela where the patient was a frequent visitor. More recently S. Baboolal (in a personal communication to me) noted that she had isolated the parasite from a Trinidadian soldier who had not travelled to other countries.

The parasite was found to infect a wide variety of rodents and murine opossums at Vega de Oropouche, Aripo-Waller's Field and Turure Forest (Tikasingh 1974) although the last named forest is no longer existing. The species of parasite identified was *Leishmania mexicana amazonensis* and the sand fly vector was *Lutzomyia flaviscutella* (Tikasingh 1975). The reason why more citizens of Trinidad and Tobago are not infected with this parasite is probably due to the fact the sand fly is nocturnal in its activities and few individuals go into the forests during the night. Leishmaniasis is considered a zoonosis i.e. a disease normally present in wild animals but is also transmitted to man.

The best protection from the disease is to wear long pants, long-sleeved shirts and the periodic use of insect repellents when out in the field. For cure, some people resort to home-made remedies including such drastic measures as battery fluid which leaves horrible scars worst than the infection itself. Compounds containing sodium stibogluconate (Pentostam) or meglumine antimonate (Glucantime) are commonly used drugs. The two infected Club members used Pentacrit (Pentamidine isetionate) and both were cured.

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Mystery Hike (30th May 2010)

Annual Mystery Field Trip Report

Bonnie Tyler

When the members of the Field Naturalist club met up at the UWI south gate at 6:30 am on May 30 for the annual "Mystery" hike, we had no idea where we would be heading except that it was rated "fair". Eventually, Bobby Oumvath, who was the trip leader arrived and announced we would be hiking to a waterfall in the Caura valley. We proceeded up the Caura Royal Road, took the right at the fork by Ras Shango's and parked where the road met the river. The hike began on a solemn note as we observed a moment of silence in remembrance of Richard ffrench who died earlier that month.

The first part of the hike followed the old dirt road that connects with the Arima Blanchisseuse road. Near the trail head we could hear corn birds (Oropendola) and were able to inspect one of their nests that had fallen to the ground. We passed by several dwellings and chatted for a bit with one of the local farmers. On this section of our route, we passed lots of fruit trees including lemons, mango, portugals and banana. The road was lined with beautiful *Curcuma elata* flowers, which are commonly known as giant plume ginger. These plants are rhizomes of the ginger family (Zingiberaceae) and belong to the same genus as Turmeric. In Panama, *Curcuma* is known as the resurrection flower because it is one of the first things to come up at the start of the rainy season. Our mystery hike was indeed at the start of the rainy season and it was delightful to see the world becoming green after our severe drought. One notable aspect of the *Curcuma* is that the flowers come up before the leaves. Other plants observed along this first portion of the trail include donkey eye, maraval lily, *Selaginella*, shadow benny, ink plant, deer meat, manicou fig, malanga, chaconia, heliconia, several members of the ginger family and wild cane.

After a short distance along the road there is an old concrete bridge crossing the stream. At this point, we left the road and turned left following the streambed. Along the stream there were both the Euterpe Palm and Bactris Palm with its distinctive nasty spines. We found a rubber tree (*Castilla elastic*) with a number of its strange orange fruits scattered about on the ground and quite a few Immortelles. Several types of fish were spotted in the stream but they darted under cover along the stream banks before we could agree on an identification.

Club members in front Caura Waterfall
Photo: Eddison Baptiste

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Bird Group Trip to La Fillette - (14th March 2010)

Michelle Lee

Field Trip Reports

The street and residence lights of Moka and Paramin glistened like jewels in the valley and mountain side to the left of us, as we sat in the darkness waiting for the group to assemble at the Maracas Pillars. Engines were switched on at 5:29 a.m., and we left there triumphant over the "Trini Time" cliché. Twenty birders formed a convoy on the North Coast Road, headed by Mama Bird (Leader, Kathleen Hinkson a.k.a. Kay) en route to an estate in the quiet, often overlooked fishing village of La Fillette. Expectations were high as Kay described the estate as a little hummingbird paradise. La Fillette lies east of Maracas and west of Blanchisseuse. In the 1940s the Americans stationed here in the World War II era, carved out the scenic North Coast Road route to Maracas Bay and it was not until the late 1970s that the road was extended from Maracas to Blanchisseuse.

Our vehicle lights pierced the darkness as we drove and for most of the journey we were the only ones on the road. The usual coolness of the morning and the mist sometimes seen along the way at this hour, were noticeably absent. Overhanging Balisier leaves and ferns gave a lazy dance on the roadside as we passed. Fallen dried leaves rolled aside with the occasional one being crushed by the tires and ghostly silhouettes of trees caught our lights as we meandered up and down hill to our destination. As we approached the Maracas lookout, the sun subtly revealed its presence, just giving enough light to see the ripples in La Vache Bay ahead. Bouganvilla plants under the dim lookout lights seemed to be waiting on the approaching sunlight to showcase their true brilliance.

At 5:47 a.m. we passed the Bay View Restaurant and Lounge, where a Tropical Mocking Bird balancing at the top of a chain link fence looked down at us, probably a bit startled by the vehicle lights. Descent into Maracas Bay at any time of the day can appeal to your senses if you let it. Cloud caped bare El Tucuche, Trinidad's second highest peak, towered to the right and the absence of the beach crowd brought a sense of tranquillity as the coconut trees did their almost synchronized hypnotizing sway overlooking the gentle waves as they rolled in. Breaking the silence, just past the entrance to Maracas Fisherman's Village, two Tropical King Birds stood on opposing electricity

White-chested Emerald Hummingbird (La Fillette)

Photo courtesy: Cyril Coomansingh

lines trying to outdo each other with their high pitched calls. After passing Grand Fond Road on the right, a mongrel looked on in "tail wagging glee" at a man wiping a table at Uncle Sam and

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Bird Group Trip to La Fillette - (14th March 2010)
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Field Trip Reports

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Sons establishment on our way uphill to Tyrico. A quiet and deserted Tyrico Bay (5:49 a.m.) lay to the left of us, having only a lonely gliding Black Vulture overhead to offer as we pressed on Las Cuevas bound.

Past Rincon Road, Pierre Road Extension and over the Curaguate River, we got to the Las Cuevas Bay beach facility and fishing depot (5:59 a.m.). Las Cuevas, a name of Spanish origin meaning The Caves, was so called because of the abundance of caves that exist on the south-western end of the beach. A Rhode Island Rooster, totally oblivious to us, stood near a standpipe with chest out then stretched forward to render his "cock a doodle doo"; a reminder of the things you do for love, like getting up before the roosters to go birding. A Smooth-billed Ani was seen pursuing insect breakfast cuisine as it stood head down in the roadside grass obliquely opposite the road leading to Forte Abercromby. The Forte lies to the east of Las Cuevas village. It was built by the British in 1804. Its ruins still sit on a promontory overlooking the bay.

A little way further and we arrived at La Fillette. We drove past Mitchell Trace and Pavilion Road on the left and then veered right on to Water Reserve Road. Standing at attention like a sentry at the front gate of our destination was a White-chested Emerald. He stood his ground and allowed us to get pretty close before he retreated only to return to the exact spot inches away from us. From the gate we could see the hummingbird activity inside. Kay called out to the owner Steve to announce our arrival. He warmly welcomed us in and that was it, "the air show began".

Focusing on one hummer at a time was almost impossible. The stars of the day had indigo blue heads, snow white lower breasts and bellies, bright green backs and a white band on their napes; the roughly 4.5 inch long male White-necked Jacobins. The feeders were their red carpets and what a flaunt they gave as the quasi paparazzi clicked away. The Copper-rumped Hummingbirds with their beautiful iridescent green under parts and bronze-copper shaded rumps were in abundance. By nature territorial and aggressive birds, they put on quite a show as they attempted to dominate the feeders and dispense with the others. In Trinidad, Copper-rumps breed from January to March and it is said that their aggression peaks in that period. Male and female Black-throated Mango Hummingbirds visited the feeders as well. The males showed off their black throats as they raised their heads with each sip at the feeders, catching enough light on their neck and breasts to reveal the fine blue outline of the black area. Feisty females were seen helicoptering overhead; no awesome glitter to offer but indeed a stunning sharp contrast of black on white beneath her; having a central black stripe running from chin to abdomen. Black-throated Mangoes were seen in Steve's mango tree (no pun intended) hunting insects and preening their feathers.

A Rufous-breasted Hermit, one of our large humming birds graced us with his presence. After checking us out for a few seconds, he then moved on to the visibly more important things in his life like the Heliconias and tube shaped flowers in the yard. This bird's dull colours probably earned it little attention in the yard that day but for those who watched him feeding, his movements were poetry in motion. He hovered and flared his white tipped tail, quickly moved back and forth as he approached each flower and then arched his body to facilitate inserting his large decurved bill into it. A camera shy male Blue-chinned Sapphire spent a minute or so on one of the feeders. When allowed, White-chested Emeralds visited the feeders but for most of our visit they choose to sit in the surrounding trees. Sadly absent were the stun-

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Mystery Hike (30th may 2010)

Bonnie Tyler

Annual Mystery Field Trip Report

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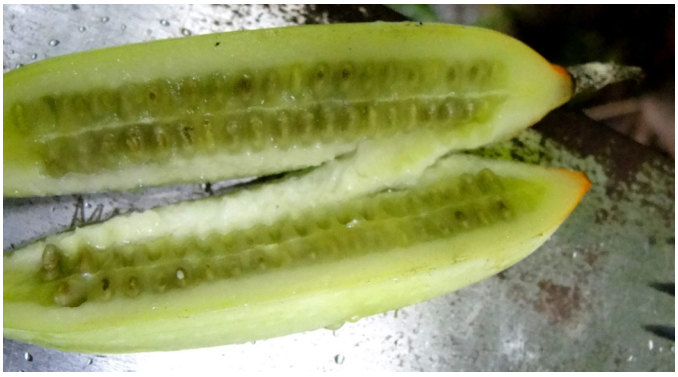
After hiking in the stream for an undetermined distance, we came to a fork. The right fork lead to a deep narrow gorge about 30 m long that ended at a roughly 10 m waterfall. The waterfall was flowing with plenty of clear beautiful water and had a shallow clear pool at its base. We found some small crabs in the pool.

After enjoying the falls, we returned and followed the left fork to some small deep pools where several of us bathed in the clear cool water before enjoying lunch.



Cross section of the Mystery Fruit
(a cucumber family of the species *Gurania spinulosa)*
Photo: Eddison Baptiste

On our return, we came across the greatest mystery of our mystery trip, a fruit laden vine dangling in the dead middle of the stream. The vine was holding about 20 fruits, was nearly 3 meters long and dangled from a tree overhead nearly to the water surface. Yet, somehow, none of us had seen the vine on the way in and even Dan Jaggernath could not definitively identify it. The fruits on the vine were about as long and wide as my finger. They were a pale green color with bright orange at the blossom end. Cutting the fruits lengthwise revealed rows of seeds resembling a cucumber but we could not come to an agreement on whether the fruits were more likely in the passion fruit or cucumber family. With some effort we were able

Sarah Harris examines the Mystery Fruit that we all missed on the first pass
Photo: Eddison Baptiste

to obtain a leaf. I carried photos of the mystery plant to Mr. Winston Johnson, at the herbarium, who was able to quickly determine that it was in fact a member of the cucumber family of the species *Gurania spinulosa* but he agreed that the colour was unusual for this species. So that part of the mystery is resolved, but the greater mystery of how so many naturalists could have passed such a distinctive plant without noticing lingers on.

Bird Group Trip to La Fillette - (14th March 2010)
Michelle Lee

Field Trip Reports

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ning Ruby Topaz and elegant Tufted Coquette hummingbirds.

Unlike many other birding trips where hummingbird identification was prefixed by "I think that was a" and "that little thing is so fast", this trip was different. We were able to observe, admire, appreciate and positively identify the birds. They actually gave us time to find them in the field guide and study the similarities and differences before flying away. It was extremely obvious that this little hummingbird paradise was not built in a day. The level of attendance, tameness and comfort shown by these petite creatures was proof of Steve and his family's commitment to creating a habitat for them. Full clean feeders are provided on a regular basis and the yard is landscaped with a suitable selection of flowers. A relatively sheltered feeding area exists and there are opportunities all around for the birds to rest and hide in the many trees in the yard. Without a doubt, though no hummingbird nests were located that day, some degree of breeding in or on the fringe of the property was suspected. Perhaps not a suitable place for the Rufous-breasted Hermit who prefers to breed near streams but it was ideal for the White-chested Emerald and Copper-rumped hummingbirds.

Pulling yourself away from the "Trochilidae Show" to observe the other birds in our midst was indeed an ocular challenge. To this day I can't say if the photographers in the group noticed the other birds. Bananaquits darted in and out of a mango tree right over our heads. At times, they positioned themselves on branches close to the hummingbird feeders laying in wait to zoom in for a quick sip. At a feeding table in the backyard, Steve placed ripe pawpaw to the delight of Palm, Blue-grey, White-lined and Silver-beaked Tanagers, Great Kiskadees and Bare-eyed Thrushes. In the surrounding trees we saw House Wrens, Greyish Saltators, Turquoise Tanagers, Tropical Mockingbirds, a White-tipped Dove, a Rufous-browed Peppershrike and Yellow Orioles. A lone Scaled Pigeon looked down at us as he seemed to enjoy the ride in the wind on the nearby towering bamboo and the occasional Orange-winged Parrots flew overhead. The saying "Corbeau Cyar Eat Sponge Cake" (Out of your league) came to mind when I saw a Ruddy Ground Dove strut his stuff below the line of hummingbird feeders. He went unnoticed by the photographers but was indeed a handsome little fellow.

Steve offered to take us for a walk beyond his property. We climbed uphill for a while, stopping intermittently to observe both the scenery and the birds. Three eagerly patrolling dogs added some life to this part of the trip as they fully utilized a hole in their owner's fence. We saw Crested Oropendolas, Blue-black Grassquits, Grey-breasted Martins, Magnificent Frigate birds, Tropical Mockingbirds, a Piratic Flycatcher, White-bearded Manakins, Smooth-billed Anis, a male Scaled Pigeon, a male Barred Antshrike, Shiny Cowbirds, Orange-winged Parrots, Green-rumped Parrotlets and a male Lineated Woodpecker knocking away at a Cecropia tree. We heard the Great Antshrike, Violaceous Euphonia and Rufous-breasted Wren.

There were three men sitting in the road as we approached the hill top. They were keeping a close eye on six engaged trap cages placed at different locations containing male Chestnut-bellied Seed Finches (a.k.a. Chickichongs which are deemed almost certainly locally extirpated). Kay's pleas to set them free fell on deaf ears. From the top we saw fishing boats off Chupara Bay and the still active skeletal tower lighthouse at Chupara Point. The heat was a bit much to bear at that point and after roughly twenty minutes we headed back. The sound of disarming car alarms filled the

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Bird Group Trip to La Fillette - (14th March 2010)
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Monthly Field Trip Reports

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air like strange bird calls when we returned. A change in focus was observed; it was time for all hungry birders to cool down, eat and rehydrate. At that juncture, some attendants headed home. Later, as we expressed our gratitude and bid our farewells to Steve, the reality of survival of the fittest and the food chain blared at us; a low flying curious Zone-tail Hawk scanned the area for an opportunity.

With full daylight upon us, all the fire ravaged areas and dryness concealed by the earlier morning darkness was revealed as we retraced our path on the North Coast Road. Our next stop was Kay's property to search for a reported active hawk's nest in the neighbouring trees. En route two beautiful White hawks were seen circling just above the tree tops. Las Cuevas, Tyrico and Maracas bays this time around were spotted with beach goers. The tranquillity was gone; the Sunday beach lime on the coast was coming alive.

Turning right on to Fond Pois Deux Road, we drove to Kay's place. There we saw Orange-winged Parrots, Copper-rumped Hummingbirds, Violaceous Euphonias, a Channel Bill Toucan, a Streaked Flycatcher, a Plain-brown Woodcreeper, Palm Tanagers, Blue-grey Tanagers, White-lined Tanagers, Silver-beaked Tanagers, Turkey Vultures, Black Vultures, a Common Black Hawk, Blue-black Grassquits, male Purple Honeycreepers, male Green Honeycreepers, two male Long-billed Starthroats and a first for the five of us who saw him, a male Sooty Grassquit. We noted the high male sightings in this area. A Little Tinamou was heard close by as well as a Rufous-browed Peppershrike. The hawks nest however is still on our list of things to find.

Sooty Grassquit
(Fond Pois Deux Road)
Photo courtesy: Cyril Coomansingh

It was another productive and pleasurable day for us all. Brasso Seco is our next destination. Time will tell what we find up there.

Behold: A Biodiverse Anguilla

Reynold C. Boyce

Many older members may remember Anguilla as the little 'upstart' isle that broke away from the St.Kitts, Nevis & Anguilla Associate State in 1967 only to be reclaimed by 'The Crown' in the infamous 'Bay of Piglets' invasion by British squadrons. Since then little has been heard of the fortunes of that island and its 15,000 population as it remains outside the CARICOM union and rarely participates in Pan Caribbean sporting activities.

Anguilla is the northern-most island in the Eastern Caribbean archipelago. The island relies heavily on extra-regional, high-end tourists in search of quiet, white-sand beaches during the winter months. Hence most Anguillans (and a sizable number of other Caribbean nationals) are employed in the hotel industry or other tourist-related services. The sparse annual rainfall of 90-100 cm added to the flat nature of the 39 sq.miles expanse means that the island's vegetation is restricted to 'low-lying scrub and evergreen woodland'(1) devoid of the usual mountainous interior and rainforest synonymous of most other Caribbean islands. So at first glance one would expect a fairly drab ecosystem.

However, a wealth of treasures await the nature-loving visitor as Anguilla is relatively unspoilt by 'Development' except for the perennial roaming of village goats defoliating the native vegetation and the building of hotels and workers' houses replacing native foliage with ornamental and imported fruit trees. My wife and I had the good fortune to enjoy a week-long visit as house guests of a dear friend in this unique Caribbean island.

The island is known to be the home of an endemic tree lizard – *Anolis gingivinus* – the last remaining representative for my photo-documentation of Eastern Caribbean Anolis'. (*An account of which is in preparation for another publication)*. Also I felt there must be a couple of flowering roses among the thorns of Anguillan scrub to extend my Caribbean wild-plant database – not to mention a pretty molluscs or two from the famous, local Anguillan beaches to add to my shell collection. So armed with these expectations I set off like a mad Trini in the middle of a very active hurricane season once our accommodation and travel plans were settled. (Interestingly enough, I was by no means the first Trini to explore this far flung corner of the Caribbean, our own Botany consultant, Winston Johnson, together with Floyd Homer, had been invited earlier by the Anguilla National Trust to help survey the plant population of the island.)

Anolis gingivinus
An endemic species

Unfortunately, our long flight into Anguilla was off to a frustrating start. Heavy rains, the tail end of hurricane Otto, flooded out the island, forcing us to overnight in an Antiguan hotel courtesy of LIAT. We arrived in Anguilla 24 hours later than expected to a darkened, cold and rainy evening. However, our gracious hostess was at hand to

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Behold: A Biodiverse Anguilla

Reynold C. Boyce

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drive us the short distance from J. Lloyd airport to the apartment adjoining her home. After a cosy night in comfortable surroundings, we were awoken by sparkling sunshine to the full beauty of an Anguillan beach scene. From our veranda appeared a very photogenic view of Sandy Ground Bay, a port for small cargo ships at one end and a prime fishing inlet at the other. Adjoining the Bay was Road Salt Pond, a famous pond once used for the mining and export of raw salt to Trinidad and the rest of the Caribbean.

Interestingly, cessation of this industrial activity left little if any scars on the environment. In fact, the 98-acre pond has been transformed into a major bird watching site with Black-necked Stilts *(Himantopus mexicanus)* and Lessor Yellowlegs *(Tringa flavipes)* being two identifiable species seen feeding along the shore line(2). Road Pond, one of 18 Salt Ponds through-out the island, is known to attract up to 55 species of birds (3). Because the feeder-band rains continued unabated for the next two days the scenery acquired a lush, green environment for an ordinarily brownish landscape, hence the road leading around the pond as elsewhere became quite photogenic for both plant and animal life.

A nice surprise occurred that first morning just around the back yard of the apartment. Sure enough the garden trees and shrubs provided specimens of my sought-after *Anolis* species, but while angling to get within closer photographic range of my lizard friends I suddenly discovered two unexpected animals. Amidst a rocky embankment appeared a population of small land molluscs foraging on the damp algae. Their shells turned out to harbour opercula, a type of trap-door which less-common land snails possess to safeguard against intrusions when resting. Then further afield was an unmistakable group of *Achatina fulica,* the large African land snail that has invaded large parts of tropical Asia, the Pacific and the Caribbean. But wait! Some of these *Achatina* shells were moving faster than normal snails would. On closer examination I discovered that many of these shells were devoid of their animals but instead housed some of the largest specimens of hermit crabs I had ever seen. So I temporarily diverted my attention to positioning some of these shells to photograph as much of the hermit's body as the animals would allow.

***Achatina* shell occupied by a hermit carb**

I was to find out later that 70-80% of Anguilla's land surface is comprised of 'limestone rock and thin gravely soils' which do not retain moisture (4) possibly making this an ideal alkaline substrate for the speciation of terrestrial molluscs and probably explaining the presence of hermit crabs so far away from their usual marine environment. In my short stay I was able to document and collect at least 6 separate species of land snails (not including the invasive *Achatina*) within 4 separate sites, a record not even coralline Barbados seem to match.

However, the high point of the Anguillan expedition started 3 days later when one of our host-

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Behold: A Biodiverse Anguilla

Reynold C. Boyce

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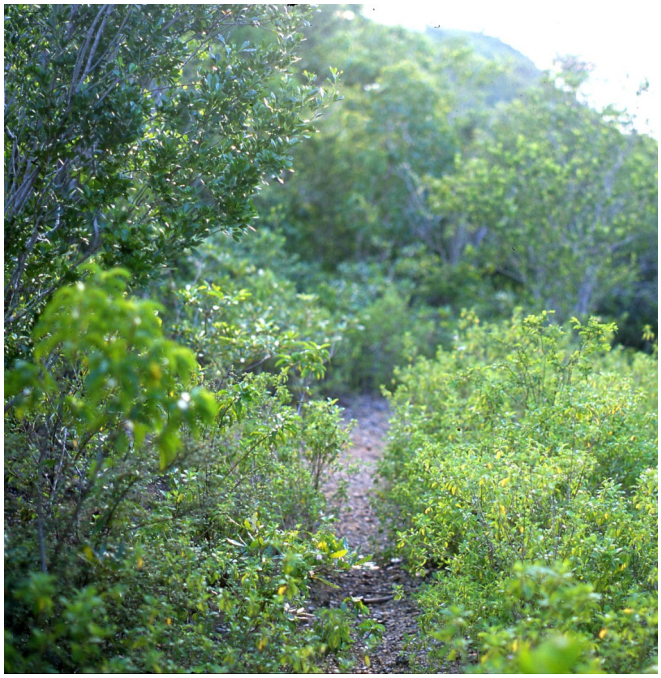
esses drove us downtown to The Valley to check-out the Anguilla National Trust office. Manning the office was the charming Farah Mukida, who welcomed us as kindred spirits in search of local treasure. She wasted no time in introducing us to the Trust's four publications – offering them at cut rates – and locating areas of naturalist interests on our map. She then took us next-door to the Environmental Health Unit to meet arch-environmentalist Oliver Hodge. Oliver, in turn, wasted no time in setting up a date for a private



Foliage along a narrow trail

trip to the famous Katouche Valley trails, Anguilla's prime Evergreen forest habitat.

Crack on the allotted hour Oliver turned up that Sunny Sunday afternoon to drive me to the Katouche trails. It was my last day on the island and I was beaming with excitement to finally get off the beaten track and into an untouched/unspoilt site. In this regard I was not disappointed.

A narrow almost hidden trail diverged from one of the newly paved roads. From the start of the trek the variety of herbs and shrubs was outstanding despite the lack of tall trees. Espousing such quaint names like Maiden Berry *(Crossopetalum rhacoma)* and Hollow wood *(Comocladia dodonaea)* Oliver's identification skills of the plant diversity was superb. What's more he was able to state the uses of many species: demonstrating (on site) some to my amazement. We all enjoy the drink of mauby but how many of us know where the bark actually comes from? Not only did he point out sample trees *(Colubrina arborescens)* but Oliver demonstrated how the mauby leaf when crushed and rubbed under water produces a cleansing lather similar to any bar of soap. Also the broad leaves of our much familiar sea-grape *(Coccoloba uvifera)* could be laced together with twigs to form an effective rain cap or even a gas funnel.

Further along the trail appeared specimens of the few large trees on the island – examples were Loblolly *(Pisonia subcordata)* with its smoothly sculptured light-brown trunks along with White Cedar *(Tabebuia pallida)* which was dominant through-out the island in earlier times and is still considered the national tree of Anguilla.

The Katouche area is actually more famous for its two limestone caves. We went part-way down the first cave where we saw nests of a local bat species in the corners of the ceiling. According to Oliver this cave used to be mined for phosphate at an earlier period thus the paucity of its animal community. We did not walk far enough to see the second (larger) cave but all along the trail limestone embankments were evident. As stated earlier we were able to locate at least 4 separate species of land snails; some on the trunk/stem of plants, others on the limestone substrate.

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Behold: A Biodiverse Anguilla

Reynold C. Boyce

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Another curious find was the appearance of tiny black lizards which Oliver assured me were adult size. They scurried among the leaf litter at our feet defying us to catch or even photograph them. Of course my trip would not have been complete without the sighting of the local *Anolis* tree-lizard which appeared on our way back out – posing handsomely for its photo on the stem of a shrub.

Examining the Trust's volume on reptiles (5) to learn more about the sighted species, it was discovered that Anguilla has at least three ground lizard species belonging to the *Ameiva* genus. Two of these are documented as endemic to two separate islets off Anguilla itself, while the dominant species, *A. plei plei*, are active scavengers rivalling Trinidad's *A. ameiva* in size *(Max. size of A. plei is 18.1 cm)* and frequenting the back yard of my aboard. Also Anguilla prides itself of not one but two separate iguana species. The Common or Green Iguana *(Iguana iguana)* of which we are well familiar and a slightly smaller Lesser Antillean Iguana *(Iguana delicatissima)* which has become endangered – inhabiting a restricted 2 km sq area along the north coast(6).

I could not close this account without sharing this brief narrative. After the Katouche field trip I invited Oliver back to my apartment to view and identify the plant samples I had photographed over the last week. He was able to identify all but 2 specimens which he only knew by their local names as they were not represented in the Plant Manual produced by the Trust. He subsequently promised to research and furnish me with their scientific names the next morning. Knowing I was leaving the island the very next day I resigned myself to getting the said information by e-mail sometime on my return home. Low and behold next day while waiting in the departure lounge for our flight, I was approached by a senior officer working at the security check point. "Come with me please, Mr Boyce"

I immediately came down with a cold sweat, thinking that the x-ray machine may have picked up some suspicious-looking devise in my check-in luggage. As we exited the check-in area the officer smilingly stated: "Mr Hodge is here to see you"

It was Oliver, himself. He had gotten past the Immigration Desk and was cheerfully waving a slip of paper. The paper, sure enough, listed the scientific names of the two elusive plant samples. Still dumfounded, I graciously thanked him.

Hospitality, cooperation and kindness could not get better than that!

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(5) K. Hodge, E. Censky & R. Powell: 2003
The Reptiles and Amphibians of Anguilla
The Valley. Anguilla National Trust
Pg 24 – 34

(6) Ibid : Pg 18 – 23

A Brisk Jaunt Through the Lesser Antilles

Christopher K. Starr

Although he was not the first to think of it, we owe to Charles Darwin the clear distinction between continental and oceanic islands. The first were formerly parts of continents, isolated through such processes as rifting and sea-level rise. The second, in contrast, began their above-sea existence as islands. I doubt that geologists are much concerned about this difference -- after all, do they care whether a particular piece of land is wet or dry? -- but it is very important to biologists.

A continental island starts out with a full complement of plants and animals, while land and fresh-water organisms can only occupy an oceanic island by passing over a sea-water barrier. Accordingly, only a distinctly biased sample of the continental biota ever gets there. Oceanic islands combine a relatively species-poor, disharmonic biota with high endemism.

Trinidad and Tobago are continental islands, while the rest of what we call the West Indies form the impressive oceanic-island arc known as the Antilles. Four of these -- Cuba, Jamaica, Hispaniola and Puerto Rico -- together with closely associated smaller islands, make up the Greater Antilles. The rest, from Grenada up to Anguilla, are the Lesser Antilles (Table 1). I have been privileged to work and play on many of them. What follows are some remarks about these islands as a whole and a quick travelogue of a few of them.

A flight to any of these places is likely to be on LIAT, which has its advantages, as they tend to make stops along the way, and their planes are small and fly relatively low. That means that you get a good look at islands along the way. Still, certain precautions are in order, as LIAT is far from being a grown-up, professional airline. The main one has to do with luggage. If your destination is not the end of the line for that particular flight, do not go straight to Immigration when you get off the plane. Rather, stand where you can see the cargo bay and wait until you personally see your luggage unloaded. If they appear to have finished, and your luggage has not yet come off, bring it to the airline's attention quickly, before the plane leaves. And don't bother requesting a particular seat when you check in, because a seat number on your boarding pass usually means nothing on LIAT. For a window on the left, get in line early to board.

With some oversimplification, the Lesser Antilles can be divided into a volcanic inner arc from Grenada to Saba and a coralline outer arc from Barbados to St Barts, St Martin and Anguilla (Table 1 pg 16). The outer islands tend to be low and flat, while many of the inner arc are impressively rugged. A very striking comparison, very apparent from the air, is between Dominica and nearby Marie Galante. Dominica is wonderfully mountainous, while from the air Marie Galante looks like a plate sitting on the sea surface, hence its french nickname, the Big Pancake.

Note that the distinction between the Windward and the Leeward Islands is quite a different one. It was very important for commerce in the time of sailing ships, but has much less biotic significance.

For the most part, the low-lying coastal areas are relatively arid, with a great deal of cactus scrub, so that much of the Lesser Antilles bears a closer resemblance to Chacachacare than to Tobago's central ridge or Trinidad's Northern Range. This is especially so in the outer arc.

See Barlow (1993) for an accessible, well-illustrated account of the biota of the Lesser Antilles.

BARBADOS

Let's be frank. For the land-oriented naturalist, there is next to nothing in Barbados (Hutt 1985). It is a low island -- mostly under 60 m, although with one hill over 300 m -- standing apart from the main arc, biotically very depauperate even before the arrival of Europeans. Then they planted it all in sugar cane, and when that was done it was turned into a tourist trap, so that what little was there in the be-

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Table 1. Land area and maximum elevation of all Lesser Antilles of more than 50 km^2. I = inner arc. O = outer arc. From various sources.

	Area (km^2)	Maximum elevation
Anguilla^O	90	66
Antigua^O	281	399
Barbados^O	430	335
Barbuda^O	161	60
Dominica^I	750	1424
Grenada^I	311	849
Guadeloupe^{I+O}	1430	1484
Marie Galante^O	153	201
Martinique^I	1128	1430
Montserrat^I	84	924
Nevis^I	93	995
St Kitts^I	176	1150
St Lucia^I	617	960
St Martin^O	87	424
St Vincent^I	341	1232

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ginning has been savaged twice over. Many years ago the Naturalists' Club, as a door prize to a fund-raising dinner, offered a trip to Barbados on BWIA. A trip to a place we didn't want to go on an airline we didn't respect. I never did find out whose corn-ball idea that was.

GRENADA

The length of Grenada's coastline is about 120 km, with a road going all the way around. On the leeward side this hugs the coast and would make a fine walking tour from St George's north to Victoria. The coastal road also allows for a convenient island tour by means of public transportation. One rides for a time, gets down to explore where one pleases, then picks up a new onward ride when it is time. It is a pleasant alternative to taking a fixed, expensive island tour in an air-conditioned bus sealed from contact with Grenadians. In addition, there is the cross-island road between St George's and Grenville, about 15 km, also readily accessible by public transportation.

In the middle of the cross-island road is Grand Etang, one of just four crater lakes in the Lesser Antilles. (Two more in Grenada, the other in Dominica.) It is in a national park with good trails, well worth a few hours of exploration. It can take a while to get a ride away from Grand Etang in either direction, so that staying until late afternoon is not recommended.

Nutmeg is the island's most famous product. It was just developing as a crop in Grenada when Rutter (1933) commented that "The tree takes some years to come into bearing and so is suitable for an island like Grenada which is not subject to hurricanes." Oh dear. Hurricane Ivan in 2004, and to a lesser extent Emily the next year, pretty much overthrew that idea. Still, I expect the Grenada nutmeg plantations to come back in time.

Grenada is the best-smelling island. This is no

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joke. I was once taking an island tour when the van stopped in Victoria. Sitting there while the driver took care of some business across the road, I noticed a lovely smell coming from nearby, so I got out and walked around a corner to a spice warehouse. Without protocol, I walked right in the open doors and just stood there in the middle of the big building with wide-open nostrils. Sometimes you just have to follow your nose.

I don't know that Devas's (1970) little book on the birds adds anything not found in geographically broader treatments, but it is so attractive that anyone looking at birds in the area should not be without it. Groome (1970) is likewise recommended.

Some continental elements of the biota extend north as far as Grenada and no further. A good example is seen in the social wasps. With the exception of Barbuda and Marie Galante, which have not been studied in this regard, each of the islands north of Grenada in Table 1 has exactly one species of native social wasp, either *Polistes crinitus* or *P. dominicus*. Grenada has two, the Jack Spaniard *Polistes versicolor* and the maribon *Polybia occidentalis*, both also very abundant in Trinidad and on the south-american mainland.

THE GRENADINES

This is a collection of about 100 islands and cays, a happy hunting ground for naturalists interested in the littoral biota. A pleasant way to reach St Vincent from Grenada is by way of the Grenadines. Take the boat from St George's harbour to Carriacou, overnight in Carriacou, take a much smaller boat across to Union (part of SVG, hence a stop at immigration and customs on arrival), then on to Kingstown on a big boat that stops at some of the other islands on the way.

Carriacou and Union are close together and comparable in most ways. However, the condition of the vegetation is apparently much affected by a difference in local custom with respect to goats. On island -- I believe it is Union -- goats are tethered, while they roam free on the other.

It is curious that *Polistes dominicus* is quite abundant on Union, yet it is not to be found on Carriacou, and my interviews with local people indicate that it has not been there in living memory.

I have not yet seen DeSilva & Wilson's (2006) booklet on the natural history of Mustique, but I am certainly in favour of it.

ST VINCENT

The extensive Botanic Garden in Kingstown, the oldest in the West Indies (Howard 1954), is well worth a few hours. There are official -- and plenty of unofficial -- guides on hand, but what for? You can find your own way around quite well.

In 1775 the Society of West India Merchants resolved to introduce and cultivate breadfruit and mangosteen. It took several attempts to get the initiative underway, but in 1787 the government finally despatched the Bounty under William Bligh. The Bounty collected a supply of plants in Tahiti, but this first attempt came to no good end. In the course of their famous mutiny, Fletcher Christian and his men threw the plants overboard. On a second expedition, Capt Bligh successfully brought to St Vincent 300 breadfruit plants from which most or all of the breadfruit in the West Indies are descended. These include at least one tree in the garden grown from a cutting of one of Bligh's original plants.

Of course, all of this adventure accomplished little in the end, as breadfruit was never accepted as a daily staple in these islands. Just think about it. When was the last time you had breadfruit? And are you especially eager to have it again?

For many years the late Dr Earle Kirby managed a fine little archeological museum in the Botanic Garden. I very much regret that it has been discontinued for lack of a new volunteer administrator.

There were six species of *Amazona* parrots native to the Greater Antilles. Two of these are now

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extinct, but the remaining four are all doing reasonably well under captive breeding programmes. In a far corner of the garden is a breeding station for the St Vincent Amazon parrot, *A. guildingi* (Christian 1993).

The environment on the leeward (western) side of the island is, on the whole, in much better shape than that on the windward side, much of which is quite ruined. And it is hard to penetrate into the well-vegetated highlands on the windward side, because of tangled, scrubby vegetation and/or marijuana farms.

The peripheral road does not go all the way around St Vincent. The end of the road on the windward side is the village of Fancy, at the northern tip of the island. During my many happy -- and largely idle -- days in Fancy, the feature I found most alluring was the language. People there speak positively the damnedest English I have heard anywhere. One third Yorkshire, one third Yoruba, and the other third is from the moon. I never got tired of listening to them.

St Vincent & the Grenadines have the distinction of being the first territory of the West Indies with an illustrated guide to its spider fauna (DeSilva et al. 2006).

ST LUCIA

Among the most recognizable sights of St Lucia are the conic coastal mountains known as the pitons. I once took an inland hike from near Choiseul to Soufrière, past the two. That was a grand ramble. Although Gros Piton (806 m) is a little higher than Petit Piton (757 m), it is much less steep and not nearly so challenging to climb. A person in normal good health can do it, rather like ascending El Tucuche in Trinidad.

Breeding and conservation efforts have been good for the St Lucia Amazon parrot, *Amazona versicolor*. Once very rare, one is almost guaranteed of hearing -- and quite likely at least glimpsing -- it on a walk in the Quilesse Forest Reserve. The small zoo at the Wildlife office at Union is a good place to get a closer look at this bird. The last time I was there, they also had some fine specimens of *Iguana iguana*, in its local form an especially handsome beast with a black dewlap and other markings blacker than in most of its range.

As in St Vincent, language is a real delight in St Lucia, but it isn't the English. I love creole languages, and French Creole as spoken in St Lucia positively knocks me out. And, unlike in Haiti, for example, it is no longer stigmatized as a low-class language of the uneducated. It is a pleasure to see the people of St Lucia taking pride in their language.

Let me mention another cultural peculiarity. St Lucians are really big on american country music. Walking through a village, one can go past several houses in one street and hear the Nashville song coming from radios and record players. I have little idea what to make of this.

MARTINIQUE

Because it is a department (province) of France, one is not surprised to find Martinique relatively expensive, with less-developed public transportation than in most of the other islands. In order to get around reasonably well, one needs to rent a car. Tourism developed mainly in the southern part, to the south and east of Fort de France Bay, which is kind of like saying that is the Crown Point part of the island, of little interest to us. Ecotourism is not well developed, from what little I have seen, but the forested northern part is a promising destination with many hiking trails.

The range of one distinctive animal, *Iguana delicatissima*, starts at Martinique and continues up to Anguilla.

Before he moved to Japan to write the books for which he is best known, the american journalist Lafcadio Hearn spent two years in Martinique and wrote a very engaging book about it (Hearn 1890); you can forgive the drab title.

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DOMINICA

Dominica is promoted as the "Nature Island of the Caribbean", by no means a hollow slogan. Well over half of the land area is in forest, much of it in very good condition. By west-indian standards, it is rather sparsely populated, with a density of about 100 people/km^2. Dominica certainly has the potential to be the premier ecotourism destination in the Lesser Antilles. However, I see little evidence of sensible official planning to this end (Weaver 2004). In the mid-1990s the government took a decision to emphasize cruise-ship tourism, after failed attempts to move toward the mass tourism of such islands as Antigua. (This was rather bone-headed, if you ask me. Dominica is virtually devoid of the kind of beaches that draw unimaginative crowds to these other islands.) One has the impression that dominican governments up to now have taken the island's magnificent natural habitats as a windfall, with little vigorous effort to protect them against future threats, a key part of any plan to develop ecotourism. It remains to be seen whether this will change.

The Botanic Garden above Roseau is not an arboretum on the level of that in St Vincent. However, it does have a breeding station where one can see the two endemic parrots, the Red-Necked Amazon (*Amazona arausiaca*) and Imperial Amazon (*A. imperialis*) (Christian et al. 1994). Zamore's (2000) booklet treats some of the other wildlife.

GUADELOUPE

I have never set foot on this island, but it is plain that the western part, Basse Terre, will be of much greater interest to naturalists. As part of the inner island arc, it is much higher and wetter, with a 300-km^2 national park in the middle. Annual rainfall in most of the western part is over 2500 mm, versus less than 1500 mm in most of the eastern part, Grande Terre. Besides, the low, eastern part is more densely populated and is given over mostly to sugar-cane and livestock farms.

ANTIGUA

This is a pleasant enough island, although for the naturalist there is not much there. One peculiar feature of the relatively arid landscape, apparent even from the air, is the widespread abundance of the date palm (*Phoenix dactylifera*). It is especially common in farmland, and one sees from its scattered distribution that it is an invasive weed. The fruity part around the seed is just a skin, quite unlike imported commercial dates.

ST MARTIN

Some may find this island, similar to Antigua in topography and climate, of cultural interest. If there are points of interest to the naturalist they escaped me. One bears St Martin no ill will, but I am unaware of any reason ever to go there.

MONTSERRAT

There are, I believe, 10 live volcanoes in the Lesser Antilles, of which Montserrat's Soufrière has been in the news since it resumed activity in 1995. You can get a quick idea of the change this has made by looking at the island on GoogleEarth. Most of the southern half, including the former capital, Plymouth, is covered in gray volcanic ash. Before 1995, about 12,000 people lived on the island. The greater part of these have moved out and are unlikely to return any time soon. This makes it a difficult place to visit, as the infrastructure to accomodate visitors is thin.

The gray volcano dust is remarkable stuff, extremely fine, more like talc than ordinary dust. Sweeping it off one's porch must be a frustrating task, as it just slips through the bristles.

Looking out to the northwest on a clear day, one gets a fair view of Redonda in the distance (also visible from Nevis on the other side). This is mostly just a big (about 2 km^2) bare, uninhabited rock, but it has a rather hilarious history, involving delusions of aristocratic grandeur and intrigue in english pubs (Morse (1973).

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Table 2. Separation of three main habitats on Nevis Peak by vegetation. Listed here are all trees and tree-like plants recorded by Rodrigues (1990) as part of the dominant vegetation in at least one of the habitats. ++ dominant. + present but not dominant. * recorded from Golden Rock estate below.

	Montane forest	Palmbrake	Elfin woodland
Coccoloba pubescens	++		
Dacryodes excelsa	++		
Beilschmiedia pendula	++	+	
Slonea truncata	++	+	
**Miconia* sp.	++	+	+
**Euterpe globosa*	++	++	++
Cyathea arborea	+	++	
Podocarpus coriaceus	+	++	++
**Clusia rosea*	+	+	++
Clidomia umbrasa			++

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Blankenship (1990) gives species accounts of several land vertebrates of Montserrat.

NEVIS

Like most of the Lesser Antilles, Nevis is a rather expensive place. Still, one has the impression that tourism -- at least, the wrong kind of tourism -- is far from taking over the social fabric. The main evidence for this is that a) a foreigner does not find him/herself beset by hustlers looking for an easy score, and b) there is little crime. In many of our islands, the second is an obvious outgrowth of the first.

As you can easily see on GoogleEarth, Nevis has the distinction of being the most symmetrical of the Lesser Antilles. Right in the middle, in physical domination of the island, is Nevis Peak (995 m), falling away more or less evenly on all sides. In contrast to St Kitts, the coastal plain of Nevis is rather narrow around most of the island.

A walk up Nevis Peak takes one through more or less distinct vegetation zones (Table 2), ending in elfin woodland.

Among the sparse natural-history literature on the island are the booklets of Hilder (1989) and Robinson & Lowery (2000). The green vervet monkey (*Chlorocebus sabaeus*), introduced from Africa, is feral in Barbados and St Kitts, but it seems most abundant in Nevis. There is also a sizeable population of feral donkeys, generally regarded as quite a nuisance. I am told that there was a plan some years ago to bring in expert hunters to shoot the donkeys to extinction. The locals thought this was just fine, but Nevis is also infested with a great many expatriate liberals, and they wouldn't have it, so the donkeys still have the run of the place.

Brent Wilson, now at the University of West Indies, was a teacher in Nevis for a time and wrote a wonderfully engaging account of the place (Wilson 2005).

ST KITTS

It is even easier and cheaper to take an island tour of St Kitts than of Grenada. At the airport or in Basse-Terre, one gets on a maxi-taxi going on the coastal road, rides it until one wants to get out to look at something, and then later continues the journey by public transportation, hitchhiking or walking.

I admit that I have never been into the highlands on St Kitts, but I understand there are sulphur vents,

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as well as on Nevis.

ANGUILLA

I am fond of Anguilla, although it is quite limited from a naturalist's point of view. The most interesting part of the island is Windward Point, a low peninsula at the northwestern end, with distinctive vegetation on mixed limestone and sand. There are also a couple of worthwhile caves. There is an attractive illustrated guide to the amphibians and reptiles (Hodge et al. 2003).

Getting around Anguilla is not easy. There is no public transportation to speak of.

BOOKSTORES

The key weakness in book publishing in the West Indies, especially in the English-speaking islands, is distribution. Many locally-produced books and foreign-produced books on local subjects do not get around, so that a visit to a bookstore can often turn up some surprising treasures. Below are some notes on particular bookstores. The book business is quite volatile in the small islands, so that some of these notes may be out-of-date next year.

Grenada -- The Sea Change bookstore in St George's is unquestionably the best, with a good selection from throughout the English-speaking Caribbean. The National Museum in downtown St George's also has some local literature.

St Vincent -- Until recently there was a fine bookstore right by the harbour in Kingstown. This has gone out of business, and nothing worthwhile appears to have replaced it.

St Lucia -- The Book Salon on Laborie Street in Castries is pretty good. I also hear good things about the Folk Research Centre on Calvary Road.

Martinique -- The best that I know in Fort de France is the Librairie Alexandre Eurl, a very serious place. The Librairie Antillaise also has good stuff, but one must be prepared to wade through a lot of popular swill.

Dominica -- In Roseau I know of nothing to compare with the Front Line bookstore. As the name suggests, it is hard-core.

Nevis -- The best I have found is Chapter One in the harbour area of Charlestown. Nothing comparable is found in St Kitts at present.

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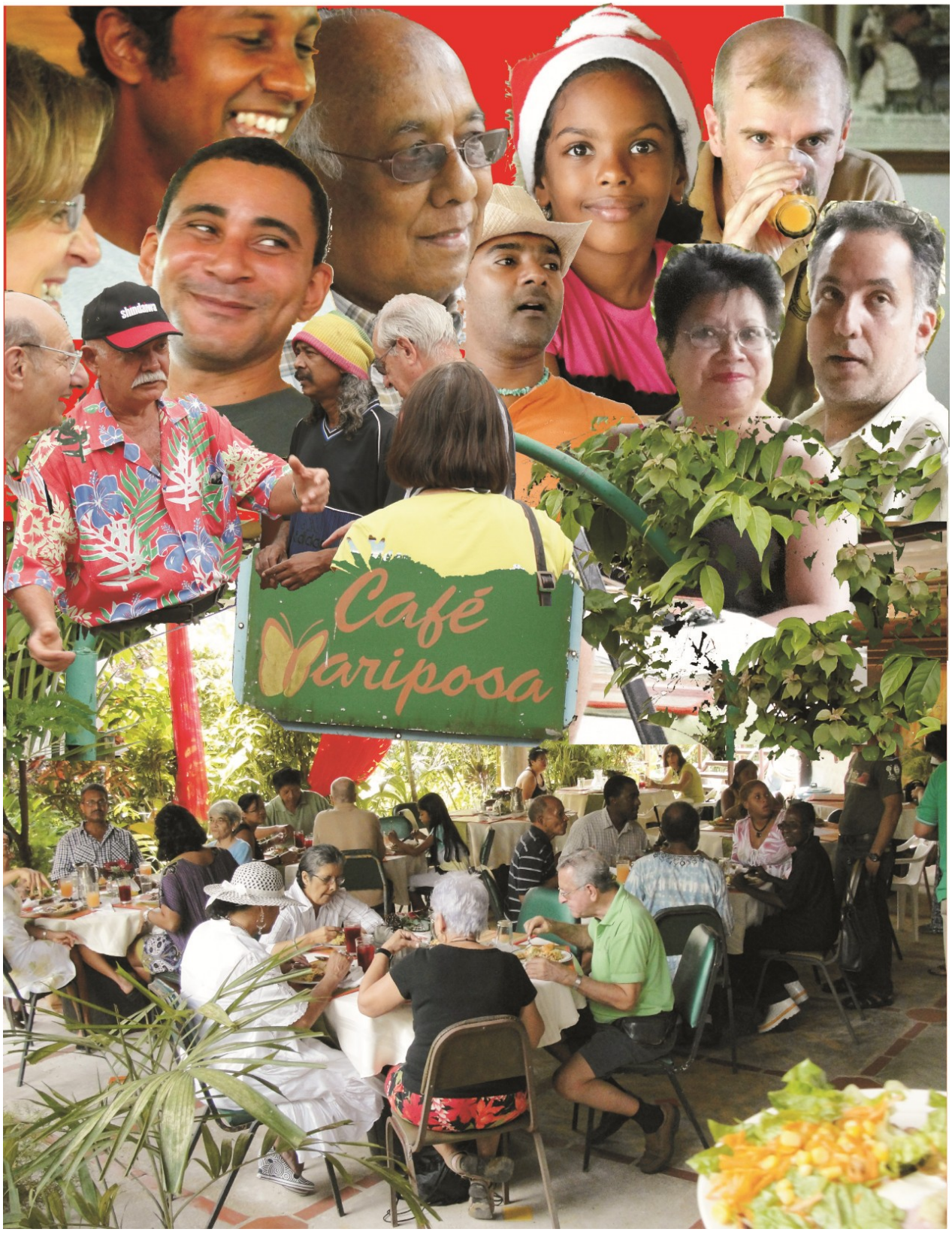
Club Christmas Lunch 2010 at Café Mariposa Lopinot

Photo Collage/photos Eddison Baptiste



Management Notices

New members; Volunteers; Publications

Management Notices

New Members

The Club warmly welcomes the following new members:

Ordinary members:

Hameeda Ali, Kamdi George

New Website

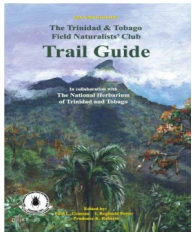
The Club has transferred to a new domain name and email address. The change allows us more space and greater control to reach out to the public and stay in touch with members.

Website: www.ttfnc.org **Email:** admin@ttfnc.org

facebook http://www.facebook.com/pages/Trinidad-Tobago-Field-Naturalists-Club/68651412196?v=info

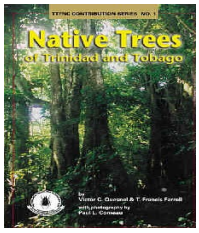
PUBLICATIONS

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

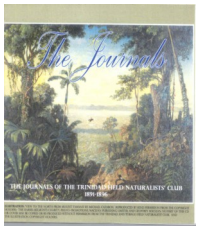


The TTFNC Trail Guide

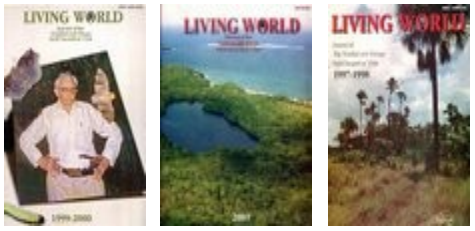
Members = TT$200.00



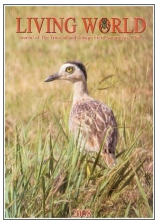
The Native Trees of T&T 2nd Edition Members = TT$100.00



Living world Journal 1892-1896 CD Members = TT$175.00



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



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 areas of flora and fauna) in Trinidad and Tobago. Full details are available on their website: http://www.greenhallstrust-wi.org/link.htm

Club Polo Jerseys

Available Sizes: medium Colours: Kahki and green Costs: TT$50.00

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

NOTES TO CONTRIBUTORS

Guidelines for Articles and Field trip reports:

Contributors and authors are asked to take note of the following guidelines when submitting articles for inclusion in the newsletter

1	Font Type:	• Times New Roman
2	Font Size:	• 12 point
3	Maximum Length:	• 1,750 words (approx. 3 pages unformatted)
4	Content	• Field trip reports should include a separate table listing the scientific names, common names and families of plants and animals already identified within the body of the report.
5	Photographs	• Provide images in the following format JPEG, BMP, PICT, TIFF, GIF • Images **must not** be embedded into the word processing files. • Information on the image content including names of individuals shown **must** be provided.
6	Format	• Acceptable formats for electronic submissions are doc and txt.
7	Deadline	• All articles **must** reach the editor by the ninth week of each quarter. • Submission deadline for the 1st Quarter 2011 issue: **February 28th 2011**
8	Email	• Electronic copies can be submitted to the 'Editor' at admin@ttfnc.org • Include the code **QB2011-1** in the email subject label.
9	Hard copies	• Hard copies can be delivered to the editor or any member of the Management Committee.