THE FIELD NATURALIST

Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club

January - March 2009 **Issue No: 1/2009**

My First Mapepire Zanana

Hans E.A. Boos

My interest in snakes, though engendered at an early age, did not get any great impetus until I was in my twenties and for the first time I met mentors who made available to me the sparse literature that existed relevant to our mainly unknown and misunderstood serpentine fauna of Trinidad and Tobago.

Even at that early time I became aware that we had in Trinidad (not on Tobago) one of the top ten of the most revered and sought-after snakes in the world, the Bushmaster, *Lachesis muta* or, as we called it here, the Mapepire Zanana.

Sought after, that is, by herpetologists, fanciers and photographers, it is generally reviled and killed by writers, hunters and virtually everyone else, which happily takes not such a heavy toll on these snakes, as they were in the main, rare, nocturnal, shy and retiring and live in places in the jungle where few ever care to go.

Hans Boos with *L. muta* A. Rodriguez
Jan 24 2009 02

But, along with the Eastern Diamondback Rattlesnake, *Crotalus adamanteus* of North America, the Fer der lance, *Bothrops atrox* of Central and South America (Trinidad too - our Mapepire Balsain),the South American Rattlesnake *Crotalus durissus*, the Black Mamba, *Dendroaspis polylepis* and Puff Adder, *Bitis arietans* of Africa, The King Cobra, *Ophiophagus hanna* and the Russel's Viper, *Vipera russelli* of India, and the Taipan, *Oxyuranus scutellatus* and Death Adder, *Acanthropis antarticus* of Australia, the Bushmaster, our Mapepire Zanana, contends with this royal assemblage of snakes as one of the largest and perhaps most venomous ones.

In the 1960s, intending to make a catalogue of all our snakes, and with a vague idea then that maybe one day I would write a book, I began to photograph every species of snake that I came across or that were brought to me by fellow enthusiasts (they were understandably very few). Because I did not have a suitable camera, I recruited friends who did, and Sandy Gibson and Peter Reis did yeoman service, behind the lens while I posed the subjects for their portraits.

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My First Mapepire Zanana

Hans E. A. Boos

Feature

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Many species came my way but a healthy and living the Mapepire Zanana was notably represented by its absence in the photo files I was building up.

Dead ones turned up crushed by cars on the Arima/Blanchisseuse road, and I befriended Clifford Chan who lived as the resident snakeman in a little estate house in the valley beneath the Maracas Waterfall. I offered him a reward to inform me whenever he caught one of these elusive snakes, and asked if he would keep it until I could get up to his house to photograph it. He always had had one "last week" whenever I visited him, and one specimen, as was his wont, he took to a local bar and demonstrated how he could kill it by stretching it out until he broke its spine.

But one day, when I went to his house, he said he had one for me, and led me off into the bush, until we came to a ravine where, in a small cage measuring about twelve inches square was a large Mapepire Zanana completely filling the small cube. How he induced it to go into this cage I never could guess, but I was nevertheless excited to see a specimen. But alas, it was useless for pictures as it had rubbed away its entire rostral scale and one eye socket was completely filled by a large tick, bloated with the blood of the snake.
I ruefully thanked Chan, paid him his bounty and left a very saddened and disappointed man.

Then I got word that the Emperor Valley Zoo had received a specimen from Raymond Sorzano of Santa Cruz and though I rushed up there as soon as the news had filtered down to me, the Curator told me he had shipped it off to the Regents Park Zoo in London. Though he had known of my quest for a living snake to photograph, it some how pleased him to throw rubble into my path. He obviously did not like me at all. I was becoming desperate for a photograph of this snake and was willing to go to great lengths to acquire one.

Joanna Darlington, (now Dr Darlington) who was working in the Tamana cave, phoned me excitedly to tell me that she thought she had seen a Mapepire Zanana down in the cave as it disappeared into a hole in the bank of the river flowing through the bat-guano-filled cavern.

Setting out that afternoon after work, with an adventuresome co-worker, Ken Kong, we picked up Joanna at UWI and went to the cave, getting there as it got dark. That adventure I have told in one of the first articles I published in an international magazine as "Following the Snake Trail." This was in *Animals* magazine in 1975. But, sadly, it was not a Mapepire Zanana we found there, but a very large Yellow Bellied Puffing Snake, *Pseustes sulphureus*, a find nevertheless, and an addition to the growing catalogue of photos.

My efforts to find a specimen went to ridiculous lengths and let others with a strange agenda to take advantage of my credulous desire.

I was told some hunters had a specimen down a track off the Arima/Blanchisseuse road opposite the thirteen and a half milepost, and midnight that night found me wandering down a logging path calling the names I had been given into the damp, echoing, jungle night. Needless to say there was no reply and probably there never was any Mapapire waiting for me at the end of that piece of foolishness.

My brother Julius and I tried for days to track down a man known only as "Coiler" in the rolling hills of the central range of mountains, for we were told by another, known jokingly only as "Bag of Lion," that Coiler had a Mapepire Zanana, and was willing to sell it at a price. We were always

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My First Mapepire Zanana

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one day and one step behind the mythical Coiler, and never found him, though we did learn the origin of our informant's name. He was an ex- policeman who once stole the Police storeroom's entire supply of cap badges, sporting the coat of arms of the British Empire with the Lion and the Unicorn rampant, in the assumption that the brass badges were made of gold. He was arrested and lost his job for stealing the worthless badges and was given the name as he had stolen a bag of brass lions. To Julius and me, to this day, any tall story is referred to as a "Bag of Lion". There was one other discovery during that search, for we saw and caught our first *Tropidurus plica*, a not often observed lizard, on the gnarled bark of a gigantic mango tree growing on the side of the road, aptly named Mapepire Trace.

Elliot Olton and I set off for Guyana (British Guiana in those days) in 1967 to hunt snakes and hopefully get a Mapepire Zanana, but after two weeks of tramping the bush, we were as empty handed as I was back at home.

So when the little booklet Reptiles of Trinidad and Tobago, by Victor Quesnel and me went to press in 1969, it was without an original photograph of the elusive Mapepire Zanana.

Over the next twenty five to thirty years, many Mapepire Zananas crossed my path; I photographed one, in around 1970, at a reptile park north of Sydney, Australia; Raymond Sorzano donated several to the Emperor Valley zoo after I became Curator in 1973: Allan Rodriguez gave me a couple he had caught; I drove to a cocoa estate in Sans Souci, a small village on the north coast, to retrieve one from beneath a cocoa basket, already bagged in a crocus bag, and went on many a wild goose chase after reports of sightings in remote locations in the Northern Range, almost all proving fruitless.

Friends and other hikers came across them idly lying across their paths as they walked up mountain tracks, some being caught and others killed or left alone.

I did photograph them as I got them and used these photographs in my book on the Snakes of Trinidad and Tobago published in 2001, but actually finding one myself, and catching it, eluded me. I came across nearly all the other species pictured in my book, even some of the rarest, like *Leptophis stimsoni*, the Grey Lora.

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But no Mapepire Zanana.

That was about to change, and in the strangest way.

On the late afternoon of January 21st 2009, I got a phone call from Charisse Thavenot, who lives nearly at the top of a mountain in Fondes Amandes in the St Anns valley, and she told me that the neighbour's dogs that she feeds as a house-sitting chore, had been barking excitedly for hours, and on going to investigate in the lowering darkness, she detected a large snake and she heard the warning rattle of its tail as she came near. Now Charisse is no ordinary woman and she insisted that the snake she had seen was a Mapepire, and she did not want the dogs to be bitten, or the snake to come down from this higher house to their yard where they too had lots of dogs.

Telling her that I was coming, and to keep an eye on the snake to ensure it would be locatable when I got there, as many such sightings I have responded to have turned up nothing by the time I got there, I hurriedly stripped off a pillow case from one on my bed, grabbed a snake hook and left as quickly as safe driving would allow me to

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leave Petit Valley and cross the city, to St Anns.

As I drove I was thinking that Charisse had said a Mapepire and the odds were that it was the commoner Mapepire, the Balsain, but any venomous snake is better removed from house premises as they can very easily bite and kill loved dogs. I had found and collected and removed several of these commoner vipers from all over Trinidad's northern Range.

When I got to the house above where Charisse lives, I made my way along a narrow shelf of land outside the surrounding fence and, by the beam of her torchlight and mine, I came upon her standing guard. After a brief greeting she pointed the beam of the torchlight through the chain link wire and I at first could not credit what I was seeing. In the most unusual of situations, a yard within a residential area (true, in an area surrounded by mountains and bush,) I saw a beautiful coil of my elusive nemesis. Lying calmly, but alert, on the lawn against the bordering fence was a specimen of Mapepire Zanana about five and a half feet long. I had not had the fortune to come across it myself, but finally there was a specimen worthy of my first wild Mapepire Zanana.

I walked along the fence until I came to an access gate and going through, was greeted by the dogs that had given the alert. Soon I was upon the snake and I had it in the beam of my torchlight. It was alert, and at my approach it slowly flicked its tongue testing the air, and I distinctly heard the characteristic clicking rattle of its spiny tail against the substrate.

Getting out my camera I flashed off two quick pictures to record the event and proceeded to attempt to catch and bag this prize

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But this snake was not going easily, as I did not want to pin its head, and all attempts to encourage it to enter the open mouth of the bag were unsuccessful. I had it by the tail and it eluded every attempt to bag it. It eventually slipped away from me as I once more tried to immobilize its head, and darted trough the fence towards Charisse, who did not flinch or run away as almost one hundred percent of other people would have, but she stood her ground and blocked it from getting away and over the edge of the shelving path that fell away to her house below.

I raced back down the fence, out the gate and came up to them, the snake calmly coiled in the cone of light from the torchlight. Between us, and at her suggestion, I placed the bag with the mouth open on the ground and giving her the snake hook I told her that I would pick up the snake once more and if I succeeded in getting its head over the mouth of the bag she should hook the edge and lift it, and I would lower the snake into the bag. With a motion as if she had been doing this all her life Charisse complied with my directions and as I tailed the snake and pointed its head over the open bag with another pole, she swiftly raised the edge of the bag, the snake slid in, and I completed the catch by twirling the mouth of the bag to prevent escape, and the prize was ours. At no time during this encounter did the snake strike or attempt to bite. The adrenaline rush had been intense and we looked at one another with relief and amazement that together we had pulled off what was one of the most difficult captures in my life.

I finally had my first Mapepire Zanana.

Tobago Trip - November 28-30 2008

Bonnie Tyler

Club Trip

The last weekend in November (28-30 November 2008), was the annual TTFNC outing to Tobago organized by Selwyn Gomes. Selwyn, Asim Khan , Rambindranath (Sham) Rajcharan, Clayton Hall, Harroon Hussein, Edmond Charles, Richard Peterson and Bonnie Tyler (me) departed Trinidad Friday evening (28 Nov. 2008) by plane since the ferry was booked out for the weekend. Our plane landed at Crown Point around 7:30 pm where we met up with Dan Jaggernath and Steven Smith and by 8 pm we were underway with rental cars headed for Charlotteville. It took us a little over an hour to make our way up the Atlantic coast to the northeast end of the island. Unfortunately, it was long past sundown so we didn't get much chance to see Tobago on the drive. As is TTFNC tradition, we stayed in the Man of War Bay Cottages on the Turpin family estate in Charlotteville. I am told that Man of War Bay is usually very clear and calm, but the weather was not in our favor. The sea was quite choppy, so we went to bed in our seaside cabin to the sound of waves rolling onto the beach.

I woke up early and went out for a walk along the beach at sunrise. The skies were mostly cloudy but there were clear patches off to the north and a golden glow in the clouds as the sun came up. I saw a blue heron alongside one of the small streams that enter the bay and watched a few of the local fishermen heading out in their small boats. While I was out strolling on the beach, Dan and Selwyn spotted two squirrels picking almonds off the trees near our cabins.

The plan was to leave at 8 am for a hike up Pigeon Hill, so after breakfast Rich and I decided to take a quick swim in the bay. The combination of rough water, recent hard rains and dredging efforts on the stream that comes into Charlotteville made the usually clear bay quite brown and muddy. I am told that there are two small coral reefs right out in front of the cabins but the water was so murky that I quite literally couldn't see my own hands in front of my face.

While we were eating breakfast and preparing for the morning hike, David Rooks, one of Tobago's top naturalists and long time member of TTFNC, came by to visit. Mr. Rooks' niece Gabrielle and Tina Eastman, a Dutch woman, who is living in Charlotteville and doing research for her wild life management degree, joined us on the hike. About the time we headed out, it started to rain steadily and 3 members of our group decided they'd rather go bird watching so we split into two groups.

The trail to Pigeon Hill starts just a hundred meters or so down from the turnoff to Flagstaff Hill, on the Charlotteville side. A red flower known as Deer Meat was growing right at the trailhead. While Dan was telling us how the plant was both edible and palatable, Rich, our environmental chemist, pointed out the nearby empty 55 gallon chemical drum and the white residue on the plants and suggested that perhaps eating these particular plants was unwise.

The first section of the trail is an old dirt road, which had been recently cleared so it was in very good condition. After climbing easily for about a kilometer we reach a lovely viewpoint of Man of War Bay. There were two magnificent hardwoods growing near the viewpoint, a Caribbean Cedar (*Cedral oderata*) and a Cyp. Not far past the viewpoint, Steven, our reptile guy, spotted a black and yellow snake known locally as Bahbelle Chenen (*Leimadiphos melanatos neson*) but it zipped off under the brush before the rest of us got a look at it. A bit further up the trail there is another viewpoint looking off toward Englishman's Bay on the Atlantic side of the Island but by this time the storm clouds were thick enough that our

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Tobago Trip - November 28-30 2008

Bonnie Tyler

Club Trip

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view was of lovely mist rolling up the hillside rather than the sea below.

As we proceeded up the trail, the rain got progressively harder which wasn't conducive to bird watching but did bring out a large number (we estimate at least 15) mountain crabs that were scurrying up and down the trail. After about 2 kilometers, the trail became more overgrown and Dan had to use his cutlass in places to clear the way. Up higher the trail enters rain forest and we saw a number of notable plants including Climbing Palm *(Desmoncus sp.)*, Rubber Tree, and Stinging Nettle.

Roughly an hour and a half into the hike, the trail met a large ravine rushing with water from the ongoing rain. Dan informed us that the trail had been rerouted up a steep hill and that it was no more than 10 minutes from where we stood to the top of Pigeon Hill. While we waited for the full group to catch up the hard rain turned to a genuine deluge. It was raining hard enough that you could tip your head back and get a drink. That may be an exaggeration but only a very small one. We were holding out our cupped hands and in only a few seconds we'd have enough fresh rainwater to drink. One of our team cut us all excellent hiking sticks while we waited and then, once again assured that it was only 10 minutes to the top, we headed up the steep, muddy slippery hill. After an hour of climbing up the exceedingly steep muddy track that was rapidly turning into a cascade as the rain got even harder, we finally reached the top of Pigeon Hill. We were rewarded on the climb by finding and catching a small purple and greenish clouded snake (*Sibon nebulata nebulata*) and seeing much beautiful rainforest vegetation.

After a difficult descent through the mud (much of it spent on our backsides), we managed to make our way back to the point where we had left the established trail. As we descended the trail, the rain slowed and a few birds began to come out. We spotted the usual corn birds and orange winged parrots and watched a male rufous-tailed Jacamar who was perched just a few feet from the trail.

By the time we reached the road the rain had stopped and the clouds were starting to lift. David Rooks happened by on the road just as we exited the trailhead. While we were regaling Mr. Rooks with our adventures and regrouping we discovered a beautiful iridescent gold beetle that neither Mr. Rooks nor any of our experts recognized. We were all drenched to the skin and covered with mud from sliding down the steep trail sections so we walked back to our cabin and sent someone cleaner and drier back for the cars.

When we met up with the bird group, they informed us they needed to be renamed "the reptile group". The hard rain wasn't conducive to good bird watching but they did see a Boa Constrictor crossing the road. They reported that the deluge that had soaked us to the skin had caused considerable mayhem on the roads below. The river that flows into the Bay near Speyside was out of its banks and several sections of road were temporarily blocked by mud and rock slides.

Our plan had been to spend the afternoon snorkeling but the hard rains had filled the bays with a great deal of silt and the water was very murky so we enjoyed a walk around Charlotteville and a meal of fresh caught kingfish and chips. Toward evening, the clouds lifted and Rich, Selwyn and I went up Flagstaff Hill for a view of the island and then scouted out the roads that had been flooded earlier in the day. That night, Mr. Rooks and Mrs. Turpin joined us in the cabin and shared tales of natural history of Tobago, shark fishing and pirate hangings in Pirates Bay.

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Tobago Trip - November 28-30 2008

Bonnie Tyler

Club Trip

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The next morning, the weather was much clearer and so we went off to snorkel in Pirates Bay. During the night the water had mostly cleared so we were able to see the brain coral and many varieties of fish including the queen angel fish, the French angel fish, several types of parrot fish and many others whose names I really need to learn.

After a lovely morning of snorkeling and sand, most of our group went in to Speyside for lunch.

Since this was our first trip to Tobago, Rich and I decided we'd rather spend our time outside so we went up Flagstaff Hill to enjoy the view and then walked back to the cabins to meet up with the rest of the club by mid afternoon. We drove the scenic route down the Caribbean side of the island back and arrived in Crown Point in time to watch the sunset from the beach before our plane ride back to Trinidad. All in all, it was an excellent trip, good friends, good food and some great natural history despite the less than perfect weather.

Point Gourde

Auburn Nash

Club Trip

Around 7:10 am, about 12 members began the journey to Chaguaramas from the Twin Towers. The rest of the group was not at the CDA Police post. We then headed west and took the road on the left after MOBS 2 to Hart's Cut and parked in an open area near to the Coast Guard base.

Bobby gave a short talk and also warned about cow itch and bette rouge, which are known in the area. We did not encounter the latter, while the former was almost every where. Luckily the area was still moist.

Early along the trail we noted a rock formation in the limestone, the pieces resembled a rainbow. However samples could not be collected because of the fragile composition, so pictures were taken instead. Numerous birds, insects, bats and monkeys were seen, and among the trees seen, the naked Indian stood out with its smooth trunk, and a few huge carat palms were noted.

This trail took us to the cell tower site from which another old radio tower could be seen, although mostly covered in cow itch vines, the only occupants were the Black Vulture. There were a lot of the claw orchid which seemed to be on every other tree and shrub on the trail and another ground orchid which had green and white spots on its leaves. The birds seen were bananaquit, orpendola, roufous-tailed jacamar, common black hawk, caracara juvenile, squirrel, cookoo, black vulture. Those heard but not seen were trogon, barred antshrike, pygmy owl. There were numerous butterflies and spiders.

Returning to the cars we took a trail to the right which led to a sewerage treatment plant and on the return, some members took a trail which led to a point where a there was a clear view of Carrera. Some members went to see the shipwrecks in the sheltered bay east of the trail, but I opted to head back out. On my back two monkeys appeared and much to my amusement began to play a game of hide and seek. They were good at it, because all the time they were playing I was able to take only one photo.

By 2 pm the hike was over and a good time was had by all.

Moruga - January 11, 2009

Matt Kelly

Birding Trip

On Sunday, January 11, 2009, the TTFNC Birding Group first met at Grand Bazaar for a 5:00 am. departure for the scheduled trip to Moruga. I was very strong that day, and passed right by the Doubles Stands without stopping! We actually departed, as advertised, at 5:00 AM and gathered more group members as we headed South. In all, it was a very pleasant day, with our final group at 17 members strong. Overall, it was a fine day of birding with 69 bird species identified.

We drove South to San Fernando, then East through Princes Town by sunrise, and South along the Moruga Road. Draped alongside the road was a large cecrophia tree, with a beautiful Channel-billed Toucan taking in the morning sun. We made our fist stop. Clayton Hull and Dave Smith brought along their spotting scopes, which gave us all an extra good look. The scopes also came in handy for exceptional views of a Squirrel Cuckoo. We logged in many other birds there as well.

Just before Moruga, we went left at the Petrotrin sign which said "Moruga East" onto Edward Trace. Edward Trace runs parallel to NGC's cross-island gas line, and goes all the way on to Guayaguayare. The road was paved, and in good condition. There is no other development out here, except lots and lots of hunting camps, with names like "Star Safari Hunters", "Happy Boys Camp", and "Bounty Hunter's Hunt Club." The area was very good for birding, and may have been even better without the number of hunters out there.

We birded Edward Trace all the way to the turn-off for Moruga Bouf. The idea of seeing Moruga Bouf was soon dismissed when hunters coming back down the road reported the very heavy mud conditions.

Another highlight of this very productive day, were two Trogons spotted together, which at first were thought to be a Violaceus and a White-tailed. Michele Rochford's great digital photos later identified them as a pair of White-tailed Trogons. In the modern hi-tech world of birding, the advent of the digital zoom camera in the field has gone a long, long way in making positive identification of the fine points possible, which really takes the guesswork out of the picture (so to speak).

At another spot, an unusual call was emanating from some dense bush close at hand. Michelle Lee's keen ear identified him as a Silvered Antbird, while Stephen Agostini coaxed the bird out of the bush for us with his mp4, and we had several good views of this rarity. Here is another example of hi-tech birding. I have seen very shy, rare, and unusual birds coaxed into view with a recorded play-back of that particular bird's call. Without the play-back, we would have never had the opportunity to actually see this shy and reclusive bird.

Other notable sightings were; a pair of Bat Falcons perched high in a dead tree, a Pale-breasted Spinetail going in and out of its nest of sticks, a good view of a Forest Elaenia calling. Many beautiful butterflies stopped to pose just for us half-dozen camera-toting nature-photo junkies.

On the drive out of Edward Trace, we passed a legless lizard, *Amphisbaena alba*, freshly killed in the road. He was about 18 inches long, a coppery/brownish/pink colour, with concentric rings all along the body, and very thick. According to accounts in Murphy, this blind reptile, of the sub-order *Amphisbaena*, commonly known as the "legless lizard", "double-headed serpent" or "bachac snake" (to use only some of the names this animal is called) lives its life mostly underground. It is not rare, but seldom seen. It is an opportunistic eater, with a keen sense of smell, which will take both vertebrates and non-vertebrates. They may be found living under-

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Moruga - January 11, 2009

Matt Kelly

Birding Trip

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ground in the nests of the leafcutter ant (*Atta cephalotes*). Some seem to have the ability to follow the scent of the leafcutter's track to find their underground nest. They may be found in Trinidad in lower lying elevations, anywhere below the Northern Range. They are not recorded on Tobago. These most unusual animals may be active just about anytime, except in the open, on the sunny days. To find one freshly killed, out in the open, on a hot road, and in the sun, I thought was unusual.

We then stopped in Moruga, along the L'Anse Mitan Road at the mouth of the Moriquite River for some final sightings. It was a very picturesque place right near Moriquite Point.

And finally, Kay Hinkson wondered just why it is that Feroze Omardeen always includes a comment from her in his trip reports?

The List:

Princes Town to Edward Trace:
Yellow-rumped Cacique (many), Orange-winged Parrot (many), Tropical Mockingbird,
Carib Grackles (flock), Yellow-headed Caracara, Tropical Kingbird, Boat-billed Flycatcher (pair), Great Kiskadee, Snowy Egret, Black Vulture (many), Bananaquit,
Cattle Egret, Channel-billed Toucan, Green Honeycreeper, Turquoise Tanager, Blue Dacnis (f), Yellow Oriole, Violaceous Euphonia, Palm Tanager, Little Hermit, Crested Oropendolas, Yellow-rumped Cacique (many), Ferruginous Pygmy Owl (h), Lineated Woodpecker, Rufous-browed Peppershrike (h), Squirrel Cuckoo, Ruddy Ground Dove, Silver-beaked Tanager

Edward Trace:
Striated Heron, White-bearded Manakin, Trinidad Euphonia (h), White-tailed Trogon (pair), Yellow-breasted Flycatcher, White-flanked Antwren, Rufous-breasted Hermit, Black-throated Mango, Blue-chinned Sapphire, Palm Tanager, Tropical Pewee, Golden-fronted Greenlet, (unidentified hawk), Violaceous Euphonia, Southern Beardless Tyrannulet, Turquoise Tanager, Pale-vented Pigeon, Little Hermit, Gray-breasted Martin
Tropical Kingbird, Silvered Antbird, Little Tinamou (h), Bat Falcon (pair), Smooth-billed Ani, White-shouldered Tanager, Pale-breasted Spinetail (w/ nest), Blue-black Grassquit,
Copper-rumped Hummingbird, Forest Elaenia, Purple Honeycreeper, Streaked Xenops,
Northern Waterthrush, Barred Antshrike, Silver-beaked Tanager, Rufous-breasted Wren,
Ochre-bellied Flycatcher, Rufus-tailed Jacamar, Yellow Warbler, Turkey Vulture

Moruga:
Black Vulture (many), Smooth-billed Ani (many), Giant Cowbird, Shiny Cowbird, Ruddy Ground Dove (many), Little Blue Heron, Southern Rough-winged Swallow,
Spotted Sandpiper, Semipalmated Plover, Green-rumped Parrotlet, Short-tailed Swift,
White-headed Marsh Tyrant

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My Trip to La Guyane (Part III)

Hans E. A. Boos

Feature - serial

Part II

Day 5: Tuesday 23rd May 2000

Today, we were returning to the Tresor Reserve, for Julius, Lynn and Mary had not seen the Botanical Trail, and Joep was eager to show them around, as well as he wanted to check on the work progress of the shed. He had left instructions for his workers to cast footings for the major uprights

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We were soon walking over the trail that I had already traversed, but the sheer size and grandeur of the trees could not but impress me once more. As we walked, small birds, aptly named the Screaming Piha, *Lipaugus vociferans* began to call nearby. Their call is a loud, whipping, wolf-whistle, and it accompanied us for the rest of our trek in those woods. It was as if the bird was protesting to our presence in its domain, though it never came close enough for us to see it.

Everywhere, large Morpho Butterflies flitted between the trees to disappear and reappear like electric flashes. They were startlingly bluer than the ones I was accustomed to. In one species, a giant of an insect, *Morpho hecuba*, there is a great degree of sexual dimorphism, and we saw the females gliding slowly, like colourful paper aeroplanes, in shafts of sunlight that penetrated the tall trees.

As we made our way down to the small stream at the bottom of the valley, the smell of dead reptile assailed us, and a quick search uncovered a section of the body of what appeared to be the Fer-de-Lance Viper, *Bothrops atrox.* Someone or some predatory animal had dismembered the snake. We continued downhill to the stream where Joep, Bernie and I had fetched water a couple of days before. A very colourful pair of Woodpecker-like birds suddenly visited us. They circled us, sitting on the vertical surfaces of the tree trunks, and chattering at our presence. They were too swift for me to get a fix on them for later identification, for I confess I am not the rabid "bird-man" who can instantly recognize a new species when it appears.

Movement on the trail ahead, as it began to drizzle, proved to be another species of toad. This time it was an Eared Toad, *Bufo margaretiferus.* The females have large flanges at the sides of their heads, which, Joep assured me, were used by the males as anchors during mating. I though, "How useful."

We exited the Botanical Trail, which had made a large loop to bring us back on to the original road, and walked down what was once an old, gold mine, access road in ever heavier rain, down to where a large creek gushed across the road. As a culvert, the engineers who had made the road had laid a large hollow tree trunk to act as a conduit, and this served to let the water through as efficiently as any made of concrete or steel.

On fallen tree trunks, piled at the side of the road, we once more spotted *Kentropyx calcarata,* and its cousin *Ameiva ameiva*, but they were too swift, being warmed by the intermittent shafts of sunlight, for me to get photos before they dropped out of sight. All along the way the botanizers were collecting plants, the most interesting for me, being a sort of wild Tannia, was a species of *Xanthosoma*, found growing around and even upon the rusted remains of a log-hauling tractor, abandoned in the jungle many years previously. Joep, climbing aboard this relic, seemed to be driving this machine through some lost world.

With the rain falling steadily now, we were soaked through, and as we made our way wearily back up the road, heading for the van, we could hear the

(Continued on page 12)

My Trip to La Guyane (Part III)

Hans E. A. Boos

Feature - serial

(Continued from page 11)

large *Leptodactylus pentadactylus*, whooping joyfully in the dark reaches of the Mountains of Caw.

Day 6: Wednesday, 24 th May 2000

Today, we were to take the bigger of the two boats, the "Rio Amazonas." We were going collecting up the Orapu River this time, and Joe seemed to think we would travel more comfortably in the bigger craft.

We launched at a slip on the Compte River, where the current was roaring past. Some Brazilians were loading a smaller boat with building materials, possibly to build a house of some sort, high up the river. Long lengths of corrugated galvanized iron, and timber, were balanced precariously along their boat, with little space left for the driver and other occupants.

Down the Compte River we boated, and soon turned up the Orapu into the flooding current. We could do little collecting as the rain once more began to fall heavily. I had come down with a cold the day before, and having dosed myself with lots of vitamin C and some anti-histamine I was feeling pretty miserable and sleepy. Finally the rain was so insistent, that Joe pulled into the jetty of a holiday house that was close to the river-boundary of the Tresor Reserve, and we went into it to shelter and to wait out the showers. Here we had a snack of the lunch that Maryke had packed for us. An hour or so later, the sun came out and we continued up river, looking for a prime collecting site for Aroids. In a clearing on the riverbank, we could see a large cabin, set back about fifty meters from the edge of the river. Here there was supposed to be a small wooden dock, but the rising water had covered it completely.

We tied up "Rio Amazonas," and set out to explore around the house. There was a wooden jetty-like bridge leading from the water's edge to the house, where I put down my pack and was preparing to set up my camera to get a few shots. There was a wooden railing as well, and I must have brushed against it for I saw a small lizard jump off the vertical pole and fall into my pack. I quickly caught it and saw it was a species of anole, and Joe confirmed that it was in fact, *Anolis fusco-auratus*. It was pale green with a large pink dewlap which told me it was a male, with a dark banded tail, but it was the skinniest, most half-starved looking lizard I had ever seen. It was very tractable, and allowed me to pose it on one of the posts and get a series of photographs.

The others were foraging in the bush, announcing with glad calls that they were discovering and collecting their special plants to their heart's content.

Julius caught another, larger specimen of the Eared Toad, *Bufo margaretiferus,* and I took another set of photos, for this specimen, a larger, more adult female, had even larger "ears" than the first one. The rain held off, but intermittently the showers soaked everything and I began to worry that the cold I had felt coming on would become worse.

But when we wrapped up the day's collecting and headed back to where we had launched the boat, I was feeling fine. At the slipway the Brazilians were back, this time filling the boat with gravel, for another trip up river. We washed up the boat, cleaning out all the detritus that comes with plant collecting, while the river water was used to wash the roots of the plants collected, in preparation for trimming for shipment.

Hanging over the water near the boat were several of the small "monkey pot"-type seed- pods that I had seen on the forest floor in the Tresor Reserve. With a well-placed thrown piece of

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My Trip to La Guyane (Part III)

Hans E. A. Boos

Feature - serial

(Continued from page 12)

stick, Julius knocked down several. However, there were no viable seeds in these pods, for termites and beetles seemed to have invaded them completely, leaving the insides a rotten mush of material.

We got back home about 3.30 p.m., after a very wet, but fruitful day, where we had heard birds that Joe called a Caracara calling, and seen the head of a turtle submerging as we approached. This was possibly one of the river turtles *Podocnemis unifilis.*

There was almost tragedy when we got home, for Joep, distracted by a stray dog at the gate, took the circle in the yard too sharply, and the boat and trailer slid into the swampy pond in the center of the turning-road circle. Julius and I got behind it to help push it out, while the girls stayed in the van to give it extra weight and traction. As it began to move, the entire boat and the trailer slid even further in, pulling me down the slippery slope and nearly falling on Julius and crushing him. But he agilely avoided the toppling trailer and boat. Joe gunned the van forward and dragged the whole thing through the mud and slush up on to dry land, and except for multiple ant-stings on my feet as I was dragged through a huge nest of Fire Ants, we were unhurt.

The rain on the roof lulled us to sleep that night. We were going to the junction of the road to Cacao the following day to collect the plants we had see there a couple of days previously.

Day 7: Thursday, 25th May 2000

We drove down to the junction of the road to Cacao, where it branches of the main road to Regina. The Regina Road was now open, but the signs still said that Cacao was still cut off.

Parking the van and we began to explore the bush once more. I collected a few plants of the Heliconias that I fancied. They are *H. acuminata*, and bear extremely red, almost crimson flowers. Huge corms of the *Dracontium* were dug up and a lot of other plants were collected at this site. I gathered a quantity of winged seeds and later identified them as coming from the tree *Serjania grandiflora*. Scattered spent blank cartridges gave mute evidence of an old army camp nearby, where military games were held.

We drove on down the road to Regina to find another collecting site for *Anaphyllopsis*, and in a similar drowned area of forest where swampy vegetation has replaced the original undergrowth, we began to wade through the water, and to locate the plants that are so valued by collectors. Several were found but it was difficult to reach them, much less dig them up unharmed. However, we managed to get to several that lent themselves to a good delving in the soggy soil with the digging spade, which we had made sure to include this time. And after an hour or so, in driving rain at times, the required plants were collected.

I spent whatever dry times I could grab, to photograph the strange plants and even orchids, which made up the roadside flora. Towering over the secondary growth was another species of Bois Canot, with which I was unfamiliar. It turned out to be *Cecropia obtusa,* with thicker and waxier leaves than the one we are accustomed to in Trinidad — *C. peltata*.

Again the calls of the large *Leptodactylus pentadactylus* told us that they appreciated the rain to get on with their life.

We drove back home wet, but happy with our day's adventures and collecting successes.

Greenhouse Gas Thoughts

Reginald Potter

Discussion

For me the whole issue of sequestering Carbon Dioxide (CO_2) with live foliage requires some further explanation. Not being a qualified biologist or botanist I do not have a good understanding of the chemical processes that lead to a net extraction of CO_2 from the atmosphere. But as a once-educated geologist I have some feeling for the many processes by which CO_2 may become part of the earth and hence no longer in the atmosphere.

The problem of photosynthetic conversion of CO_2 to something that is no longer the original gas, is that if this were true there would be underneath every rain forest a substantial layer of peat, coal, or some similar material, maybe limestone, that derived its carbon component from the atmosphere. Or there would have to be some end product or by-product of the process that caused an increase in methane (CH_4) concentration, or some other gas that contained carbon, in the immediate vicinity.

I have looked around the world for evidence of something in which carbon may be concentrated, in swamps, and forests but apart from rare concentrations of leaf material in swamp channels, I have failed to find anything that looks remotely like the beginnings of a coal seam. Coal compacts to about one tenth of its original thickness, and in the process becomes more and more like elemental Carbon. I am at a loss to imagine how a 100 foot coal seam is formed. Some seams reportedly preserve upright fossil trees apparently growing though this pile of vegetable carbonaceous material, which therefore must have accumulated so quickly that it occurred in the plant's lifetime. In today's world I doubt there are any such conditions. Peat bogs do not seem to qualify since they are often on upland areas which will in the fullness of time be eroded and any early beginnings of coal be thus washed away.

Since first drafting this article I have read in the National Geographic November 2008 issue that in Borneo (Kalimantan) "A specialized ecosystem called 'peat swamp forest' covers around 11% of the island". These areas apparently build up a soil of waterlogged plant material to a depth of 60 feet. I suppose this is what I was looking for, but since they form inland of mangrove swamps, and not in an established sedimentary basin, their preservation in the geologic column is not at all certain. The area of Borneo is 287000 square miles so 11% will be 31570 square miles and is therefore significant. Also there are lesser peat swamp forests in much of southeast Asia, including Sumatra, Thailand and Malaysia, so at least for the present they must contribute to atmospheric CO_2 reduction. Unfortunately the people of that area are doing their best to destroy these forests by burning them and planting oil palms, which causes the carbon-rich soils to oxidize, putting CO_2 back into the atmosphere.

On a TTFNC field trip to the Orinoco delta this year we did observe something like the makings of what could be a coal formation environment. A Waraoo guide took us on a walk into the adjacent forest to show us medicinal plants and some bushcraft. I should say here that the delta area consists of flat "land" for vast distances in all directions with large distributaries of the Orinoco snaking through on the way to the sea. Forest types vary, from mangrove to Moriche palm forest to what appears to be the forest we see in Trinidad with many of the same species. Of course the Moriche stands in water and its presence seems to indicate that the water is simply shallower there enabling the palms to take root. In the forest one of the party stepped in a wet spot and immediately sank in above the knee. We pushed a stick into the ground and discovered that it was all water logged black vegetable material. So finally I saw for myself a modern day coal-forming environment.

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Greenhouse Gas Thoughts

Reginald Potter

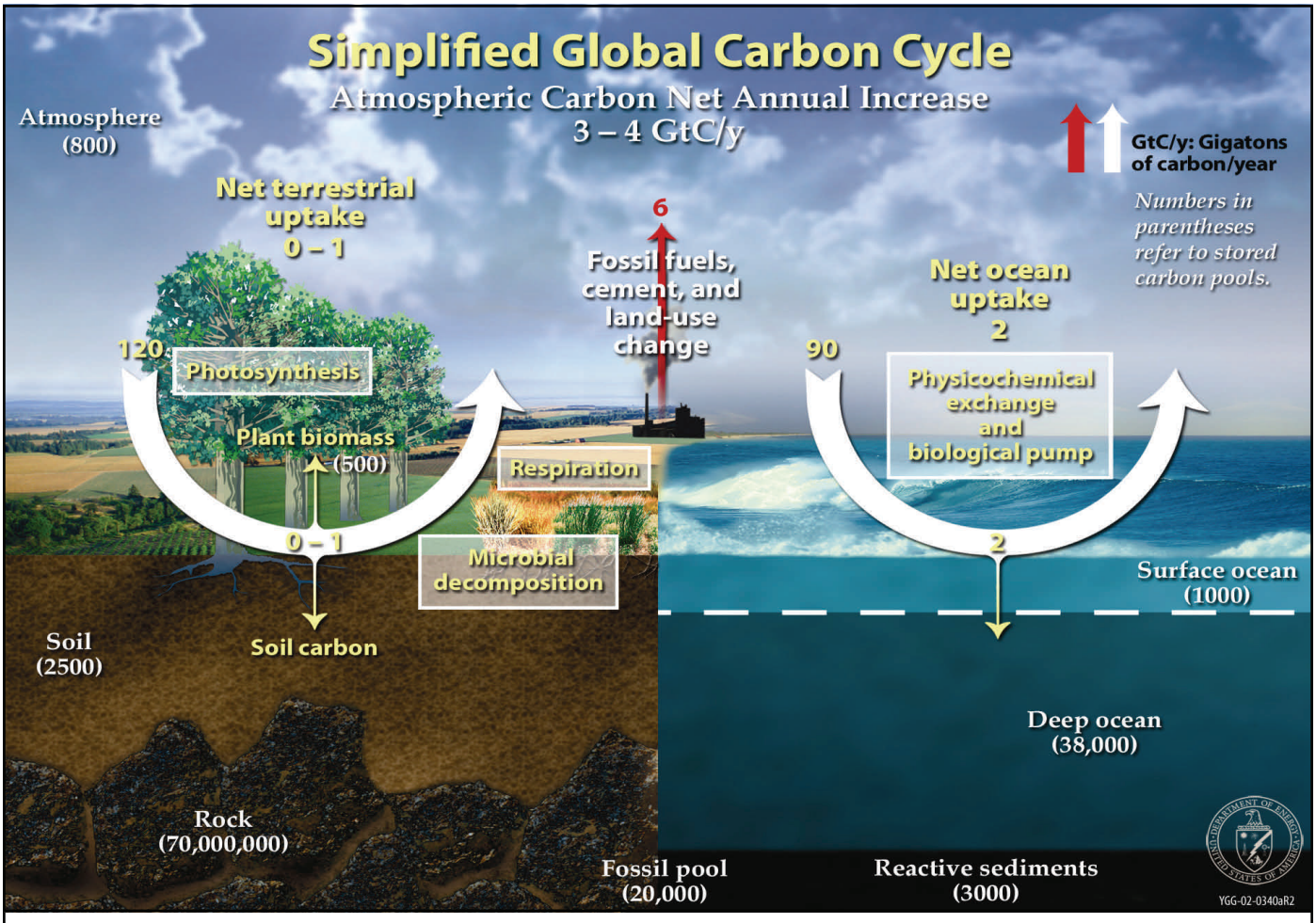
Feature

(Continued from page 14)

However it was far from perfect as mineral mud was evident over much of the surface, and in other forested locations in the delta the mud reached a height of about 5 feet above the high water mark (the delta there was tidally influenced). Also considering that the river meanders constantly move, I assumed that much of these so-called coal areas would ultimately be eroded away, in geological time.

The floor of rain forests, that we all frequently claim must be saved to cleanse the planet's atmosphere, typically have about 6 inches of leaf litter and a couple of inches of rotted leaves below that, before entering into mineral soil or the very slightly altered strata of the geology below. This leaves one to speculate that leaf and branch decomposition must yield products that are indeed gaseous – no doubt CO_2 itself! Hence in a stable rainforest there should be at all times millions of cycles of tree growth, with much fixing of CO_2, a considerable deposition of leaf matter during the tree's life, then death and addition of woody portions of the trees to the rot, and release of CO_2

(Continued on page 16)



Source: Genomics:GTL Roadmap, U.S. Department of Energy Office of Science, August 2005, http://genomicsgtl.energy.gov/roadmap/. Adapted from Carbon Sequestration Research and Development (1999),Genome Management Information System,

Greenhouse Gas Thoughts

Reginald Potter

Discussion

(Continued from page 15)

from both types of detritus during decomposition. Could the CO_2 removed in each growth phase equal the CO_2 produced in death?

Now I honestly wonder what contribution to CO_2 removal, forests, savannahs, scrubland or moors can make. In my ignorance I dare not say zero but my suspicions point that way. Could it be that in trying to conserve rainforests we have been backing the wrong horse? Maybe clear cutting forests, converting the lumber to buildings (with preservatives) followed by regrowth of new forest is in fact a good mechanism for reducing atmospheric CO_2! Nevertheless when we burn coal and forests, apart from the small amount of charcoal formed, we put CO_2 into the air and undo millions and millions of years of effective sequestration that occurred in some unfamiliar conditions at several periods in geological time.

I think today we must look to the sea for processes that can make a net positive contribution to CO_2 sequestration. The amount of CO_2 tied up in limestones in the world today is almost unimaginable. On a recent Mediterranean cruise I could not help wondering at the masses of limestone present in the mountains and cliffs of what was formerly known as Yugoslavia, then Turkey, and Greece. We traveled on through the Alps through Lake Como and into Switzerland where undoubtedly some of the metamorphosed Alpine strata consists of limestones. Then think of the Carboniferous limestone that exists in USA and Europe, and which I have seen in the UK in Yorkshire and Wales and many similar places. What about the dolomites in Italy the marble of Carrara and the seemingly endless limestones of the Middle East, north Africa and famous pictures of karst topography in China and Thailand. How much CO_2 did it take to form the Cretaceous Chalk? I really don't know much about South American and Australian geology but would expect that there are enormous limestones there too. These limestones formed over an elapsed time that makes the entire evolution of man seem like less than the blink of an eye. So whatever we learn from this would need to have significant acceleration potential for even our grandchildren to see some effect.

What appears needed is to develop a marine limestone formation process that can operate on an enormous scale, largely unsupervised. Coral reefs are fine but with the problems of bleaching and large scale die-offs, plus the fact that coral environments are confined to a narrow band near to or around existing shores and shallows, does not suggest this as a solution to CO_2 build up. Calcareous sludges that form in oceans, later to become limestone, may be more effective if we can stimulate the growth of whatever organisms develop calcareous exoskeletons.

Exploiting the question of calcium carbonate solubility may have some potential and some side benefits. Calcium carbonate exhibits a reverse solubility trend with temperature, i.e. it gets less soluble when the solution is heated. Deep ocean waters are very cold and may tend to have higher calcium concentrations than warm shallow waters. Hence deep oceanic water raised quickly to surface and warmed would create the conditions for calcium carbonate precipitation. Such a process is also used to generate electricity experimentally. Would it be possible to sequester CO_2 by such a process on a large scale? The actual deposition of calcium carbonate can actually be observed in this country forming conglomerates where the waves lap the shore at Toco in the Salybia Galera lagoon, and also at beaches just south of the Galera lighthouse.

However the total material balance must be considered, taking care to try to consider all components. Land ice is melting thus diluting salt concen-

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Greenhouse Gas Thoughts

Reginald Potter

Discussion

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tration in the sea and thus making precipitation of calcium carbonate more difficult. Also there is the disturbing thought that most calcium dissolved in seawater comes form solution of limestone by acidic rainfall, a process that itself releases CO_2 to the atmosphere!

There are severe penalties in getting the science of CO_2 and pollution control wrong. Some believe that we are improving atmospheric quality when we remove SO_2 from flue gas in heavy oil and coal-fired applications. The flue gas is treated with a limestone sludge which absorbs the SO_2. But what is released in the same reaction? CO_2! Similarly some believe that there is some virtue in burning ethanol, methanol, or using hydrogen fuel cells instead of crude oil and its derivatives. Such people should enquire into the entire energy balance that creates these "clean" fuels, and may be surprised to see that at the end of them more, rather than less CO_2 is created overall. Meanwhile there is much hardship in the world from ever increasing food prices caused by shortages resulting from land being converted from food production to energy production.

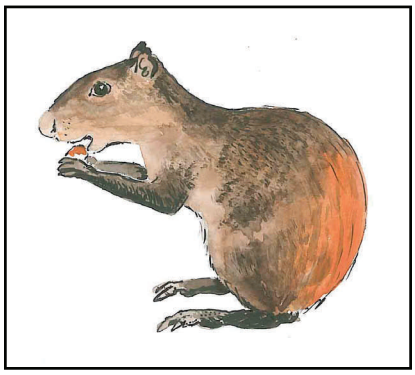
The world currently seems obsessed by Climate Change talk shops, and some low lying nations even think they will simply relocate to other countries as sea levels rise. None of these will solve the problem. I think scientific solutions including peaceful reduction in the earth's population and sound economics must be pursued urgently. To do this we must be honest and seek the realities of what does and what doesn't increase atmospheric CO_2.

Smart Agouti

Glen Wilkes

Nature Note

Brer Rabbit is the fabled "smart-man" of the animal kingdom, and the agouti is sometimes called "Indian Rabbit", so I suppose you should expect he would also be full of tricks.



It was a year ago, on the last day of the hunting season, and I had just come out of the bush on to Depot Road, adjacent to a number of abandoned estates next to the McNair Forest Reserve. The road was being rehabilitated, and as I relaxed by my car, an excavator came trundling along, fouling the air with diesel fumes.

In the distance I could hear some dogs barking, and suddenly a 'gouti' hopped out of the bush on to the road. Instead of darting across to the bush on the other side, he proceeded to run behind the excavator - in the middle of the road.

I couldn't believe my eyes, and watched in amazement as he followed he excavator for about two hundred metres. Finally he 'took to the bush' again. Not long after, a pack of 'mixed breed' hunting dogs, yapping excitedly, came out of the bush at the same location as the 'gouti'. They milled around trying to pick up his scent, but were frustrated by the exhaust fumes, and I now realised the trick the 'gouti' had pulled. 'Big cats' often roll in dung to hide their scent, but the 'gouti' had shown a remarkable flair for improvisation.

BG Insect Guide
Management Notes

Management Notices

BG Insect Guide

The Cicada
Additional info:
http://en.wikipedia.org/wiki/Cicada

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Hemiptera
Suborder:	Auchenorrhyncha
Infraorder:	Cicadomorpha
Superfamily:	Cicadoidea
Family:	Cicadidae

The following Amendment to the Club Rules was tabled and approved at the 2009 AGM.

Change heading for 26 to "**Finances**"

26 a Annual subscriptions …….(as presently written.)

26 b Club funds will be held in a bank account or similar secure account at a finance house, that is widely recognized to be a reputable and responsible custodian of public funds.

26 c The Club finances will be controlled by the Management Committee.
The following require a majority vote by the Management Committee:

- Purchase and sale of club equipment that will be recorded in the Clubs capital asset register.
- Transfers of funds between bank accounts and interest-bearing accounts operated by reputable banks or non-banking organizations, which offer guaranteed immediate capital withdrawal.
- Purchase and sale of investments in equities, bonds, investment funds, other interest-bearing funds, or land, or similar quality investments, provided they, on reasonable investigation, appear sound, to an aggregated maximum of 50% of the Clubs cash and liquid assets.
- Debts for the Club to an aggregated total amounting to half the membership subscription for that year.
- Delegation of authority to selected officers and/or Committee members to authorize expenditures up to half the membership subscription for that year.

26 d The following will require a majority vote, in which a minimum of 40% of the membership participated. Such a vote may be at a monthly meeting or Special Meeting and the proposal must be circulated 2 weeks in advance. The Management Committee may arrange for, and publish at least 2 weeks in advance, a system of proxy voting for the determination of such a proposal.

- Purchases of investments or real property of a greater amount than described in 26 c.
- Debts for the Club to a greater maximum than described in 26 c, and the offering of Club property as security for such debts.
- The sale of any real property that the Club may possess.

Management Notices
New members; Volunteers; Publications

Management Notices

New and Returning Members

The Club warmly welcomes the following new members:
Ordinary members:
Judith Gonsalves, Brent Proudfoot, Yves Johnson

New Website

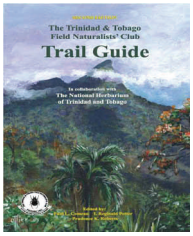
The Club has transferred to a new domain name and email address. The change allows us more space and greater control to reach out to the public and stay in touch with members.

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

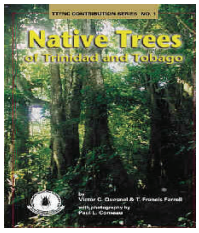
facebook http://www.facebook.com/pages/Trinidad-Tobago-Field-Naturalists-Club/68651412196?v=info

PUBLICATIONS

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

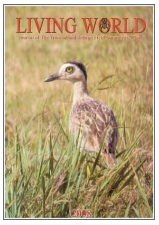


The TTFNC Trail Guide
Members = TT$200.00



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 2nd Quarter 2009 issue is **July 24 2009.**
8	Email	• Electronic copies can be submitted to the editor at shane.ballah@gmail.com or to admin@ttfnc.org • Include the code **QB2009-2** in the email subject label.
9	Hard copies	• Hard copies can be delivered to the editor or any member of the Management Committee.