THE FIELD NATURALIST
Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club

July– September 2022 **Issue No: 3/2022**

THE TTFNC - CELEBRATING 131 YEARS OF EXISTENCE – A MEMOIR BY FORMER HONORARY SECRETARY MR. IAN LAMBIE

Transcribed by Elizabeth Seebaran

Ian Lambie, Honorary Member, joined the Trinidad and Tobago Field Naturalists' Club (TTFNC) 64 years ago in August 1958, and witnessed many challenges and successes of the Club during his tenures as a long-serving Honorary Secretary from 1960 to 1979, President during 1980 to 1982, and Vice-President in 1983. At the July 2022 members' evening Ian congratulated the Club on its growth and achievements over the years and thanked the various management committees for their ongoing work and efforts. As the featured guest speaker, Ian shared with all in attendance a walk down memory lane of the Club's notable historical work and achievements during his tenure, as well as presented some of his wishes for the future of the Club.

The Trinidad and Tobago Field Naturalists' Club (TTFNC) was established on 10th July 1891 by Henry Carraciolo, Alfred Taitt, W.E. Broadway, F.W. Ulrich, T.I. Potter, G.W. Hewlett and P.L. Guppy, "to give pleasure to its members by observation of animal, insect and plant life in Trinidad". During its early years, the first edition, formerly called the Journal of the Trinidad Field Naturalists' Club, was first published in 1892. The Journal was later renamed in 1977 to the Living World: Journal of the Trinidad and Tobago Field Naturalists' Club. In 1893, two years after the Trinidad and Tobago Field Naturalists Club was founded, the Club offered to start collecting and sending specimens of local fauna to the famous British Museum in the UK, for the purpose of identification and description of new species. In 1894, R.R. Mole and F.W. Ulrich (one of the founding members) published "a preliminary list of the reptiles and batrachians of the island of Trinidad" in the Club's Journal, describing 25 lizards, 33 snakes and 12 amphibians.

The Club went on to note many other historical achievements. The National Museum (then Royal Victorian Institute) was destroyed by a fire on 31st March 1920 and Club members helped to restore the collections of natural history and geology exhibits for the museum when the building was re-built in 1923. Club member Ludolf Wehekind described eight new species of fish to science from conducting an extensive fish collection in Trinidad and Venezuela, and P.L. Guppy (one of the founding members) in 1934 started to popularize "guppy" as a common name for the fish his father 'discovered' in 1866 (the guppy is now an extremely well-known aquarium species). In 1947, the Club started its official meetings at the St. Mary's College on Frederick Street Port of Spain, and on 24th April 1947 in one of those said Club meetings a decision was made to establish the Zoological Society of Trinidad and Tobago, a well-known offspring of the Club, and hence plans were then underway for the founding of the Emperor Valley Zoo which finally opened to the public in 1952. With the Yellow Fever Outbreak in 1954, the Club helped prevent the proposed culling of wild monkeys in favour of vaccination inoculations for the population. In 1955 a plaque was erected at the National Museum (RVI) to honour the founding members of the TTFNC.

The TTFNC has been instrumental in conservation project work in Trinidad and Tobago which the Club owes to the dedication and

Inside This Issue

THE FIELD NATURALIST

Quarterly Bulletin of the Trinidad and Tobago Field Naturalists' Club

July – September 2022

Editors
Laura Baboolal, Stephanie Warren-Gittens
Associate Editor: Rupert Mends

Contributing writers
Ian Lambie* (*with transcription by Elizabeth Seebaran*), , Linton Arneaud, Francisco Morales, and Bunty O'Connor, Stephanie Warren-Gittens, Christopher K. Starr,.

Photographs
Stephanie Warren-Gittens, Linton Arneaud, Rory O'Connor, and Bunty O'Connor.

Design and Layout
Amy Deacon and Eddison Baptiste

Editors' note :
Many thanks to all who contributed and assisted with articles and photographs.

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

The Trinidad and Tobago Field Naturalists' Club is a non-profit, non-governmental organization

Contact us!

Email: admin@ttfnc.org
Website: www.ttfnc.org
Facebook: www.facebook.com/ttfieldnaturalistsclub
Instagram ttfnc
YouTube: Trinidad & Tobago Field Naturalists' Club - YouTube
Twitter: @ttfnc
Postal: The Secretary, TTFNC, c/o P.O. Box 642, Port of Spain, Trinidad and Tobago

WELCOME NEW MEMBERS!

The club warmly welcomes the following new members:

Nicholas Omachoo	Josh Winston Bajnath	Gabrielle Edwards
Sean McColagn	Dalini Oumadath-Singh	Adrianna Bajnath
Amaara Hosein	Magdalena Butowska	Elia Grant Fraser
Xavier Moonan	Mary Holland (Molly) Uzzell	Claire Marie Whitehead
Holly Fraser	Greg Kalmar	Saskia Bujs
Abigail McLelland	Oliver Cuthbert	Duncan Alexander Hull
Jacquelene-Marie Forbes	Giselle Lares Ragoonanan	Harold Sukha

commitment of its membership coming together as a team with one vision and mission in mind. In 1963, amateur photographer and videographer, Arturo Orthero, reported two rolls of film that were sent for processing in the UK had gotten lost on their way to the UK in the postal service. These films were noted to contain images indicating activities of major cause for public and environmental concern, including the shooting of sharks with harpoon guns, and the carapaces of slaughtered leatherback turtles that were being pushed out back to sea from the Matura beach. The activities were reported to Ian as the Honorary Secretary. At that time, Club members had never heard of such environmental atrocities and investigations began in 1963. Club members visiting the beach at Matura in daylight saw evidence of turtle nesting, as well as evidence of several decomposing carcasses.

The concern prompted the Club to commence the night-time turtle patrols, as well as start a data collection and monitoring project for these turtles in 1963. Peter Bacon at the UWI STA campus was appointed coordinator of this project. Forty-one persons made the first night visit to the Matura beach, that included many students from the UWI STA campus, but there was a problem with finding the access to get onto the beach that night, as a route had not been properly sought during daylight. With a local villager's help, the group was able to finally gain access and saw their first leatherback turtle that night on the beach, which did not nest. Peter Bacon also conducted visits to the local markets to observe the selling of any turtle meat. In 1965, the night-time beach patrols became established at Matura, including other beaches such as Las Cuevas and Maracas, to observe nesting activities, most of which were by leatherback turtles. It was difficult to tell how many turtles would come up to the beach to lay during the nesting season, as the turtles were known to nest more than once in any nesting season, even at the same beaches.

In 1970, the Club received official tagging material for the on-going sea turtles monitoring project, and it was noted that the tags were resistant to sea water. During the early stages of the project, the country was under a State of Emergency with a curfew in place, and the Club made a request to the Commissioner of Police at that time for permission to travel during the curfew hours to the Matura beach and other beaches elsewhere that were under study, to be able to carry-out the night-time patrols, as well as scientific data collection with the tagging material for the first time. Tag #1 was damaged and considered a loss. Tag #2 was used and onwards, with the first turtle being officially tagged on 11th May 1970 by Peter Bacon. Turtle tagging patrols also included annual visits to the Gran Tacaribe beach, accessible by boat along a remote part of the north coast of Trinidad where, on the first night-time visit, David Rooks and Ian himself tagged 18 leatherback turtles. This was the record for the largest number of these turtles ever tagged by the Club in one night, notwithstanding the fact that at least 23 leatherback turtles had visited the beach that night, and resources to attend to all nesting turtles at once were limited. The data gathered from these exercises during 1965 to 1970 resulted in a report being prepared and published in 1973 entitled, 'Sea Turtle Resources of Trinidad and

Tobago' with recommendations of amendments for conservation of sea turtle laws.

The report and a petition were submitted to the Ministry of Agriculture, Lands and Fisheries on the existing laws at that time, with recommendations made by the Club to extend the closed season from the 1st June to 30th September, to the 1st March to 30th September annually, noting the slaughtering of leatherback turtles and the peak in nesting activity during May to June which was outside of the protected nesting season at that time. As a result, the Protection of Turtles and Turtle Eggs Regulations 1975, enacted by Government Notice 119 of 1975, amended the then existing Turtle and Turtle Eggs Regulations of 1952, resulting in the legal extension of the closed season, adopting all the recommendations made by our Club, a memorable victory. The scientific data collection for the turtle tagging project continued after the first project report was published, with the first leatherback turtle tagged by the Club at Grand Courland Bay in Tobago on 8th September 1977. The TTFNC concluded its Turtle Tagging Project at the end of the 1982 Turtle Nesting Season. Later in 1990, external to the Club, the Nature Seekers Organization was established at Matura Village with the objective of Sea Turtle Conservation. Later on in the year 2000, S.O.S. (Save our Sea Turtles) Tobago organization was established by Tanya Clovis. In 2006, Turtle Village Trust was established, comprising Nature Seekers of Matura, the Fishing Pond Conservation Group, the Grand Riviere Nature Tour Guides Association, SOS Tobago and BHP Trinidad and Tobago.

In March 1966, the Club published its first program of annual activities, and in June 1973 "The Field Naturalist," the Quarterly Bulletin of our Club, made its appearance. In November 1974 the name of the Club was changed with the inclusion of Tobago. In 1977, the Botany sub-group was established being one of the more successful of the sub-groups in the Club's earlier years.

In 1970, Malcom Barcant, who had been gathering and documenting butterflies in Trinidad and Tobago since 1921 publishes his book, "Butterflies of Trinidad and Tobago." With one of the largest collection of butterflies in the Caribbean, it ranks also with the world's best. After his migration to California USA in 1974, the collection of 8,000 butterfly specimens, previously housed at his home, was exhibited by Angostura at the Angostura Museum and Barcant Butterfly Collection in Trinidad, a culmination of 49years of work.

Richard ffrench, a distinguished neotropical ornithologist from England, arrived in Trinidad in the 1950s as a teacher. He studied the local avifauna on both islands, becoming involved in research work at a time when there were very few local bird watchers. His work produced the "Guide to the Birds of Trinidad and Tobago" book in 1973 which continues to be a resounding and outstanding achievement in the avifauna natural history field in Trinidad and Tobago. Richard ffrench was a member of the TTFNC and also served on the management committee as a past President, contributing with publishing papers in and editing of the Club's journal for a number of years.

The year 1973 continued to be an integral part of the history of the Club. The Club was also at the forefront of a vigorous public-wide national protest movement for the first time, against the cutting of mangroves and dredging of the no. 9 drainage canal at the Caroni Swamp for the transportation of liquefied petroleum gases (LPG) via the Shell Oil Company Pelican Barge, from the refinery at Pointe-a-Pierre to the LPG bottling plant facility on the Princess Margaret Highway. This was the first ever protect against abuse of the environment, and pamphlets were distributed on a call for the public to stop buying Shell products at that time. Recommendations were made for the Pelican Barge to be withdrawn from the swamp. After the Government of Trinidad and Tobago acquired the assets Shell Trinidad Limited, the owners made an agreement to cease operating the barge through the Swamp. However, it was only after much pressure by the Blue River Action Committee (the name of the protest group of environmental and public organizations that was formed, with the TTFNC at the front) that the Government acceded to the construction of a facility at Sea Lots to receive the LPG, instead of transporting it by road. On December 22, 1977, four and a half years later, the new LPG facilities were finally and officially commissioned and opened at Sea Lots, resulting in the Pelican Barge ceasing its operation through the Caroni Swamp the next day.

Club members were invited to the opening ceremony for the facility. Today the Caroni Swamp, the largest estuarine mangrove system on the island, is now a Ramsar wetland site designated to be of international importance under the Ramsar Convention, with its resident scarlet ibis, a national bird of Trinidad and a declared Environmentally Sensitive Species as of 2018.

With the Club at the public front of environmental conservation, the year 1978 saw an exponential growth in membership of up to 409 numbers. It should be noted that, at that time, all Club notices, weekly and quarterly publications and any photocopies had to be done and addressed for mailout to the membership by hand—which was a daunting task in view of the limited advancements in technology at that time compared to present day.

Club projects didn't end with the Blue River Action Committee. Its membership has been, and continues to be, involved in extensive project work integrated into the Club's field trip activities. One such was recorded in our Quarterly Bulletin 2 of 1978 detailing a field trip to the Aripo Caves in the Northern Range on 30th April 1978 to map the cave system. This would have involved determining its internal length, various sections and caverns, as well as determining flora and fauna, including counting nests of oil bird colonies. By 1978, members of the Club had successfully completed the cave mapping project at the Cumaca and Aripo Caves, with the findings published in the Club's Living World Journal. The Club's continued work overall eventually led to it being the recipient of the Medal of Merit (Gold) in recognition of its Public Service to the Community at the National Awards Ceremony held on Independence Day on August 31st 1980.

Following the close of Ian's tenure on the management committee, several other notable events marked the 1980's, all the way to the present day. The Club became a founding member of the Council for the President of the Environment (COPE). The beetle on the Club's logo, *Inca clathrata quesneli,* was scientifically described as a new subspecies from Trinidad, West Indies in 1985. In 1989, the TTFNC was a founding member of the Presidents for the Environment, with Ian as one of the founding members. As part of the Club's centenary celebrations for 100 years in existence, the Club's 100th Anniversary special stamp was issued, incorporated by an Act of Parliament and formally launched on 10th July 1991. In 1991, the Club's centenary year, the Tobago branch of the Club was formed which later on became Environment Tobago in 1996, as established by Patricia Turpin and David Rooks. To commemorate the centennial 100th year celebration of the Club in 1991, after a long and arduous task the "Trail Guide" was finally published in 1992 in collaboration with the National Herbarium of Trinidad and Tobago. Several notable publications were also made from the year 2000 onwards including the book "Native Trees of Trinidad and Tobago" by Frankie Farrell and Victor Quesnel (2000), the laminated Trinidad and Tobago Wildflower guide (2013), the Angostura Butterfly guide (2015), "A Field Guide to the Amphibians & Reptiles of Trinidad and Tobago" (2016), and the Trinidad and Tobago Bird guide (2019).

At the close of his presentation, Ian expressed the following wishes regarding the future of the TTFNC:

1. That the Club could finally acquire a Club home in the not-too-distant future.
2. For the convenience of interested persons residing further Central and South Trinidad, that a south Trinidad branch of the TTFNC be established with its own sub management committee, assisted by the main management committee.
3. Encourage persons interested and who are resident further Central and South Trinidad, to conduct a south Trinidad Christmas bird count beginning in 2022. Ian suggested the current Christmas bird count coordinator of more than 20 years, Vishnu Debie, could be of assistance and guidance, vishvish45@gmail.com.
4. A more aggressive stance be undertaken for getting information and action from the Wildlife Section of the Forestry Division and from the Wildlife Conservation Committee in relation to the dissemination of information on the status of our wildlife, especially those that are indicated as game animals that continue to be killed in large quantities annually, both legally and illegally.
5. Suggestions for better sustainable hunting activities and practices:
    a. The conduct of a recurring census of local game animals that had been

previously promised by past ministers in the Ministry of Agriculture, Land and Fisheries, as it is imperative to understand population trends and detect the first signs of overhunting before hunting permits be issued.

b. Within one month of the beginning of every open season for hunting, and also by 1st November annually, that the Wildlife Section release a public report and/or "press release" of sorts, as to the number of State Game Licenses (Hunting Permits) that are issued for the Hunting Season to allow transparency of the number of legal hunters.
c. The "press release" should also contain the quantities of each species of game animal that was killed in the previous Hunting Season (October 1st to the last day in February of the next year), where such numbers must be supplied by the hunters.
d. There must be a daily and a seasonal "Bag Limit" for the numbers of each species of game animals permitted to be "killed" by a legal hunter.
e. Consider banning the use of dogs for hunting in Trinidad and Tobago, as this is the protocol lan noted in more developed countries.
f. A suggestion for the various heads, staff and agencies in government to re-look the sustainability of the current length of the open season for hunting, with focus being placed on the protection of wildlife. The current local hunting season, being of 151 days (152 days in a leap year) duration, is excessively long for a country of a small land space in relation to population numbers per square foot, in comparison to more developed countries larger in area and with smaller population numbers per square foot.

6. Better laws and specific legislation are also needed for the conservation of our fisheries resources, including lobster, crayfish, conch, cascadoux. It is noted that there is currently no closed season for the hunting of crabs, lobsters and queen conch, as well as no regulations for monitoring capture and bag limits at present.

THE TRINIDAD FIELD NATURALISTS' CLUB AND ITS RELATIONSHIP WITH THE EMPEROR VALLEY ZOO.

by Ian Lambie

- It was at a monthly meeting of the Trinidad Field Naturalists' Club during 1945 that a decision was taken to establish a Zoological Society in Trinidad.
- On 23rd April, 1947 , the Zoological Society of Trinidad was established.
- Construction of the Emperor Valley Zoo began that year and construction was completed in 1952, five years later.
- On November 8th,1952, the Emperor Valley Zoo was officially opened by the Governor, Sir Hubert Rance.
- Mr. J.C. Muir C.M.G. the Director of Agriculture was elected the first President of the Zoological Society of Trinidad.

Botany Group Report, February 19, 2022

PLANT DIVERSITY AT THE POINTE-A-PIERRE WILDFOWL TRUST, TRINIDAD, WI

by Linton Arneaud, Francisco Morales and Bunty O'Connor

Members of the Botany group all intrigued by the level of diversity within such a small area. Throughout the walk, members focused on either photographing, video recording or simply observing and appreciating the morphological splendour of the various plant life. *All photographs were taken by Linton Arneaud, Rory O'Connor, and Bunty O'Connor.*

The Botany group was ecstatic to visit the Pointe-a-Pierre Wildfowl Trust (PaPWildfowl Trust), a Star Wetland Centre and World Heritage Site. It was an easy "yes" when the group was invited to update the list of plants on the recently planted hillside at the PaPWildfowl Trust— the second oldest Trust in the world.

The crew, consisting of 15 persons, met outside the western gate of the Heritage Petroleum Company Limited (along the Bonne Aventure Road, adjacent to the Sir Solomon Hochoy Highway), all excited to get up and close with plants. Dan Jaggernauth and Francisco Morales went to purchase doubles while the security guard verified our information.

After a short drive to the PaPWildfowl Trust carpark, most members were able to spot the endemic bromeliad — *Aechmea dichlamydea* Baker var. *dichlamydea* (Bromeliaceae) on a wild tamarind tree (*Leucaena leucocephala*, Fabaceae) (Figure 2A & 6B). This was one of the first plants where the crew gathered to admire the clusters of white, purple and green showy bracts attached to a striking red peduncle. Within seconds, the crowd's attention quickly diverted to an indigenous moist lowland forest tree commonly known as roble (*Platymiscium trinitatis*, Fabaceae) (Figure 2B). This tree species exists most predominantly in shady gullies and on riverbanks, and can easily be identified by the yellow

Figure 2: A— endemic bromeliad (*Aechmea dichlamydea* Baker var. *dichlamydea*): B— indigenous roble tree located at the carpark.

blossoms during the dry season.

Linton Arneaud provided a summary of the objective of the botanical walk, followed by Bunty O`Connor who gave a short introduction to the PaPWildfowl Trust before the inquisitive botanists started to snoop around. Straight away, everyone noticed the reddish-pink spike inflorescence of the exotic pink snakeweed (*Stachytarpheta mutabilis*, Verbenaceae) near to the Learning Centre. Linton indicated that there are around six different 'vervine' species on the islands, of which half are native (Figure 3C).

While walking along the Boardwalk the team took a glance at some Muscovy ducks (*Cairina moschata*) and admired the sturdy growth of a young cajuca (*Virola surinamensis*, Myristicaceae), its fruit much loved by toucans. The team turned onto the hillside at this point and were quick to admire a nearby low-hanging Cooper hoop inflorescence (*Brownea coccinea*, Fabaceae) (Figure 3A). Christopher Starr (Entomologist) then seized the opportunity to talk about a huge Nasutitermes nest positioned at the base of the tree, indicating that these social insects can live for well over 20 years.

After 'palmatizing' (talking about palm trees) (Figure 4A), the crew was quickly guided by Bunty to focus on a (*Tabernaemontana cymosa*, Apocynaceae) sapling and a bois mulatre (*Pentaclethra macroloba*, Fabaceae) seedling, which were recently planted at the Trust to help encourage foraging animals. Bunty filled in details when speaking about the various plant species. The planting of this hillside which was once an old citrus orchard was started in 2003 (see Figure 3 for some species mentioned).

Dan pointed out a strange-looking fruit (Figure 3H) and invited the team to have a much closer look at this exotic plant; the nosy botanists were able to identify the plant as divi-divi (*Caesalpinia coriaria,* Fabaceae) of the Caesalpinia subfamily. Another highlight of the trip was when the team came across a malvaceous-looking tree in blossom

and took up the challenge of identifying it. It was not too long before all parties agreed that the leaves looked "Tiliaceae-like"; however, Linton pointed out that they should not rule out the possibility of it being a Sterculiaceae (*Sterculia* spp., Malvaceae). Nevertheless, the proud team continued to trek further up the hill, while Rory O`Connor informed them about past problems on the hillside regarding soil erosion and heavy machinery damage (while cutting the grass in the past), a problem that no longer exists, thanks to management.

In terms of diversity, the management of the PaPWildfowl Trust has done an amazing job with the number of flowering plant species within the 'Star Wetland Centre', as their interest is to create a gene pool with high diversity of indigenous plants and trees aiming at encouraging wildlife diversity into the area. The management hopes visitors would experience up-close encounters with animal wildlife while on the property. Some of the more memorable plant species encountered that will boost animal diversity included: maraquil (*Cupania americana*, Sapindaceae); soiebo (*Garcinia macrophylla*, Clusiaceae); silk cotton (*Ceiba pentandra*, Malvaceae); black kiskadee (*Vismia guianensis*, Hypericaceae); rough palm (*Attalea butyracea*, Arecaceae); fiddlewood (*Citharexylum spinosum,* Verbenaceae); bois tattoo (*Rudgea hostmanniana,* Rubiaceae); and penny piece (*Pouteria multiflora*, Sapotaceae).

Mention must be made of important earlier work done on botanical species identification within the PaPWildfowl Trust by Messrs Borai and Winston Johnson of the National Herbarium of

Figure 3: some plant species observed during the botanical walk: A— Cooper hoop inflorescence; B— Panama tree ; C— snakeweed ; D — peacock flower (Caesalpinia pulcherrima); E— sacred lotus; F— coral tree (Erythrina sp.); G — parrot's beak ; H — divi-divi; I — Indian coral tree; and J — calliandra.

Trinidad and Tobago (2001), Raynaldo Phillips of the Forestry Division, Ministry of Agriculture, Land and Fisheries (2019), and the PaPWildfowl Trust staff– Shaueel Persadee and his team of volunteers (2018) who gave ongoing support to Rory, Bunty and George de Verteuil watering sensitive plants through the dry season, and of course Senior Education Officer, Jaleen West (2015), who independently identified trees, plants and shrubs in the area covered during this botanical expedition.

There was never a dull moment during the botanical walk. An interactive conversation between the team members occurred, discussing interesting facts on several plants, taxonomical changes proposed in recent years, and different uses reported in Trinidad and Tobago and other Latin American countries. The British introduced many exotic plants to Trinidad and Tobago, which are rarely cultivated in Latin America. From time to time, we discussed the common name of certain plants, because we were not sure about the correct identification.

At the top of the hill, Bunty and Rory pointed out a circle of seven royal palm trees about to bear their first infructescence (clusters of fruit), just in time for the first releases of macaws from their breeding cages at the Trust. Further down, moriche palms (figure 4A), established quite some years earlier at the Trust, were seen to have already colonised wet places where the hillside meets the lake. Manac palms (*Euterpe sp*., Arecaceae) planted around the water's edge and seen to be thriving, were still too young for identification. A palma real (*Oenocarpus bataua,* Arecaceae), carefully grown from seed and planted on the lake edge is holding its own. This palm generally comes from radically different soil and moisture conditions in the northern range. With its main stronghold in the long stretch, now compromised by illegal quarrying, Bunty, Rory and George were keen to see whether it could establish itself at the PaPWildfowl Trust. Mention should also be made of native bitter bark (*Quassia amara*, Simaroubaceae) tree, a plant that was heavily harvested at a time when extracts of the wood were used for its medicinal and insecticidal properties. Finally, the Botany Group was introduced to the rainbow eucalyptus (*Eucalyptus deglupta*, Myrtaceae), grown from seed by George. He, alas, never saw his tree go into the ground due to his untimely passing.

Overall, the trip was a great success, as the group of nosy botanists was able to identify most of the plant species on the hillside at the PaPWildfowl Trust. This was only because of the numerous stops made by all members (Figure 7). The botany group hopes the information reported would be useful to future managers and general ecologists.

**NB: Please contact the author or editors for a listing of the 102 flora species identified during botanical walk at the Pointe-a-Pierre Wildfowl Trust (Trinidad).*

Figure 4:
A— moriche palms flourishing in a pocket of marshy soil not too far away from the Learning Centre;
B&C— a *Euphorbiaceae* plant that can easily be mistaken for a cactus (seen outside the PaPWildfowl Trust);
D— a young jigger wood tree;
E— a coco cochon sapling recently planted at the Trust.

Figure 5: An unknown malvaceous-looking tree puzzling the curious botanists, as they were unable to identify it, however, they were confident that it was an exotic species. A — Dan Jaggernauth climbing the enigmatic tree to acquire sample specimens; B — close up of a reproductive branch with inflorescences; C— close up of flowering buds; and D — close up of a reproductive branch with infructescences.

Figure 6: A— a massive l'epinet tree exhibiting its prickly spikes; B — an open fallen pod of the wild tamarind tree; C— upward perspective view on a tantakayo tree; D—a phoebis (Pieridae) caterpillar on a Fabaceae plant; and E— a black kiskadee tree in blossom.

Figure 7: Nosy botanists having to stop and wait on others before continuing the botanical walk. A — Bunty O'Connor takes a rest to look over her notes as Linton Arneaud takes a photo of a roble tree; Jalaludin Khan and Dan Jaggernauth look on; B — Francisco Morales gives a short chat on similar plant species he came across during visits in other countries; and C&D — members look on as different persons reminisce on past encounters identifying troublesome plants.

Addendum: History of the PaPWildfowl Trust

by Molly Gaskin and Karilyn Shepherd

The Wildfowl Trust in Pointe-a-Pierre is a man-made wetlands that had its beginnings around the 1940s and is uniquely situated in the middle of an oil refinery. The reservoirs that were created provided water for the refinery and housing estate and also provide a rich habitat for wildlife and waterbirds to flourish. Two of the founders, "Dick" Deane and John Cambridge, company employees, were avid duck hunters and they began to see that many species were dying out. One species had already become extinct in Nariva: the black-bellied whistling tree duck. The answer, they realized, was to capture and release these ducks into the #1 reservoir in Pointe-a-Pierre, which they successfully did, even releasing some in Tobago in the 1970s. The blue and gold macaw was found in the Nariva wetlands and in the 1950s, only 15 birds were recorded in a bird count there. The precarious state of this species was due to the illegal taking of the young birds from their nests. Their main range is South America. Only one of the white-faced whistling ducks (*Dendrocygna autumnalis*) was recorded in the 1950s (ffrench). A stock was imported from Europe by the PaPWildfowl Trust for breeding and eventually returned to their existing natural habitats in Trinidad.

According to an unpublished memoir by Richard ffrench: "the oil company had for many years operated a rule that hunting and trapping in the housing estate were forbidden by order of the General Manager, the offender was going to be in trouble with the company, which might well affect his employment prospects. This sort of deterrence really worked, for by and large the whole estate at Pointe-a-Pierre was free of problems, at least as far as bird trapping was concerned. As time went by, a small aviary was built and a small area was set aside for development by this group of enthusiasts for the breeding of species of local ducks; this led to the eventual release of several hundred locally bred young birds."

In 1966 the PaPWildfowl Trust was established with "Dick" Deane, Richard ffrench and John Cambridge as founding members. The PaPWildfowl

Trust was reactivated in 1978 by Molly Gaskin when she was requested to become President by Lloyd Austin, Manager of Texaco, the company then operating in Pointe-a-Pierre and island wide. Karilyn Shephard later joined in 1982. It is the second oldest wetland conservation Trust in the world and the only one to be situated within a petrochemical and oil refinery complex. It covers 36 hectares and contains two lakes. The Trust is a national non-profit organization that now has a full fledged staff of aviculture/maintenance team and environmental educators, inviting volunteers and donations from patrons. The Trust is now designated as a Heritage Site, a site of national interest (January, 2020) under the National Trust Act of Trinidad & Tobago. At the Trust, 123 species of birds have been recorded and the surrounding habitat is home to a rich variety of wildlife. The Trust also now has a full-service Nature Guest House, Petrea Place, with a superb restaurant, Freebird.

Captive breeding of endangered waterfowl and other wetland birds is ongoing and these birds are released into natural wildlife areas in Trinidad. The wild Muscovy duck (*Cairina moschata*) that was locally extirpated by the 1950s, has been bred successfully and released. The Trust was involved in the reintroduction of the blue and gold macaw into Nariva wetlands where habitat loss and hunting for the illegal pet bird trade had taken a huge toll on its numbers. In fact, it had been extirpated in that area. The moriche palm, an essential food source for the macaws (also providing food and shelter for a number of other species) has been established at the Trust. The scarlet ibis (*Eudocimus ruber*), our national bird, once hunted legally, is now a protected bird thanks to the efforts of Gaskin and Shephard and has also been bred at the Trust, with the first captive bred birds being released in 1991. Other birds in ongoing breeding programmes are the fulvous whistling duck (*Dendrocygna bicolor*), black-bellied whistling tree duck (*Dendrocygna autumnalis*), white-faced whistling tree duck (*Dendrocygna viduata*) and the white-cheeked pintail (*Anas bahamensis bahamensis*).

Importance of education at the PaPWildfowl Trust

Environmental education is an essential feature of the work of the Trust, where out-of-classroom activities are offered for students, pre-schoolers, teachers and community-based organizations. There is an audio-visual room, as well as a display of Amerindian artifacts presented by the late Peter Harris, and two shell collections from Trinidad and Tobago and the Caribbean, presented by Peter Percharde, all housed in the Learning Centre. The surrounding gardens teem with butterflies and other insect life. Butterfly gardens have been made in order to protect the monarch butterflies resident at the Trust, due to the IUCN's RED book extinction in their breeding grounds/migrations. Forest Walk is an interpretive trail where trees are signposted and walkers are given an accompanying leaflet. An environmental educator explains their link to wildlife and uses to man.

In 2001, the Department of Life Sciences and National Herbarium of the University of the West Indies, Messrs Borai and Winston Johnson, made a listing of the trees and plants on both sides of Lake #1. Over the years, the PaPWildfowl Trust has kept close links with the University of the West Indies and the Herbarium as well as the Trinidad and Tobago Field Naturalists' Club. In the 1970s, Gaskin and Shephard, active members of the Club at that time, were involved in the early turtle patrols on the beaches of Toco, Matura, Salybia and Grande Riviere. They learned about the turtles and went on to visit schools in these areas to talk to children and teachers about the importance of protecting the turtles and their nesting sites, and actually took children and their parents to Matura Beach to see the leatherback sea turtles nest; this was done weekly during the turtle nesting season there. The groups were taught all the correct protocols for observing and tagging them, with the intention of discouraging the slaughter of the turtles. The PaPWildfowl Trust has published "Sea Turtles & Their Habitats, Trinidad & Tobago & the Caribbean" in four editions: 1994, 1998, 2010, 2014, with the foreword written by Professor Peter Bacon, Professor of Zoology, UWI.

The Trust welcomes any recommendations or donations of suitable plants and trees from a list compiled and available from the Trust. The PaPWildfowl Trust deeply mourns the passing of George de Verteuil, a stalwart in the tree planting group and, as a result, a "useful, fruiting plant" was planted at the Trust in his memory.

Your Ideas and Observations

A Quarterly Update

HOW FAR CAN POLLEN GRAINS TRAVEL? OBSERVATION OF A SOLITARY FRUITING MORICHE PALM IN TRINIDAD

by Linton Arneaud

Observation of a fruiting *Mauritia flexuosa* palm in Talparo, central Trinidad.

(A) - fruiting palm (at the front) with four infructescences (note white arrow pointing to bag with chicken manure), (B & C) - close up of infructescences (note most of the fruit prematurely fell before maturing); (D) fallen fruit at the base of palm tree (note numerous black younger-fruit and few greenish maturing-fruit); (E) a fallen maturing-fruit (note that fruit was cut to observe the endosperm).

Photos by Linton Arneaud

Moriche palms (Mauritia flexuosa—Calamoideae) are dioecious in nature; they are single sex, and can either be males or females. Rosa and Koptur (2013) suggest that *M. flexuosa* ancestors were once hermaphroditic, as palms possess both staminodes and pistillodes in their flowers. *Mauritia flexuosa* has been reported as being both anemophily in nature or pollinated via air currents (Rosa and Koptur 2013), and cantharophily or pollinated by beetles (Mendes et al. 2017). Arneaud (2020) reported that only four male palms existed in the Erin Reserve, south Trinidad, which ecologists believe, may have derived from human activities during the late 1900's. Arneaud (2020) also reported that the population would not survive beyond the next century, as there are no female individuals in the population.

In April 2022, one of two surviving palms

planted in Talparo (2012) was observed flowering, at the time; identification of the sex was unclear. In July 2022, a subsequent visit was made and maturing fruit were found on the tree. It was not a surprise to observe the palm in flower, as *M. flexuosa* mass flowering was at the time being observed in Trinidad, the uppermost geographical limit for the species (Arneaud 2022). In addition to this, a bag of chicken manure (cured poultry faeces mixed with wood shavings) was placed at the base of a flowering palm in August 2020, in an attempt to stimulate flowering. Personal observations by the author made throughout different *M. flexuosa* stands on the mainland (South America) and the island of Trinidad, indicate that palms existing in areas with organic matter tend to flower more often, and produce more fruits than palms existing in areas with low organic matter. Additionally, Rosa 2013 reported that organic matter is an important determinant of *M. flexuosa* seed mass disparity. The neighbouring palm that did not receive any chicken manure failed to flower (Figure 1a). These palms warrant further observations before any speculations can be made between increasing organic matter and palm reproductive output. The sample size should also be increased.

The interesting aspect of the present observation is that none of the flowers from the female palm were expected to get fertilized as the closest flowering male palm was approximately 20 to 25 km away (the Aripo Savannas Environmentally Sensitive Area, Strict Nature Reserve, and the Nariva Swamp Environmentally Sensitive Area, Managed Resource Protected Area). One possible hypothesis can be that pollen grains travelled via the north-east trade winds all the way from the Aripo Savannas or/and the Nariva Swamp. The hypothesis can be supported by the Rosa and Koptur (2013) wind pollination theory which indicates that *M. flexuosa* pollen grains are small and numerous, and that the plant depends on wind as its primary pollen vector; however, they were only able to calculate 'male–female interindividual distances' between 1 to 50 m. In the present study, the author speculates that *M. flexuosa* pollen grains can travel considerably further. Nevertheless, researchers are encouraged to continue to observe the reproductive activities of this important socio-economic hyper-sensitive species, in order to update existing management strategies both on the mainland and in Trinidad.

Future research is warranted, particularly in understanding the dispersal distances of *M. flexuosa* pollen by the north-east trade winds. Whatever the reason/s may be for the present observation, it was quite an amazing experience to observe a fruiting solitary moriche palm so far away from other reproducing palms.

References

Arneaud, L.L. 2022. Moriche Palms are mass flowering in Trinidad. Trinidad and Tobago Field Naturalist Club Community (TTFNC Community). Accessed on Jul 17, 2022. https://community.ttfnc.org/2022/05/27/moriche-palms-are-mass-flowerings-in-trinidad/

Arneaud, L.L. 2020. Will Mauritia flexuosa (Arecaceae) in the Erin Savanna, Trinidad Become Locally Extinct? Living World, Journal of the Trinidad and Tobago Field Naturalists' Club. http://ttfnc.org/livingworld/index.php/lwj/article/view/arneaud2020/arneaud2020

Arneaud, L.L. and Duncan, E.J. 2019. Preliminary Checklist of Endomycorrhizal Fungi Associated with Mauritia flexuosa Lf (Arecaceae, Calamoideae) in Trinidad, WI. Living World, Journal of the Trinidad and Tobago Field Naturalists' Club, pp.1-6. https://ttfnc.org/livingworld/index.php/lwj/article/view/a1/1

Rosa, R.K. and Koptur, S. 2013. New findings on the pollination biology of Mauritia flexuosa (Arecaceae) in Roraima, Brazil: linking dioecy, wind, and habitat. American Journal of Botany, 100: 613-621. https://doi.org/10.3732/ajb.1200446

Khorsand Rosa, R.S. 2013. Influence of Habitat on the Reproductive Ecology of the Amazonian Palm, Mauritia flexuosa, in Roraima, Brazil. FIU Electronic Theses and Dissertations. 842. https://dx.doi.org/10.25148/etd.FI13040403

Mendes, F.N., de Melo Valente, R., Rêgo, M.M.C. and Esposito, M.C. 2017. The Floral Biology and Reproductive System of Mauritia flexuosa (Arecaceae) in a Restinga Environment in Northeastern Brazil. Brittonia, 69(1), pp.11-25. https://doi.org/10.1007/s12228-016-9444-2

September 2022

A TOBAGO SNORKELLING ADVENTURE

by Stephanie Warren-Gittens

The colourful seascape at Mt Irvine. *Photos by Stephanie Warren-Gittens*

"Under the sea, under the sea, Darling, it's better, down where it's wetter, take it from me!" Sebastian the crab enthusiastically sings in the Little Mermaid movie. I can definitely agree with him on that point, following a recent trip to Tobago with family, in September. It was my first trip to our sister isle in over a year and I was excited to be back for some underwater fun. During my short trip, snorkelling was done at Swallows Beach, Parlatuvier Bay, Englishman's Bay and Mt. Irvine Beach. These were my first snorkelling adventures at these locations, with the exception of Swallows Beach. With recent announcements of future possible hotel construction at Rocky Point, I was particularly interested to visit Mt. Irvine Beach, before any potential changes that may occur to the landscape there.

At all locations, I noticed the usual surgeonfish, damselfish, sergeant-majors, western Atlantic trumpetfish (*Aulostomus maculatus*), parrot fishes aplenty, as well as Caribbean red-lip blennies (*Ophioblennius macclurei*) and bearded fireworms (*Hermodice carunculata*), and under overhanging areas, schools of grunts. The spotted scorpionfish *(Scorpaena plumieri)* made their presence known everywhere as well, as they skulked on the seabed, while beds of the Caribbean sea mat (*Palythoa caribaeorum*) were also quite common. Four types of eel were also seen at the sites, excluding Swallows Beach, and these were the chain moray (Echidna catenate), the goldspotted (*Myrichthys ocellatus*), the sharptail (*Myrichthys breviceps*) and the spotted moray (*Gymnothorax moringa*).

Numerous stands of elkhorn coral (*Acropora palmata*) were seen in the shallows of Mt. Irvine Bay, along with mountainous star coral (*Orbicella faveolate*) and brain coral species. An intermediate

stage and adult French angelfish (*Pomacanthus paru*) were also observed at different places and a needlefish (or what appeared to be one) was observed, at a distance, blending into the depths. At Parlatuvier Bay, I flittered with an Atlantic peacock flounder (*Bothus lunatus*) as he swam over a bed of a zoanthids, almost blending in perfectly with his surroundings; interestingly, he looks nothing like the character in the Little Mermaid movie. A barracuda was also seen, close enough for me to get a proper photo.

The electric blue of a juvenile yellowtail damselfish (*Microspathodon chrysurus*) caught and dazzled my eyes at both Mt. Irvine and Englishman's Bay. Two small electric rays (*Narcine bancroftii*), were also spotted at different times, at Englishman's, one appeared to be a baby in comparison to the size of the other.

At Swallows, two Caribbean reef squid (*Sepioteuthis sepioidea*) kept close to me for a bit, while a group of white mullet was also seen. There was also a large school of small silver fish in the extreme shallow at Swallows; a few moments later, one apparently injured individual was observed swimming around in circles on his side at the surface. Within moments a frigate bird flew in and scooped him up.

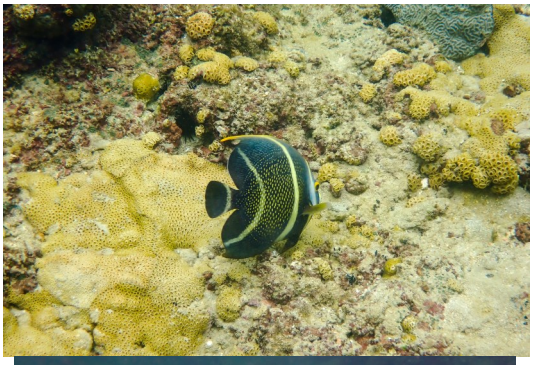
With the exception of Englishman's Bay, sightings of octopuses were made at all locations, even just feet from the shoreline at Mt. Irvine Bay. This was pretty exciting to me because in all my years of snorkelling, I had never seen an octopus, and to see it not once, not twice, but on four separate occasions at three sites made my trip! The octopuses also displayed different levels of activity. At Mt. Irvine, one moved along the seabed, blending in at different areas and even displaying a colour change, before retreating into a hole, two others were resting in their holes at Mt. Irvine as well at Parlatuvier, while the other at Swallows was moving shells around at his den. The highlight of the trip would have been the sighting of a turtle, but this was not to be, and I was not so fortunate – maybe next time.

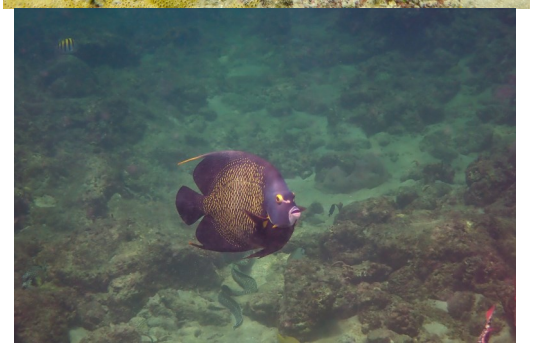
There were no sightings of lionfish at any of the locations and there was some initial bleaching observed on a few different species of coral at the different locations. The Institute of Marine Affairs (IMA) also recently reported on their social media pages in September, bleaching sightings at Charlotteville. According to their post, Trinidad and Tobago has currently been placed under a Bleaching Alert Level 2 for up to eight weeks through November, by the United States National Oceanic and Atmospheric Administration (NOAA) Coral Reef Watch report, due to warming waters.

I didn't spend as much time at Englishman's Bay as at the other locations, as it was getting a bit late and the sunlight was beginning to fade; as such, there were much fewer observed species in comparison to the other locations. Also, the length of time snorkelling and the area snorkelled varied by locations. Photos taken at the various locations were uploaded to the iNaturalist platform. Based on my actual sightings and photo observations, approximately 140 species were observed in total across the four locations. The number of species observed at the various locations is as follows:

- 46 species at Parlatuvier Bay (about 1 1/2 hours spent),
- 31 species at Englishman's Bay (less than one hour spent),
- 93 species at Swallows Beach (over a 3 day period),
- 85 species at Mt Irvine (over a 2 day period).

Minor bleaching seen on two different species of coral at Mt Irvine

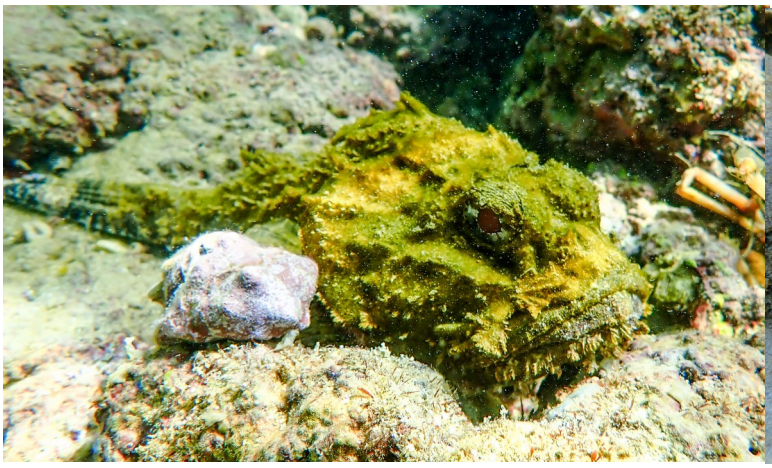




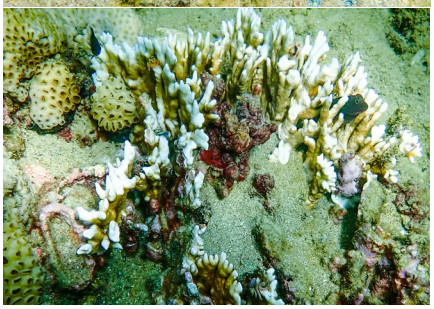
French angelfish seen at Mt Irvine (top - intermediate stage & bottom— adult)

Mt. Irvine coastline from the water and the views of the seascape below– with one of the many stands of elkhorn coral observed

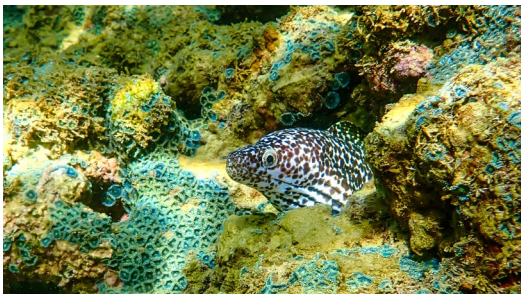
(Top): one of the octopuses seen at Mt. Irvine: camouflaged on a rock, (bottom left): the same octopus then later moved into a hole; (middle right: another octopus deep within a hole at Parlatuvier)



Two of the the spotted scorpionfish seen at Parlatuvier (left) and Swallows (right).

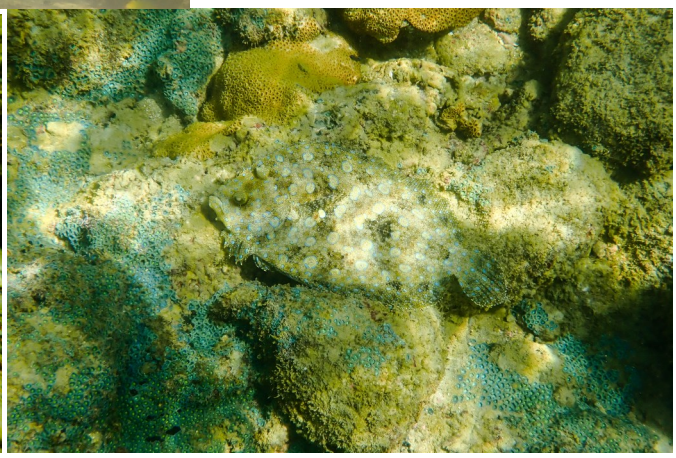


(Left): A typical postcard shot of Parlatuvier Bay; (top right) a bearded fireworm at Parlatuvier, while a Caribbean red-lip blenny, peeks out from branching fire coral, showing some evidence of bleaching at Parlatuvier on the bottom right.



Goldspotted eel (left) and spotted moray eel (middle) at Parlatuvier, while a chain moray eel peeps out at Mt Irvine.

L-R: a cocoa damselfish and a barracuda spotted at Parlatuvier



The Atlantic peacock flounder in motion (left) and then well camouflaged on the seabed at Parlatuvier

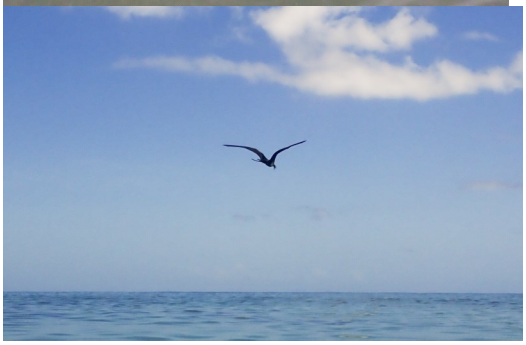



Top left: Englishman's Bay in the afternoon sun and top right, a smooth trunkfish, Bottom left –right: two small electric rays seen at Englishman's– an adult and a baby



(left): A juvenile bluehead pictured above lobed coral at Swallows; (top right) healthy looking longspine urchins at Swallows; bottom right Caribbean reef squid

Other snapshots from Swallows. Top L-R: Caribbean sea mat dots the seabed; a seaweed blenny pokes out from knobby brain coral; Bottom L-R: a small school of French grunts, Western Atlantic trumpetfish. Below left: a portion of the large school of fish seen in the shallows, while an injured individual was seen isolated at the surface shortly after— he was soon after picked up by a frigate bird (bottom right).



Naturalist-In Series

CITY SLICKERS

by Christopher K. Starr

Review of:

Steven D. Garber 1987. The Urban Naturalist. New York: Wiley 242 pp.

Eugene Kinkead 1978. Wildness is All Around Us: Notes of an Urban Naturalist. New York: Dutton 178 pp.

David Wicinas 1995. Sagebrush and Cappuccino: Confessions of an LA Naturalist. San Francisco: Sierra Club 218 pp.

Wayne Grady 1995. Toronto the Wild: Field Notes of an Urban Naturalist. Toronto: Macfarlane, Watler & Ross 274 pp.

[55th in a series on "naturalist-in" books; see www.ckstarr.net/reviews_of_naturalist.htm]

Soon after my seventh birthday, I was cast out of paradise. We moved from the ancestral farm north of Toronto to the city of Ottawa. I had traded in an idyllic existence among fields and woods for pavement, sidewalks and far too many buildings and people, and I hated it. It was many years before I was able to regard city life as anything other than an abomination. Dylan Thomas's "Fern Hill" about a lost childhood on the farm resonates with me perhaps more than any other poem.

Even so, like many naturalists I have come to an ambivalent view of cities. On the one hand, the urban environment is the world's fastest growing set of habitats, where an increasing number of us must live and work. On the other hand, there is much less there for us than in the wilder places. But what is there is not nothing. Despite the titles of the books reviewed here, I know of no urban naturalists in the strict sense. However, anyone with a passion for wild plants and animals can find food for attention even in a large city, and some naturalists have written extensively about it.

Each of these four books is about being a naturalist in a North-American city. Three of them are situated in particular cities: New York (Garber), Los Angeles (Wicinas) and Toronto (Grady). Far from suggesting that this is the place to be, they are all about making do with scarcity. There are occasional observations of displaced individual plants and animals showing up in cities in spite of themselves, but the overall focus – quite rightly – is on species that do well in such a flagrantly unnatural environment. I have not seen Williams' book about Seattle.

Central Park, New York . *Photo by Charles Parker*

Garber's 'The Urban Naturalist' is not strictly a naturalist-in book, as the autobiographical aspect is very sparse. It is more a guidebook for the urban naturalist in North America. He returned to New York City after years doing research on remote islands, mountains and untouched forests.

He notes that pavement and buildings absorb heat during the day and radiate it slowly at night.

This warms the environment, making it hospitable to plants and animals from lower latitudes. Some plants flower earlier in the spring in the city than in surrounding areas. As another example, there are termites. These are mainly warm-climate creatures, some of which even reach pest status in Canadian cities, far north of where they could exist in forest or farmland.

Then, there are those species that are well pre-adapted to live in the anthropogenic (human-made) environment. As an example, while most species of cockroaches are almost never found in houses or other buildings, *Periplaneta americana* is one of the very few that thrive in this environment. Another that is little known outside of urban environments, where it is found in huge abundance, is the mid-eastern rock dove. You may know it as the common pigeon. These two are among those that have spread throughout the world wherever humans have highly modified the environment and now seem entirely at home among us, whether we like it or not. What I find remarkable is that there is no known way to predict which wild species have the potential to become human-friendly. On a stroll in London's Richmond Park I noticed a big, noisy flock of parakeets. My hosts were well aware that this bird had become durably established there, but it hadn't occurred to me to expect it. Cities are developed with only human needs in mind, but that doesn't stop some other species from taking advantage of a space that just happens to suit them. The title of Kinkead's book is rather ridiculous, as a key theme running through this and the other three under review is that wildness is sparse in the urban environment.

One of his foci is the birds that visit cities in North America. He opens with an anecdote of a Steller's eider duck that appeared in Massachusetts, far from its usual arctic range. Word quickly got around among birders, who arrived from all over Massachusetts and even other states in a frenzy to spot it and add it to their life lists, as "listing has become the beating heart of birding."

Developing a theme common to these books, Kinkead gives us six substantial chapters on species that do well in cities, not in spite of the environment but because of it. The chapter on the coyote furnishes the most dramatic example in North America of native land vertebrates doing well

Top: Coyote. *Photo by Jupiter Images*
Bottom: Gray wolf. *Photo courtesy Pixabay*

in the anthropogenic environment in the face of intensive persecution. This small wolf is now in every state and province of North America north of Mexico except Prince Edward Island. It originally occupied two biomes: grassland and desert. However, as gray wolf populations have been greatly reduced, the coyote has expanded its habitat to include tundra, boreal forest, hardwood forest and even some cities, most famously Los Angeles (Quammen 1998). The area around and north of Toronto has a great many good den sites, "but so far none has been seen in use, which is not to say they are not in use, only that coyotes that do not want to be seen are not seen." I find this easy to

believe, as I have been over much of their very broad range and have never yet seen a wild coyote.

Unlike the coyote, the starling is not native to North America, where it is now very widespread. We know how it got to the new continent. Humans have long introduced plants and animals of expected economic benefit, but there are also instances of the release of wild species just because it was deemed pleasant to have them in the new land. Starting in 1860, there were societies dedicated to the importation of desirable non-native animals. As I understand it, an American fan of Shakespeare devised the startlingly eccentric project of introducing into North America every bird ever mentioned in the Bard's writings. In 1890 he released several pairs in New York's Central Park, and now they are all over in numbers estimated at 200 million. Kinkead also has a very long chapter on the analogous case of the house sparrow.

Wicinas nicely illustrates the split personality of the forest lover who is obliged to be an urban naturalist. This split arose early in life, as he was raised in a suburb of Pittsburgh, while his father took him camping and fishing in the wilds. As an adult he moved to Los Angeles to work in the movie industry. Without pretending that a big city is his idea of a place to be, he embraces the urban wildlife that he finds and at the same time flees the city when he can. One could say that his book is about making the best of an unfortunate situation.

Los Angeles is relatively arid with mountains nearby, quite different from Grady's Toronto, with pockets of wild country on the fringes and even inside the city. "Southern California is a landscape of basins and freshly carved mountains, carpeted with tenacious plant life that regularly shrubs off total incineration. Muted pastels colour the hills. Crystalline sunshine divides the world into harsh glare and cool, deep shadow." Still, such spots are at constant risk of demolition, so to Wicinas it is best not to get too attached to them. LA's core principle is one of unrestricted real-estate development, and the book has descriptions of landscapes scraped clean of all vegetation and paved over for housing development. There are always bits of wildlife poking into the city, although on an average day the only birds one sees are pigeons.

He gives plenty of detail, but mostly of the wrong kind amid an overall chatty tone. It is the sort of extraneous things we get from journalists in the guise of setting the scene. He is overly detailed in narrating walks and hikes, with musings along the way, often with no pretense of linking these to natural history. He actually tells us what he had for lunch on one of his walks. There is a long chapter on the puma (cougar, mountain lion) following on a hike through an area that it is known to inhabit. In the course of the hike, he sees a set of probable puma tracks, but never a real wild puma. In the course of these almost nature walks, he was constantly wary of dogs and citizens with guns, especially if he was or appeared to be trespassing.

Grady's 'Toronto the Wild' is an overall much more hopeful book. Toronto is well placed for the urban naturalist. It abuts Lake Ontario to the south and is on the flood plain of three fertile rivers, with much of Ontario's best farmland nearby. In addition, it is at the intersection of two major migratory bird pathways. Even so, Toronto is a big city in a zone with real winter. I read this book on my porch while watching hummingbirds at the feeders, house wrens hopping around in search of tasty bugs, streak lizards scurrying up walls, and stingless bees going in and out of a nest in a wall. This was in in late December, when the Toronto area was all frozen over and next to nothing was happening outdoors.

The book is a set of essays, some of which originated as magazine articles, arranged according to season. This shows in each chapter having a particular topic, mostly land vertebrates (e.g. raccoons, the introduced starling, snakes, seagulls, weeds, coyotes, the gray squirrel), with ample background material on each, an admirable approach. He also has an eye for interesting scientific problems, e.g. why it took so long for the house finch (*Carpodacus mexicanus)*, long restricted to west of the Rocky Mountains, to move into the abundant suitable habitat east of the range. And a key theme here, as throughout ecology, is that of trade-offs. For example, as a nest parasite of other birds the brown-headed cowbird is able to lay a great many eggs, against which only 3% of these are successful.

However, I must complain that he is not always rigorous in checking with experts before presenting his facts, leading to some errors. As a particularly

fatuous statement, he tells us that "It is safe to say that there are more termites per cubic meter of wood in Hawaii than anywhere else on Earth …." Uh, actually, Hawaii has no native social insects of any kind.

Grady has a fine way of developing a story, even if not strictly narrative, by opening each chapter with an incident, usually a personal one and some of them quite striking. Among the authors previously reviewed in this series, Grady is most like William Beebe in this respect.

He also resembles Beebe in his eye for the larger ecological questions inherent in particular observations. And in cracking little jokes here and there, e.g. his remark on a coyote hit by a car and so banged up that it "looked like Wile E. Coyote on a bad day. Maybe the car that hit it was a Plymouth Roadrunner." Beep beep. (That last bit was my contribution to the story).

For the rest of this review, I will comment on several of Grady's topics.

People have two opposed attitudes toward the pigeons in our midst. Many take delight in them and will even go out of their way to feed them, while others abominate them, as illustrated by Tom Lehrer's comic song "Poisoning Pigeons in the Park"(https://www.youtube.com/watch?v=YmPFT8EnLUg). There are various devices intended to keep them from landing and/or nesting on particular structures, but that is about as much as can be done. All attempts to rid cities of pigeons are a lesson in futility.

Much the same is true of the various bats that roost in buildings. In this case, the proportion of those who actually like these animals is probably very thin. (If you are one such, I trust that you are acquainted with Gomes & Reid's book on our native bats). Many more are those who can relate to the poem that begins "Bats are creepy, bats are scary / Bats do not seem sanitary". I am occasionally asked by householders how to get bats out of there. My first response is not to try to exterminate or otherwise hurt them. This is quite unnecessary, as it isn't very hard to evict them. To begin, make the site less hospitable, so that they will look for an alternative. Directing a fan at the site for a couple of days will usually work. Then ensure that they don't come back by means of structural alterations to obstruct their way in.

(Top) House sparrow. *Photo by All About Birds*
(Bottom) Starling. *Photo by Pixabay*

Grady reviews the history of the ill-considered yet extremely successful introduction of the house sparrow into North America, where it was expected to brighten city life and at the same time eat plenty of caterpillars and other pest insects. In fact, the sparrow is in sum a grain pest, as was well known in Europe at that time, and British farmers were reported to be flabbergasted at the introduction. They do eat some insects, including pests, but they also eat grain and out-compete some native birds for nesting cavities. House sparrows and other songbirds sometimes make use of last year's nests. This presents an

instructive example of a trade-off. On the one hand, re-utilizing an existing nest presents a considerable saving in labour and thus a (possibly critical) head start in breeding. On the other hand, active nests are home to a great variety of parasites, some of which can persist into the next season to afflict the new residents.

Raccoon—*Photo Pixabay*

Toronto had an estimated 40 thousand resident raccoons, a much denser population than in rural Ontario. It is intelligent, adaptable and omnivorous. (And edible. I couldn't help reflecting that these edible animals wouldn't last long in Trinidad). The city proffers a virtually unlimited food supply, and some of the Gradys' neighbours fed them regularly. They came when called, and one neighbour rang a bell to summon them at feeding time. However, as personable as raccoons certainly are, it is unwise to encourage such familiarity, as they are also a reservoir for rabies. This extremely unpleasant disease attacks the central nervous system and is fatal if not treated early.

The focus of the chapter on snakes is the abundant Eastern garter snake, *Thamnophis sirtalis*, which hibernates in often large masses in retreats below the frost line. The Metropolitan Toronto Conservation Authority has constructed two hibernacula in a city park specifically for this purpose. Bless their hearts. I should mention that

Eastern garter snake, Photo courtesy Wikipedia

all garter snakes, in my experience, are markedly stinky. It's quite harmless to handle them, but you wouldn't want to do it before a date.

What is a weed? The standard definition is "a plant in the wrong place", often not even native to the area. Only an estimated 122 out of 278 (44%) plant species recorded from an artificial peninsula into Lake Ontario are native to the area. The other 156 include many eurasian plants. However, Grady is happy to celebrate wild plants taking over abandoned spaces in cities. He characterizes the peninsula as "a great place to go to get an idea of what would happen to Toronto if the city was allowed to run wild."

References

Gomes, G.A. & F.A. Reid 2015. Bats of Trinidad and Tobago. Port of Spain: Trinibats 286 pp.

Quammen, David 1998. Wild Thoughts from Wild Places. New York: Scribner 304 pp.

Williams, David B. 2000. The Street-Smart Naturalist: Field Notes from Seattle. Seattle: Westwinds 226 pp.

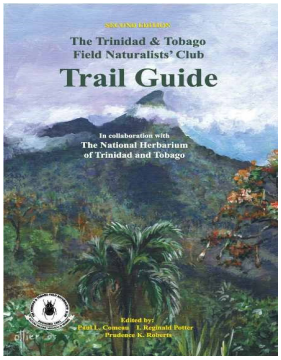
MANAGEMENT NOTICES

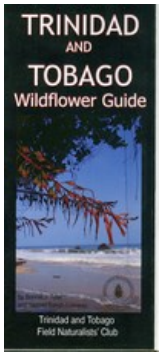
TTFNC COMMUNITY PAGE: A place for members of the Trinidad and Tobago Field Naturalists' Club to share their passion for the natural environment https://community.ttfnc.org/

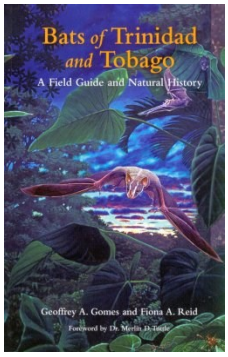
Trinidad and Tobago Field Naturalists' Club
P.O. Box 642, Port of Spain, Trinidad and Tobago

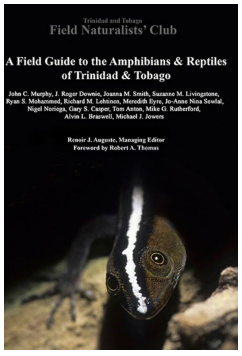
PUBLICATIONS

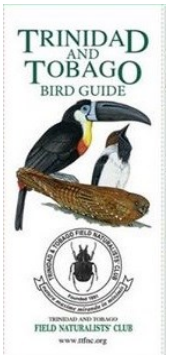
The following Club publications are available to members and non-members (*prices shown are those paid when purchasing directly from the Club*):

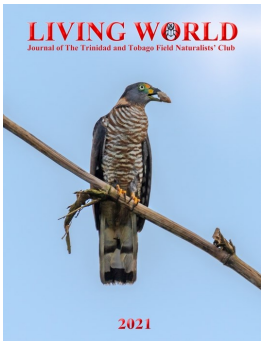












TTFNC Trail Guide ($150); T&T Wildflower Guide ($50); Bats of T&T ($200); Field Guide to Amphibians & Reptiles ($180); 2021 Living World Journal (*$60);* TTFNC Bird Guide ($50).

MISCELLANEOUS

Your 2023 Annual Membership Fees Are Due:
Please view bottom right of the mailing label to check if your subscription has been paid.

Did you know? It is now possible to renew your membership online? See www.ttfnc.org/funding for details. You can join the club this way, too!

Do you have an article to submit for the next QB?

Submission of articles and field trip reports:

1. **All articles must reach the editors by the eighth week of each quarter.**
2. **Electronic copies can be submitted to the editors at: admin@ttfnc.org or directly to the editors or any member of Management. Please include 'QB2023' in the email subject label.**