

Visit to Aripo Caves

March 30, 2003

John Lum Young

The destination for the March field trip was Aripo Main Cave one of the many caves in the Aripo Valley. At the trail briefing it was announced that 5 members led by Victor Quesnel would search for Sanderson's Cave. Sanderson (1940) noted that the 5 foot high cave entrance was situated 50 feet above the ground up on the rock face of a ravine. Vampire bats (*Desmodus rotundas*) were one of the bat species roosting therein. This was Victor's 5th attempt to locate the cave in recent times. With Charles De Gannes, Louis Guy, Reg Potter and Graham White he had excellent support and I hoped they would be successful.

The forested trail, which generally led north-north-westerly, passed through limestone country with limestone boulders on and near the track. There was even a limestone formation in the shape of a toilet bowl on the path. To the west, obscured by the thick forest, a ridge with a north - south orientation contained three of the four highest peaks in the country: Chaguaramal (2,819 ft); an unnamed peak over 3,000 ft; and El Cerro Del Aripo (3,085 ft).

What struck me was the dryness of the forest floor which was light coloured and cracked with loose dirt in places. We were in Lower Montane Rain Forest where plant growth will not usually stop in the Dry Season. The abundance of epiphytes and mosses hanging from trees indicated the normally moist conditions. Bromeliads, orchids and anthuriums grew thickly upon trunks and branches everywhere but they were not as luxuriant as could be. The brief daily showers were only sufficient to water the canopy so some of the undergrowth curled up their leaves to conserve moisture as the ground remained bone dry.

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The fruit of the Toporite (*Hernandia guianensis*) were scattered on the forest floor. Dan Jaggernauth, the tour leader, demonstrated why the Toporite was called "the musical fruit of the forest". He blew lightly into the opening at the base of the fruit to produce a whistling sound. The breeze in the canopy makes a similar sound, only it emanates from dozens of fruit. Another interesting fruit seen was the purple berry of the *Tradascantia zanouia*, a member of the Commelinaceae family. The juice from the berry resembled ink and left a reddish purple stain.

A steep descent brought us to the trickling Aripo River where there were calcite deposits on the rocks along the water course. These deposits were also called "sheep tripe" because when a flashlight is

placed behind the material the light shines through (similar to pressing a lit torch against one's palm).

A relatively long, steep climb followed, then a short descent to a dry stream bed that led downriver to the cave's mouth. The stream's course ran the length of the cave with water being present only in the lower sections. The entrance was roughly circular about 40 feet in diameter. The elevation here was 2,250 feet. Above the opening the roof was about 20 feet thick. As I entered the cave down a steep slope of huge jumbled boulders, the squawks of the oilbirds (*Steatornis caripensis*) became louder and louder.

The oilbirds rest on ledges and cracks in the walls and ceiling. I estimated the population to be about 150 birds. The floor was covered with their droppings and the rich guano fauna included various beetles, bugs, earwigs, scolopendrid centipedes, mites, pseudoscorpions and collembolans. The guano near the entrance contained *Histoplasma capsulatum*, a fungus that could infect the lungs causing cave sickness (Ajello et al 1962, Brown 1988). There were no signs of the birds' nests being raided. After the oilbird colony were the roosts of nectar-feeding bats *Glossophaga s. socrina* (Pallas) (Sanderson 1940, Ordway 1953). Most of the group turned back at this point but five of us ventured further following a smooth water-worn passage which ended in a vertical drop of about 30 feet over a solid rock face. I did not plan to venture further so had neither rope nor ladder—necessary equipment for exploring the deeper recesses. We switched off the torches for a short while to experience the still stygian blackness of the interior. We were

500 feet into the cave and light from the entrance only penetrated a few feet.

The remainder of the cave has been well described. At the bottom of this drop the passage continues as a large gently-sloping tunnel with a loose stony floor for another 100 feet. There is a second drop of 17 feet over a wide steep rock face with no footholds for about the last 3 feet. There is a further near-vertical drop of 33 feet to the cave floor though this drop can be avoided by following the ledge to the left and scrambling down a steep slope of unstable rock debris. The cave below this is a large irregular tunnel 19-32 feet wide descending not too steeply over a boulder floor. The roof initially rises to about 65 feet but at one place it comes to within 6 feet of the floor before rising again to 32 feet or more. A small side tunnel branches back northward on the right (explored by Graham White in 1991). At about 1,500 feet from the cave entrance a small stream emerges from the floor. Manicou crabs (*Guinotia garmani*) live along the stream and clusters of bats, *Anoura g. geoffroyi* (Ordway 1953) roost in small pockets in the roof. Some flies also occur, notably a small and delicate crane-fly of the genus *Cryptolabis* (Darlington & Gelhaus 1993-1994).

At 2000 feet there is a small hole to wriggle through, called the Needle's Eye (Gunther 1940). The obstruction was still there according to Boos (1978). Beyond that point were the initials "G.L.A." painted

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MISSION STATEMENT

To foster education and knowledge on natural history and to encourage and promote activities that would lead to the appreciation, preservation and conservation of our natural heritage .

white on the wall by a 1922 expedition to mark the spot where they turned back. The letters were confirmed by Boos in 1978. Next came the Siphon (Comeau 1991), a passage about 97 feet long barely passable by belly crawling in the water. The ceiling above the water being just about high enough to allow you to breathe as you crawl through the cold stream. The Siphon is most probably impassable in the Rainy Season. At this point the cave is estimated to pass 70 feet below the Aripo River bed.

The cave then opens up again into a small chamber. The stream carries on over a small waterfall and into a larger pool called Gunther's Swimming Pool. The stream meanders through the tunnel in a series of slides and small pools. This section has been labelled the Serpentine (Comeau 1991). The cave ends at the Waterfall (Comeau 1991), a circular hole about 2.5 feet in diameter with a drop of 25 feet. The water disappears into a narrow tunnel running eastwards. The length of the cave to this point is 2,800 feet with a drop in elevation of 525 feet.

On the return home, I learned that Quesnel's party had located a cave up on a cliff face that fits Sanderson's description on the outside but Victor was not satisfied that the interior was as noted and so opinion is divided on whether the discovery was the long lost cave.

Reference:

Darlington, J.P.E.C. CAVES IN THE HEIGHTS OF ARIPO, TRINIDAD, WEST INDIES: A REVIEW OF CURRENT KNOWLEDGE *Studies in Speleology Vol.X December 1995, 51-63*

Comeau, P. L. Aripo Cave *The Field Naturalist Quarterly Bulletin Third Quarter 1991*

REMINDER

Your 2003 Membership Fees are Now Due !



FIELD TRIP REPORT

La Laja Waterfall—February 23, 2003

Jo-Anne Nina Sewlal

Our group departed from the southern UWI entrance at approximately 7.00 a.m. heading east towards Arima. We travelled via the Bye Pass and along the Arima Blanchisseuse Road for about 9.2 km. We then took the La Laja road on the right. We had to park 5 km before the accustomed parking spot by the second small waterfall on the left with a shallow pool at its base. The road was in such a deplorable condition due to logging activity in the early '90s and gross neglect by the authorities, vehicular access to the village was limited to 4-wheel drives. This extended the hike by 1½ hours.

La Laja village, like most country villages, depends heavily on the cultivation of cocoa, coffee and other produce. The population now numbers 50 having dwindled steadily with the decline of traditional estate agriculture since the oil boom of the '70s. The village is not clustered around a central point but of a more linear arrangement, as was common with estate villages where the owners of each building established their homes on the acreage they cultivated. This area was in part characterized by Lower Montane Forest.

On the rocks bordering the road one of the first sights to greet us was that of spider webs. These webs belong to members of the spider family Agalenidae or Funnel-web Spider. A notable characteristic of the web is that it has a funnel whose entrance is surrounded by a sheet of webbing used to catch prey which are then taken into the funnel to be consumed.

Among the first trees noted were two species of rubber trees. The first was *Hevea brasiliensis*, a member of the Euphorbiaceae family and a native of South America later introduced to the Indonesian region. (Indonesia was one of the major exporters of rubber before the advent of synthetic material.) This species has small leaves and was located near to the parked cars. The second species, *Castilla elastica*, had larger leaves and red flowers and was seen further along the road.

Wild chataigne (*Pachira insignis*) was another tree observed. Its seeds can be roasted and eaten. The flowers of this tree are large with crimson petals and long white stamens that resemble a barber's long-bristled dusting brush (Quesnel and Farrell 2000). However, at the time of our trip the flowers were gone and replaced by the brown, oval-shaped fruit which can be up to 20 cm long.

Another tree seen near the beginning of the hike was the Sandbox (*Hura crepitans*). The hard round fruits burst open when ripe scattering their seeds. The entire fruit was once filled with sand and used for blotting letters and as paperweights (Hargreaves & Hargreaves 1965). This early use gave the tree its name. The septa of these fruits are roughly shaped like dolphins and are used to make earrings and other handicraft that are commonly sold to tourists. The seeds taste similar to peanuts but contain poisonous oil that causes severe intestinal cramps and diarrhoea.

Bloodwood and Miracle tree are some of the common names for *Croton gossypifolius*. So named because when the mottled bark is slashed the red latex resembles blood. On casual observation if left for a few minutes the latex coagulates in the same manner as blood. This tree can grow to a height of 15m. About 40m after the second small waterfall, by the traditional parking spot mentioned earlier, a thick growth of the soft-stemmed herb Impatiens (*Impatiens sp.*) about 1m wide lined the trail for 15m. Dotted in between was *Pachystachys coccinea*.

We also saw Balsa (*Ochroma pyramidale*), the fruit capsule of which splits open to reveal the fibre coated seeds. The wind disperses the seeds far from the parent plant. (The breeze also pollinates the flowers). This soft, silky fibre was used as stuffing for pillows before the advent of synthetic stuffing. Wild onion or Matapal (*Clusia rosea*) often mistaken for *Ficus sp.* was also seen. However they have an alternate instead of opposite arrangement of leaves. We did however see two Strangler figs *Ficus sp.*

A second spider species was seen before we reached the village - *Mesabolivar aurantiacus*, a red spider belonging to the family Pholcidae, the same family that makes the characteristic tangle webs most of us have seen in the corners of our home. It has a distinctive defense mechanism. When disturbed it whirls, becoming a blur making it difficult to be detected by predators.

Nutmeg (*Myristica fragrans*), Pommerac or Otaheite apple (*Eugenia malaccensis*), Gosco or Sour orange (*Citrus aurantium*), Pois Doux (*Inga laurina*), Cocoa (*Theobroma cacao*) and Coffee (*Coffea arabica*) were evidence of the estates that once flourished in the area. On passing through the village the group saw a Jack Fruit tree or Katahar or Koa (*Artocarpus heterophyllus*). This unusual fruit is a relative of the Breadfruit and comes from India and Malaysia. The tree can grow to a height of 15m and the fruits themselves can reach lengths of 0.9m and weigh up to 34kg. When ripe this fruit has an unpleasant odour, but its yellowish, soft, sweet pulp can be eaten raw, boiled, fried or curried, squeezed to make juice or preserved in syrup. The canned fruit is exported to the United States from Thailand. The large white seeds when roasted taste like chataigne.

On leaving the village and its abandoned plantations, we entered secondary forest where we met some local hunters who were training their dogs. The trail was at times disrupted by fallen trees. We shared the walk that day with Hikeseekers, led by Laurence Pierre, whom we met on reaching the village. On the way, we passed a large bachac nest characterized by a large mound of excavated debris. Bachacs cultivate an underground fungus garden. We crossed into a shaded area where most of the trees had trunks of about 3cm in diameter and appeared to be saplings. Here we noted about 3 nests of the termite *Nasutitermes ephratae* that were roughly spherical with a smooth surface ranging from 1 to 1½m above the ground. The soldier termites are called nasutes, and defend the colony by chemical means. They squirt a sticky, strong smelling (similar to turpentine) secretion at intruders, the purpose of which is to gum up their predators, mainly small arthropods, to whom the gum may be toxic. The palm Tirite (*Ischnosiphon sp.*) was noted, whose commonly striped stalks are used to make baskets.

Birds seen along the way included the Channel-billed Toucan (*Ramphastos vitellinus*), Semp (*Euphonia violacea*) – an inhabitant of secondary forest including cocoa and citrus estates (ffrench 1991), and the Barred Antshrike (*Thamnophilus doliatus*) – another inhabitant of secondary forest. Also noted was the Golden-headed Manakin (*Pipra erythrocephala*), which holds a courtship dance along the tree branches, rather than on the forest floor like its relative the White-bearded Manakin (*Manacus manacus*).

Butterfly sightings along the way were numerous. A short way into the hike we were greeted by many Postman butterflies (*Heliconius sp.*). But on reaching the falls there was more diversity with sightings again of the Postman, Blue Emperor (*Morpho peleides*), Tiger (*Tithorea harmonica negea*) and Tiger-with-tails (*Anaea fabius*). The latter is not commonly seen. Most of these butterflies were identified by Dr. Charles De Gannes, lepidopterist.

A fruit found near the falls was shaped like a cucumber but the outer skin was much thicker and harder, similar to that of a calabash. It was later identified by the National Herbarium to be *Sicana trinitensis*, a member of the Cucurbitaceae (cucumber) family. Not much is known about this plant. We reached the falls around 12.30pm. The stronger members of Hikeseekers ventured further up the river to Sombasson Falls, another 40 minutes distant. We stayed for about 1/2 hour to have lunch and admire the scenery, after which we started the long walk back to the cars.

References:

ffrench R. A Guide to the Birds of Trinidad & Tobago. A&C Black. London. 1991. 365p

Hargreaves D and Hargreaves B. Tropical Trees Found in the Caribbean, South America, Central America, Mexico. Hargreaves Company. 1965. 61p

Quesnel V.C. and Farrell T.F. Native Trees of Trinidad and Tobago. Trinidad & Tobago Field Naturalists' Club. 2000. 77p

Chacachacare

January 25—26, 2003

John Lum Young

Many associate “down the islands” with scouts, other campers, holidaymakers, boat owners and the affluent, but the islands deserve their own place in Trinidad & Tobago’s history and this knowledge should be preserved. A little more than 200 years ago, when cotton was king, these islands produced 10% of the country’s income with less than 1% of the population. From a shell midden it was determined that Saladoid Amerindians lived on the island around 100 to 400 A.D.

The westernmost of the three major islands located in the Dragon’s Mouth (Boca Del Drago) between the Paria Peninsula of Venezuela and the Chaguaramas Peninsula of Trinidad is Chacachacare. This Amerindian-named island with an area of 2 square miles is the largest of the Boca islands. It is separated from Venezuela by the Boca Grande and from Huevos by the Boca de Navios or Third Boca.

Geologically the island is made up of two formations. The northern 1/3 of the island is a part of the Maracas Formation consisting of phyllites and sandstones, while the area from Bulmer’s Bay to Girod Point and all of the south part of the island is the Grande Riviere Formation, which consists mainly of non-fossiliferous, monotonous, non-calcareous slates and phyllites.

The Club normally camped nearer Perruquier Bay but on this occasion it was decided to overnight at Rust’s Bay. The campers took a water taxi from Island Home Owners Association. Just offshore was Centipede Island or Little Gasparee. The boat motored west along side the coast; past the Coast Guard station at Staubles, the La Retraite coastline, Teteron House (which also overlooked Teteron Bay to the north), across First Boca or Boca de Monos (the Bocas are waterways between the offshore islands where the Caribbean Sea jousts with the Gulf of Paria) and then Monos Island. (Off Monos the members who followed next morning saw a school of porpoises port side that kept company with the boat.) After Second Boca (Boca de Huevos) came the island of Huevos which has been leased to the Boos family since 1927 (the present lease expires in 2051). Many rich and famous folk have enjoyed the hospitality of the Boos. Arguably the most famous of its guests were the Duke and Duchess of Kent in 1935 and Princess Anne in 1958. The narrow neck of land towards the western portion of the island has been completely eroded and now the Boca sin Entrada forms a passage that splits Huevos in two.

Crossing the Third Boca, one could see Patos to the southwest in the distance. Patos had been part of the province of Trinidad since Spanish colonial times but on winning its independence in 1821, Venezuela started to make acquisitive glances at Patos and suddenly, in 1904, the President of Venezuela included Patos in a decree redrawing the boundaries of the Spanish-speaking country. This forced the British to put a watchman on the island to raise and lower the Union Jack daily. Patos belonged to Trinidad until 1942, when the British agreed to concede the island to Venezuela in exchange for Soldado Rock. The acquisition of Patos was important to Venezuela’s political directorate, however, and the British established an airtight title to Soldado Rock, facilitating the establishment of an undisputed international boundary in the Gulf of Paria and paving the way for exploration for oil in the Soldado area.

Chacachacare is horseshoe-shaped with the “ends” pointing eastwards and the middle of the “C” becoming a narrow neck of land about 165 yards wide, with La Tinta Bay on the western side and Perruquier Bay on the eastern side. Soon Pt. Girod, the more easterly tip of Chacachacare came into sight.

Camp was pitched at Rust's Bay amidst the ruins of a dilapidated building (once the largest holiday home on the island that later became the Doctor's quarters for the leper settlement).

A group set off to explore the northern part of the island. The land was dry (less than 40 inches of rainfall per annum) making it difficult to imagine that this terrain once supported viable agriculture. In fact, about 80% of the island was under cotton cultivation (from 1791). Sweetsop or Sugar Apple (*Annona squamosa*), Coconut (*Cocos nucifera*) and a type of tobacco requiring less water were the other commercial crops. The high prices for cotton at that time (presumably as a result of decline in supply following the American Civil War) encouraged the planting of this crop in this marginal region. The cotton industry collapsed quickly after 1810 when world prices started to tumble.

Heading west, Dan Jaggernaut, group leader, observed some railway tracks at Bulmer's Bay. Bulmer's Bay was the site of the old whaling establishment at Chacachacare and the tracks were used to haul Humpbacks (*Megaptera novaeangliae*) up to the factory. (The blubber from the whale was boiled to make lamp oil – about 800 gallons on average was obtained from one whale.) The whaling industry (1824 to 1880) took over after the collapse of cotton. The humpback whale disappeared from the Gulf as a result of overexploitation. (The whalers killed about 25 to 30 whales each year during the February to May hunting season.) It does not seem that the lesson of overexploitation has been heeded. One hundred and twenty years later there are a number of species on the verge of extinction in Trinidad and Tobago, such as the Ocelot (*Felis pardalis*) and Pawi or Bush Turkey (*Pipile pipile*) to name two, as result of over hunting.

The group proceeded west encountering many ruined buildings. In January of 1921, an advertisement appeared in the Trinidad Guardian advising of the relocation of the leprosarium from Cocorite (on the spot now occupied by the Seventh Day Adventist Hospital) to Chacachacare. Despite strong opposition the Crown seized all lands on the island (except those of the Roman Catholic Church) via an eviction order in December of that year. A few wealthy owners lost their holiday homes but the three or four hundred island villagers lost the way of life they had enjoyed for generations. They relocated to Teteron, Chaguaramas, Carenage and Venezuela.

These were the ruins of the leper colony. The group walked through well-structured buildings that were steadily being reclaimed by the forest. Numerous cisterns and the ruins of the laundry, kitchen, bakery, small infirmary and larger hospital (32 beds), library, R.C. chapel (capacity 150) and mental home were also seen. The scale of the leprosarium was quite large, with houses extending up the hillside that included children's houses, Sisters' convent and a jail. (In 1921 the Government had increased income tax to finance construction of the leper settlement. The Works Department and able-bodied patients built the infrastructure.) A generator provided electricity for the jetty and hospital only. Elsewhere, light was by pitch oil lamp. A cinema was built after two large generators were installed on the island in 1946. There were free shows for the patients 4 times a week. The old projector was still to be seen. One of the members, Kay Hinkson, recalled her vacations on the island as a teenager. From her description of the buzz of activity at the settlement one could almost sense the presence of the ghosts of a not too distant past. (With advances in treatment it was no longer necessary to isolate lepers and the last patients returned home in 1984). The Sander's Bay area housed females (who constituted about one third of the patients), children and the main administrative section. The males were kept separately at Cocos Bay. There were intricate guttering systems that directed all rainwater from the roofs to cisterns and underground reservoirs.

During the day, Clayton Hull identified a number of birds that included the Gray Hawk (*Buteo nitidus*), White-fringed Antwren (*Formicivora grisea*), White-lined Tanager (*Tachyphonus rufus*), Yellow-bellied Elaenia (*Elaenia flavogaster*), White-tipped Dove (*Leptotila verreauxi*), Spotted Sandpiper (*Actitis macularia*), Northern Waterthrush (*Seiurus noveboracensis*), Turkey Vulture (*Cathartes aura*), Yellow-headed Caracara (*Milvago chimachima*), Yellow Oriole (*Icterus nigrogularis*), Bananaquit (*Coereba*

flaveola), Great Kiskadee (*Pitangus sulphuratus*), Tropical Mockingbird (*Mimus gilvus*), Palm Tanager (*Thraupis palmarum*), Black Vulture or Corbeau (*Coragyps atratus*), Brown Pelican (*Pelecanus occidentalis*), Grayish Saltator (*Saltator coerulescens*), Tropical Parula (*Parula pitiayumi*), Blue Jean (*Thraupis episcopus*) and Magnificent Frigate Bird (*Fregata magnificens*).

That night Ray Martinez demonstrated the technique of locating scorpions by their fluorescence in ultraviolet light. He set traps but caught only one scorpion *Tityus melanostictus*. He was disappointed because on the other side of the island he usually caught many more, including those belonging to the other 3 types of scorpions found on Chacachacare.

The next day, the group, joined by members who arrived on Sunday morning, set off once more for Sander's Bay. Following a bench trail headed west which passed through a thick growth of Mother-in-Law's Tongue (*Sansevieria sp.*), a stop was made to examine a cactus (*Hylocereus sp.*) with a trunk 55 inches in circumference at chest height. Mrs. Comeau of the National Herbarium indicated that large cacti were abundant on the island. She explained that drought conditions prevailed as the Dry Season (which lasted about four months) experienced less than 2 inches of rain. The desert like conditions therefore had a strong influence on the vegetation. She stated that Beard had described the vegetation as Secondary Deciduous Seasonal Forest altered by human interference. This original vegetation was not easily recognisable but two distinct communities could be identified; the upper beach community with characteristic species such as *Canavalia rosea*, *Sesuvium portulacastrum*, *Trianthema portulacastrum*, and the Salt Pond community with its mangrove vegetation, *Rhizophora mangle* and *Avicennia germinans*. On the cliffs were found *Bromelia chrysantha* and *Pitcairnia intergrifolia*. Mrs. Comeau informed the group that the number of species recorded for the island was 244 vascular plants with the life forms ranging from 77 herbaceous species, 44 species of shrubs, 43 species of tree, 41 species of climbing shrubs or vines and 35 species of small shrubs or small trees.

Overlooking Bulmer's Bay solidly constructed brick buildings stood to the side of the trail. These buildings (erected in the late 1940s) housed the additional nursing staff that replaced the Dominican Sisters who had been selflessly caring for lepers in Trinidad from 1868 until 1950. South of the buildings were a number of cisterns.

Continuing along, the trail passed in between the stout aerial roots of a spreading *Ficus benjamina*. The *Ficus* starts life as a parasite in the branches of a tree. With the passage of time the roots thicken and encircle the trunk of the host tree on their way to the ground. The roots gain in strength and size eventually strangling the host. As the tree grows other aerial or adventitious roots hang down from horizontal branches and root firmly when they touch the ground, becoming trunks to support the expanding tree. The *Ficus* is related to the Banyan or Bengal Fig (*Ficus benghalensis*), a member of the mulberry (*Moraceae*) family, which can spread until it covers several acres. The *F. benghalensis* is native to India, Pakistan and Sri Lanka. The biggest Banyan known has 350 large trunks and more than 3,000 smaller trunks all attached to one parent and it is located in Sri Lanka. In India a tree with over 1,100 "prop roots" was measured and its canopy covered an area of more than 5 acres. It is the biggest in that country and is constantly guarded by four armed men to preserve it from damage. (Spinach (bhaji) can be made from the leaves, which are also used as plates.) A forest is usually made up of many trees. Imagine now a forest comprising a single tree.

On reaching Sander's Bay some relaxed by the seaside and others headed inland to see if the patient's cemetery still existed. Secondary forest had reclaimed most of the cemetery but the tomb of Sister Rose of Ste. Marie, who died of leprosy in 1937, was still intact. Two members decided to explore further and ascended the steep slope via a dry gully that appeared to present a way to the hilltop. On the climb they passed between two concrete columns that suggested a small dam once held

Management Notices

Welcome New Members

Life Members (now suspended)

Oral Davis Neezam Mohammed
JoAnne Williams Schimidhammer

Ordinary Members

Joanne Persad	Amoy E. Rivers
Stephen Smith	Dexter Bishop
John E. Cooper	Michael Burnett
Dominic Burnett	Dominic Leboeut
Cindy Munro	Sunity Maharaj
Rudy Celestine	Helen Thomas
Simon Bucher	

TTFNC celebrates its 112th Anniversary

The next general Monthly Meeting of the TTFNC will be held on July 10, 2003 on the 1st Floor, Conference Room of the National Library of Trinidad and Tobago, St Vincent Street, Port of Spain from 5:30 p.m.

At this meeting the TTFNC will hold a function to celebrate its 112th Anniversary.

New Additions to our Library

Studies in Trinidad & Tobago Ornithology Honouring Richard French. Edited by Floyd E Hayes and Stanley A. Temple. Occasional Papers #11 UWI

The mammals of Trinidad Alkins, M.E. 1979. Occasional Papers # 2 UWI

Studies on the biological resources of Nariva Swamp, Trinidad. Bacon, P.R 1979 (reprinted 1993). Occasional Papers # 4 UWI

Flora & Fauna of the Caribbean by Peter Bacon. Key Caribbean Publication 1978

A Review of the Bats of Trinidad & Tobago. George G Goodwin and Arthur M. Greenhall. Bulletin of the American Museum on Natural History 1961

The Palm Book of Trinidad and Tobago including the Lesser Antilles by Paul L. Comeau, Yasmin S. Comeau and Winston Johnston

The Snakes of Trinidad and Tobago by Hans E. A. Boos

MISSING ISSUES OF THE TRINIDAD NATURALIST MAGAZINE

We are missing a few issues of the *Trinidad Naturalist* Magazine which was first published in 1976 by Stephen Mohammed. We seek your help in acquiring copies. The missing issues are:

Vol 1 No 1 to 5, 8 to 11	Vol 2 No 1	Vol 3 No 5 to 9	Vol 4 No 3 to 12
Vol 5 No 1, 2, 4 to 12	Vol 6 No 1 to 4, 6 to 8, 10 to 12	Vol 7 No 3 to 12	

Visit our website at <http://www.wow.net/tfnc> for a complete list of books in the library.

? Copies of the *Native Trees of Trinidad and Tobago* are still available for purchase at TT\$80.00

? Issues of the *Living World Journal* from 1892—1896 are still available on two CD volumes.

What Is To Be Done? Part 2

The Club has long had a deeply ambivalent attitude toward conservation. We are all in favour of it, to be sure. But what should we do about it? Are we to take a leading role in conservation activism, or should we keep this as subsidiary activity, serving in a support capacity to other, more purely activist organizations?

The question is far from resolved and I see it as our ongoing dilemma. It was evidently this that gave rise to the formation of the Caribbean Forest Conservation Association some years ago by members who found the Club's conservation concerns lacking in force and focus.

We need a project. Something important, yet doable, well focused, of the right size, in which everyone can have a piece of the action. A project that will allow us to participate in a definite, righteous way, while we figure out where we belong in the scheme of the conservation movement. We need to get serious about the perennial problem of dry-season fires. By the time you read this, it will be plain what kind of a fire season we have had in 2003.

The research or investigation component of such an undertaking is a modest one. We have a fair idea of how the fires occur and we are all convinced that they are a bad thing. Where we do not yet have a clear idea, I believe, is in the social dynamics of dry-season fires. In particular, how do members of the most affected communities view wildfires and those who start them? Is there, to begin, a general understanding of the long-term effects of the repeated burning? And is there a general climate of disapproval of irresponsible fires?

Beyond this, it is a matter of propaganda. I have little idea what constraints and penalties the law sets in this matter, but I am certain that law and government cannot be at the heart of the solution. As in so many things that require improvement in this (or any other) society, law is almost powerless in the face of contrary custom. In this case, the custom is an apparent widespread tolerance of burning. As with many socially harmful activities, the key to compliance is active disapproval by the general populace.

So how should the Club proceed? First, we require a definite, no-nonsense decision that this is a major part of the Club's business. Not some sub-committee's business. Not a blessing to those who may be interested to go ahead. A clear decision by the Management Committee, endorsed by the membership.

Beyond that, here is how a rough draft might look: a) compile a geographic data-set on fires throughout Trinidad (or maybe just for the Northern Range) during the last 20 years, b) select four or five communities for special attention, c) devise a scale of community attitudes toward fires and compile data, d) publicize the findings, e) utilize the findings as the basis for anti-fire propaganda, and f) monitor the effects of our propaganda.

It should be obvious that such a project demands involvement by many Club members and a great deal of involvement with the focal communities. This is both a difficulty and a major virtue. At present — let us face this frankly—we have no broadly collective endeavours of any size (unless the Botany Group is up to something unknown to me), and the Club remains isolated from the people who live where we like to walk.

So, let's talk it over.

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Book Review

Better Living Through Chemistry

Review of:

William Agosta 2001. *Thieves, Deceivers and Killers*. Princeton: Princeton Univ. Press 241 pp. ISBN 0-691-0488-9

In 1976 I went to the University of Georgia to study the social behaviour of insects, and I had a happy, productive time doing just that. But I also found a substantial educational lagniappe through association with a group of chemical ecology graduate students. A field trip with these guys was a real eye-opener. Well, actually a nose-opener. One of them would hand me a bug and tell me to sniff it. "That smells like cinnamon", I might say, to which the ready response would be "That's right [name of chemical]. The bug synthesizes it, and the same compound makes cinnamon smell that way."

This association didn't make me a chemical ecologist, but it did introduce me to the chemical ecology attitude. There is a whole parallel world of chemical signals out there, largely hidden from human beings with our heavy reliance on vision and hearing, and our relative insensitivity to the chemical senses.

This book, subtitled *Tales of Chemistry in Nature*, serves as a travel guide to some corners of that world. In clear, accessible language, Agosta sets forth a variety of illustrations of how chemical mechanisms mediate and direct the relationships between organism and their environment, including other organisms.

Some of these have to do with cooperation, of which the most obvious examples are between flowering plants and the animals that pollinate them. However, as the title indicates, Agosta's main topic is the ways organisms use chemistry to try to take something from other organisms -- including in many cases the others' own substance -- and defenses against such taking. Many blood-feeding insects (including mosquitoes) locate their hosts by means of the carbon dioxide that animals cannot avoid giving off.

A five-spined engraver beetle finds a suitable host tree and emits an aggregation pheromone to attract other beetles to bore into the bark; but the pheromone is perceived by the black-bellied clerid beetle, which preys on the engraver beetles. A wounded minnow releases an alarm pheromone, which alerts other minnows in the area to the danger; it also attracts predaceous diving beetles, who attempt to capture the wounded minnow. The unripe fruit of the sandbox tree deters animals from eating them while too early by means of poisons; scarlet macaws eat the unripe fruits anyway (thus getting to them before their competitors), and then they eat a neutralizing clay from river banks. And, in a chapter on "Stocking the Medicine Chest", Agosta shows how traditional medicines are derived mainly from compounds that plants have developed for their own defense.

I have had an eye on chemical ecology for many years, yet this book showed me many new things. At the same time, it is written in a way to appeal instructively to beginners as well.

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TTFNC CALLS FOR ACTION TO PREVENT FOREST FIRES

The following is a copy of the letter which was sent to the Prime Minister of Trinidad and Tobago, and copied to the Ministers of Planning & Development, Public Utilities, National Security and the EMA.

A Call from the Trinidad and Tobago Field Naturalists' Club for Action to Prevent Forest Fires

This is an appeal by The Trinidad and Tobago Field Naturalists' Club (TTFNC) to the Government for action to prevent forest fires in Trinidad and Tobago, as well as an offer of assistance by the Club in the preservation of the environment.

The TTFNC, founded in 1891, is a volunteer, non-profit organization (incorporated by Act No. 17 of 1991). Our members, approximately 250, are committed, both professionally and for the love of their natural environment, to the wise use of the natural resources of Trinidad and Tobago. We recognize and acknowledge the major role that the Government must take in the management, protection and conservation of our natural environment.

With respect to forest fires, the TTFNC is concerned about the health of both the environment and the citizens of Trinidad and Tobago. A healthy rain forest ensures an adequate supply of residential and commercial water. A healthy rain forest also helps to prevent flooding and the resulting economic loss and potential health hazard from water borne diseases.

A healthy natural environment is also important for the quality of our lives. It is our inheritance and we should guard it jealously for ourselves and for our children. Further, we should not be content with the present state of our natural environment, but should strive for its improvement and restoration where it has been degraded.

It is against this background that the TTFNC has viewed with concern, and alarm, the occurrence of fires that have ravaged forests and other areas in Trinidad during this Dry Season. It is without question that the present, and past, forest fires have impacted and will continue to impact detrimentally on the economy of, and quality of life in, this country.

In view of the foregoing, and in the context of the Government's stated objective that Trinidad and Tobago achieve developed country status by the year 2020, the TTFNC recommends that the Government urgently commit to:

1. Strict enforcement of the existing laws designed to prevent forest fires and the prosecution of persons who breach them.
2. An immediate start to reforestation of newly burnt areas, where possible at the expense of the person guilty of causing the damage to the area.
3. Immediate implementation of approved National Parks, protected areas and wildlife management proposals.
4. A national undertaking, coordinated by responsible environmental groups, to detect and prevent the spread of forest fires.
5. The support of the undertaking at 4 above with both finance and manpower.
6. Allocation of a defined budget sufficient to cover the cost of education in fire prevention, surveil-

lance of forests to detect fires, and machinery and manpower to extinguish forest fires. This budget should also include a renewable emergency fund that is available at the beginning of each dry season for the fighting of forest fires.

7. The development and execution of an awareness programme to explain the negative effects of forest fires to communities in fire prone areas. This programme should not only encourage community participation in the prevention and control of forest fires but also lead to greater emphasis being placed on the importance of environmental protection in school curricula. A prerequisite to this programme should be the elaboration of a report that accounts for the impact of forest fires, past and present, on the economy of Trinidad and Tobago.

We offer you our expertise in the maintenance of healthy forests and the natural environment and trust that your response will reflect your Government's understanding of, and empathy with the TTFNC on, the concerns that we have expressed in this letter.

Yours very truly,
I.R. Potter
President, Trinidad & Tobago Field Naturalists' Club.

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back rain runoff. The explorers emerged on the Lighthouse Main Road about 3 minutes from the top of Morne Cabresse (818 feet) the highest point on the island.

The Morne Cabresse lighthouse is the highest functioning lighthouse in the world and is identical in design to the one at Galera Point. (The Deal Island Lighthouse in Bass Strait Australia, built on an elevation of 919 feet, used to be highest but it was abandoned in 1992.) From the top of the lighthouse the panoramic view of the island's coastline and Venezuela's Paria Peninsula seven miles away was magnificent. A nameplate in the signal room identified the builders and the year beacon was completed - Chance Bros & Co. Limited, Lighthouse Engineers and Constructors nr. Birmingham 1896.

Not a bad outing to start the year!

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On The Wild Side

AN ODD OBSERVATION OF ARMY ANTS

Microcerotermes arboreus is one of three species of termites here that build conspicuous external nests on tree trunks and branches (the other two are *Nasutitermes costalis* and *N. ephratae*). The most commonly encountered of our army ants is *Eciton burchelli*, a large species whose raiding columns are hard to miss when one comes upon them.

In the Arena forest on 16 May, Alicia Roach, Lena Dempewolf and I came upon an *E. burchelli* column that was acting peculiarly. It was moving up and down a tree trunk that had an apparently viable *M. arboreus* nest at about head height. Some of the ants were clustered on the surface of the nest in a mass about 2 cm across.

Now, there is a large solitary bee, *Centris derasa*, that commonly nests inside *Microcerotermes* nests. As far as is known, it nest nowhere else. A *Centris* burrow with two or three larvae or pupae in it would be a nice bit of prey for *Eciton*. However, when we brushed away the mass of ants, there was no such burrow underneath. Instead, there was a very small aperture, just enough for one ant to enter or leave at once, and they were struggling in and out by this way.

Had the ants themselves cut this narrow passage into the nest? It seemed the most likely explanation, but we were hard pressed to see how it could be worth it. *Microcerotermes* builds quite a hard nest, apparently with a large amount of mud in it, and the internal passageways are narrow and twisty. Even after they were past the solid outer wall, the ants would presumably find it difficult to move about in there, while the smaller termites should have little trouble escaping into side-passages. The cost-ineffectiveness of the whole operation seemed to be proven by the ants emerging from the nest. As far as we could see, none of them had captured anything.

There may be a perfectly good, adaptive explanation for what those army ants were doing. On the other hand, not everything that an animal does makes good sense in the light of natural selection. Army ants, after all, are 'only human', and they sometimes make mistakes. It is perfectly thinkable that this particular column, in going to all the trouble to break into the termite nest and hurry about in search of prey inside, had simply made a poor choice.

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DISCOVERING AL AKONG

Christopher K. Starr, Dep't of Life Sciences, UWI

One of the first things I did on immigrating to Trinidad in 1991 was to look through the available back issues of the *Living World* journal and the old *Trinidad Naturalist* magazine. In the latter, I was especially taken with Al Akong's travel pieces on various islands, illustrated with his own fine pen-and-ink drawings. So it was with some disappointment that I learned that he was no longer part of the local natural history scene. In fact, the people that I asked hadn't seen him in years and had no idea what had become of him. So I set aside hopes of meeting Al in the foreseeable.

Then I had a bit of luck. A newspaper piece mentioned him as resident in the Toco area. Solitary-wasp specialist Allan Hook was spending a sabbatical year in Trinidad at that time, and one day neither of us felt much like working. Would Allan fancy a leisurely drive out to Toco to see if we could find Al Akong? He would. It is an especially pleasant part of the island, a wonderful place to spend a day or wandering.

We figured that a luminary like Al would be reasonably well known around a community like Toco. We figured right. It didn't take long to find someone who knew him, and not long after that we met someone who believed she knew where he lived. We drove up a long, winding forest road to the west of the village, and at the end of the road was a house. We asked the occupant if he knew Al Akong. Certainly he did, that was his house right over there. No one was present at Al's house, so we left him a note, identifying ourselves as admirers of his prose and drawings, interested in making his acquaintance, and we drove off.

I have seen Al many times in the years since. Not long after the Toco jaunt, he showed up in St Augustine, and Allan and I had a good long conversation with him. Among other things, we regretted that he had all but given up drawing.

As it happened, the time was propitious for a return to drawing on Al's part. His beekeeping business had suffered some natural reverses, and the option of combining landscape pictures as both a labour of love and an economic activity had definite attractions. So Allan and I set up an account for drawing paper and pens at an art-supply store and interested the Pax Guest House management in selling Al's pictures, and I published a set of four postcards of his drawings. I own a few Akong originals, myself, and have been pleased to give some others as gifts. Now, I don't believe these circumstances have raised Al into a higher tax bracket, but they provided him with a bit of supplementary income while improving the aspect of many people's walls. And they have brought me into contact with someone whom I admired long before I was privileged to know him personally.

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Editor's Note

Guidelines for Articles:

Font Type: Times New Roman. Font size: 12 point. Maximum Length : 1,750 words (approx. 3 pages).

You can email your articles to any of the following: 1) mendsr@bp.com 2) cpierre@energy.gov.tt 3) ttfnc@wow.net, or to any member of the Management Committee.

The deadline for submission of articles for the 3rd Quarter 2003 issue of the Bulletin is August 31, 2003.