Nature's jottings

Newsletter of the Natural History Society of Jamaica Oct. 2015

Contents

NHSJ FIELD TRIP to the Mason River Field Station, Clarendon

Saturday June 14, 2014

WRITTEN BY TREVOR YEE; PICTURES BY VASHTI CHATOOR

Fifteen members and friends set out from the Scientific Research Council on the morning of Sat. 14th June, 2014, for a visit to the Institute of Jamaica's Mason River Field Station in Clarendon. Our route took us to Ewarton, then the turn off towards Luidas Vale and Kellits and then Mason River. The Mason River Field Station is the wetlands with the highest elevation, approximately 2,100 ft., and the only inland peat bog, in Jamaica. Its existence was indicated from aerial photographs taken of the area in the 1950's and 1960's. The University of the West Indies and then later the Institute of Jamaica started to investigate the site and study the plants in the area and the site was later acquired by the Institute and was then declared a Protected Area in 1963. The site has received several other designations such a Bird Sanctuary, a Forest Reserve, and most recently a Ramsar Site in 2011. The total area of the site is just over 200 acres, 122 of which is permanently fenced as a Protected Area. It is an area of special interest, particularly because of the flora contained in it.

Our tour guide was the very knowledgeable Keron Campbell, Botanist at the Institute of Jamaica (IOJ), who was very familiar with the flora of the field station.

With rains having fallen in the area recently, it was expected that the insectivorous plants that are found there would be present in numbers. Among the insectivorous plants to be seen were the Bladderworts, *Utricularia* spp. (Lentibulariaceae) which are found in wet habitats, some being aquatic life e.g. in aquarium tanks. They have small bladders that are able to catch minute aquatic animals The bladders function by expelling water to create a vacuum, and have a trigger so that when small aquatic animals such as the tiny Crustaceans, the Water Fleas, *Daphnia* spp. touch the trigger, they are immediately sucked into the bladder and can be seen trapped, swimming within the bladders and will later be digested as food. Another species of insectivorous plant, and which occurs only in the Mason River area in Jamaica is the red Sundew, *Drosera capillaris* (Droseraceae), and which is found all over the reserve. Many of these insectivorous plants produce fetid odours, which are attractive to insects and then use a variety of means to trap them once they get attracted. Insects which are attracted to the Sundew will get trapped onto its sticky surfaces and later are digested by other cells functioning as a digestive gland.

Picture 1: Drosera capillaris (red Sundew)

The field station has a 1.5 km nature walk, with 21 stations of special interest designated along the trail. These stations note the locations of special plants, and other items of interest within the field station. A few of the plants contained therein reminds one of areas of higher elevation in the Blue Mountains, e.g. the Iris, *Trimezia martinicensis* (Iridaceae) and the Nun's Orchid, Phaius tancarvilleae (Orchidaceae). Among the other interesting plants in the protected area was a species of the Horsetail, *Equisetum gigantum* (Equisetaceae). *Equisetum* is referred as being a living fossil, being an ancient Pteridophyte found in the old fossil records from the late Devonian period. At the top of the stalks are the sporangia, which bear the spores. *Equisetum* is presently the only genus of the once abundant class of plants the Equisetopsida, and belongs to a group of plants referred to as Arthrophyta, or Joined Plants in comparison to the Arthropoda, the large group of animals with Jointed Appendages, such as insects, crustaceans, arachnids, etc. This is because these plants contain distinctly jointed segments. At the height of their period of geological history, species such as *Calamites* spp. were the most abundant plants on earth and they were some of the major plant species forming coal deposits in the Carboniferous period.

Picture 2a: Young shoot of *Equisetum gigantum*

Picture 2b: Mature *Equisetum gigantum*

Another ancient Pteridophytes were the tree ferns, a species of which, *Cyathea* sp. is also found at Mason River.

There are a large number of Melostomes, species of the family Melostomaceae, in the reserve area identifiable from their distinct leaf venation and checkered patterns on the upper and lower surfaces of their leaves. Many have fruits which are edible to humans but especially so to birds. So too are two other fruits that occur there, the delicious red Strawberry Guava, *Psidium cattleinum* (Myrtaceae), introduced to the area from Brazil, and which is so appealing to birds and humans that it has become an alien invasive species and can now be found in many wooded areas such as in the Cockpit Country, Douglas Castle, Guys Hill, and Albert Town, among others.

Picture 3: Immature fruits of Melostome flowering fruit

Another edible fruit found in abundance within the reserve is the native Coco Plum, *Chrysobalanus icaco* (Chrysobalanaceae). This plant was previously classified as a member of the rose family, Rosaceae, c.f. Adams, but has more recently been placed in an offshoot family, Chrysobalanaceae.

There is also another very invasive species in the field station, the Vampire Fern, *Dicranopteris pectinata*, which is spreading so fast that it has to be actively controlled. This fern is so aggressive that it is able to block the sunlight from even the taller trees in the field station, while it suffocates the lower laying species, and will, as an effect, take over increasing areas.

Picture 4: *Dicranopteris pectinate* (Vampire fern)

One phenomenon explained was the succession of plant species in the area, which is subject to forest type fires. Keron explained how areas of the forest reserve will go through cycles such as after a fire, when herbaceous plants start to re-colonize the area, then over time, the area becomes more suited to the growth of larger trees and the area is gradually reclaimed.

Within the field station is a weather station site maintained by the National Meteorological Office, where data such as rainfall, temperature and relative humidity are recorded from stations such as that at Mason River, across the island.

Observed also in the areas beside the weather station was the terrestrial orchid, *Bletia purpurea* (Orchidaceae) and along many of the paths, one of the several endemic species of the Jamaican Fuschias, the yellow *Lisianthus exsertus* (Gentianaceae) . Also common along several trails were vines of a close relative of the Sarsaparilla and Chainey Root, *Smilax domingensis*, (Smilacaceae).

Picture 5: *Lisianthus exsertus*

The field station also has several sinkholes and contains a peat bog, characteristic of some of the large morasses on the coastal areas such as Black River and Negril. Several sections of the protected area had a spongy floor, where Sphagnum Moss formed an underfoot matting. Sphagnum has the ability to absorb some 40 times its weight in water, and when it dies leads to the formation of peat. Interestingly too, was the change in its colour depending on the amount of moisture it contained. Other areas of the field station were under water and though the *Utricularia* spp. were likely found there, our group decided to forego wandering into these sections. In several of these wet sections were aquatic loving plants such as the Reed, *Typha domingensis* (Typhaceae), and the herb, *Centella asiatica,* (Umbelliferae), common along many of the paths.

There are many palms within the reserve. Among them are the endemic Prickly Pole, *Bactris jamaicana,* and *Calyptronoma occidentalis,* which though also listed in Adams as being endemic is more recently believed to have been also found elsewhere.

Keron also took the opportunity to demonstrate the difference between two closely resembling and related plants families, the Grasses (Graminae) and the Sedges (Cyperaceae). There were many species of both families in the field station, and some simple differences were that the grasses all had round and hollow stalks whereas the sedges had solid and triangular ones.

Finally, we observed the mechanism of the two introduced insectivorous plants. The Venus Fly Trap was an active catcher and the traps, which were up to about 2 cm. in length, were in the opened catching

position. By touching the trap with a small twig, they immediately snapped shut. Insects such as flies would have triggered this action by the plant. Also interesting, though using a more passive action, was that of the Pitcher Plants and some of the collecting pitchers were as long as 6-8 ins. By attracting flies into the pitchers by odour, then by mucilage producing glands, hairs pointing downwards and digestive fluids, the flies are trapped after entering. Interestingly, so attractive were the collecting pitchers to flies that there were several dried out pitchers among the healthy green ones. In breaking open these, they were found to be so engorged with the trapped flies that the decaying flies had exhausted the supply of liquids that presumably by osmotic pressure, dried out the pitcher leaves beyond the plant's ability to replenish the liquids that these pitchers died. Though the entrapment of the flies was by a more passive mechanism, so attractive were the pitchers to the surrounding flies that several of the pitchers died from "overfeeding"!

Picture 6a: Venus Fly Trap; opened and closed

Picture 6b: Pitcher plant

NHSJ FIELD TRIP TO THE AGUALTA VALE GREAT HOUSE AND THE CHONG'S HOME

Saturday February 28, 2015

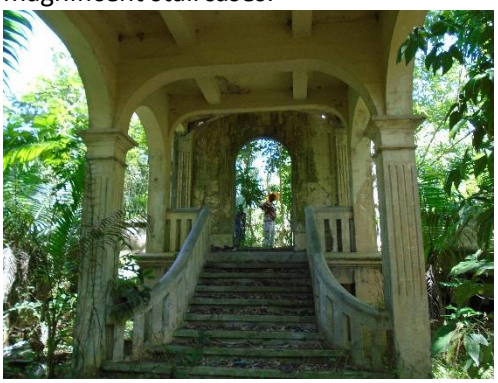
WRITTEN BY DEIDRE HUGHES

On Saturday 28th February 2015, one of the largest groups of the Natural History Society members and friends – over 50+ persons and more than 25 cars- came on this field trip.

First we visited the ruins of the Agualta Vale Great House in St. Mary (having received official approval to visit the site from the present owners, the Jamaica Producers Group).

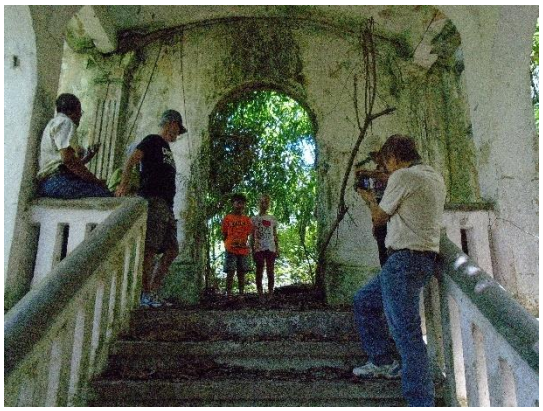
This turned out to be quite an 'exploratory' endeavour as the ruins were not visible from the road and now, were very overgrown. Aside from GPS etc, a useful clue to eventually being close to the correct area, was spotting a cluster of tall Royal Palms, and then a driveway with old walls, indicating there must have been something important in that area, at one time.

Horace and friend from the teak farm, which we were to visit next, had to come with their machetes, and when it was opened up enough to walk around, we were amazed at the size and magnificence of the remaining structures, even though we only saw two of the reportedly four magnificent staircases.



A lot of discussion was held on the possibilities of the ruins being managed so that the public and tourists could see it - say as part of a tour of St Mary. One wonders why so many of our Great Houses have been destroyed by fires, e.g. the Minnard Great House in St. Ann, recently in 1996. Perhaps because most were constructed of wood they are vulnerable to fires but what have caused these fires may lead to a possible solution to them being kept intact.

Incidentally, our guide for this part of the trip, Mr. Guy Symes had thought of showing us the remains of the monument to Thomas Hibbert (the original owner and builder of the Great House) on the property, but which has been vandalized reportedly in search of gold and precious metals which the robbers thought might have been there.



The following notes are from this website:
http://www.thejamaicanmagazine.com/archive/23-pages-past.html

No one knows what the original Agualta Vale great house looked like, or how it fell into ruin. All we know is that the estate was purchased by Englishman Thomas Hibbert, a wealthy slave merchant of Kingston, from the heirs of Benish in 1760, the year of the Tacky slave rebellion. It was a vast 3000-acre property of woodland and pasture overlooking the Wag Water Valley and Agualta River, with the sleepy town of Annotto Bay way off in the distance. Originally planted in coffee, it later became a large sugar plantation and breeding pen. It is said to be the site of one of the largest Taino burial grounds.

Hibbert was the estate owner of two adjoining properties. He also built Hibbert House on Duke Street, which was considered one of the four great Kingston mansions built in rivalry by the town's wealthiest merchants. He lived in Jamaica for 46 years, and died unmarried at age 71. His tomb, adorned with a stately monument, nestled in a grove of majestic mahogany and guango trees on the property, boasted " no church's care' but he chose this spot for "having yielded him many happy moments, in the reflection of an amiable mind surveying his creation of wealth and endurance for a long inheritance."

In 1914 it became the property of Sir John Pringle (1848-1923). A Scottish physician, he was the medical officer to the Asylum in Kingston and became district medical officer in St. Mary, and later Custos of the parish. With great foresight, when he retired from government service he bought up derelict sugar plantations, over fifty properties, and replanted them with banana. He became one of the leading proprietors of banana in Jamaica.

Pringle built on the foundation of the original great house. It was grand, with over twenty rooms. It was the only known great house built in Jamaica in the 20th century, one of the earliest three storey structures of its kind in the island, and the first reinforced concrete structure to be built outside of Kingston. The imposing structure was designed by Rudolph 'Dossie' Henriques and constructed by a firm he formed with his brothers after the 1907 earthquake. The classical grandeur of Georgian architecture dominated the lines of the building, but there were elements of Victorian style combined with features of the Jamaican vernacular. And of course it boasted all the modern conveniences of the industrial age.

Strategically located on the brow of a hill, the great house was laid out in the shape of a cross, with projecting wings on the four points. Furnished with fine antiques and crystal chandeliers, the rooms were all large with high, decorative ceilings. A grand central staircase connected all three floors. The lowest, a semi-basement, housed the service core. On the second floor were the principal rooms including a spacious reception hall, library, dining and sitting room. The bedrooms were all on the third floor, designed on a generous scale, with ornate moulding and delicate fretwork above the doors. A Georgian style gallery ran along the full perimeter of each floor, onto which the windows and doors opened. There was also a service staircase on the east and west wing. Beyond the house were extensive gardens, and the servant's quarters.

In World War II it was used as barracks for the Canadian army, and it is said that a soldier fell off the roof to his death – rumour had it that the soldier's duppy wandered the rooms at night. Unoccupied for years, the property was later acquired by Sir Harold Mitchell, who replaced the original urn on Hibbert's tomb. It was later acquired by the Jamaica Producers Group. In 1980 it was completely destroyed in a fire, Hibbert's tomb was also destroyed by vandals searching for gold.

In the middle of all the ruins we found a tree limb with some edible Chinese mushrooms, *muk nee, Auricularia polytricha,* (Auriculariaceae), with common name Wood Ears, growing on it. This is one of two species of this genus that occurs in Jamaica.

We then went on to tour a Teak stand planted on a small area of the estate, on the Belfield road.

Mr. Guy Symes, Managing Director of TFC and former Conservator of Forests (Acting), Managing Director of FIDCO and Secretary of the JTGA, was our guide.

The following notes in italics are from an information sheet given out by Mr Symes:

<u>Range</u>: A native of southeastern Asia and Malaya, including Thailand, Myanmar (Burma), India, occurring over a wide range of climatic and soil conditions.
Worldwide, it is perhaps the most widely planted tropical timber tree.

<u>Characteristics</u>: A very large deciduous tree in its native habitat, reaching heights of 30m and diameters of 1.5m and attaining ages of 100 - 200 years, Teak has a clean cylindrical bole, sometimes fluted at the base or buttressed in older trees. The leaves are large and rough, and are shed during the dry seasons when the tree goes into dormancy. It grows best on deep, well drained sites, from dry to moist conditions, and prefers limestone and alluvial soils. The cream-coloured flowers are borne annually at the ends of the crown and present an attractive sight from a distance. It cannot tolerate water-logging and is susceptible to root-rot and decay. Because it grows fairly fast during the growing season, it is generally resistant to a number of pests that may attack it.

Teak was introduced as a forest plantation species in late 1940s and was tried on a wide range of sites, with a number of other exotics. However, in terms of the sites that were available for the purpose, successful stands were only achieved in Portland, although excellent trees were grown on many of the sugar estates.

<u>Uses & value:</u> Teak is undoubtedly one of the world's best known and most highly valued timbers. It is a moderately hard, oily wood of medium density, the heartwood being a golden brown that darkens with age, while the sapwood is sharply demarcated and yellowish in colour. Teak is naturally a ring porous wood because it goes into a dormant state in the dry-season, but there is much variation as a shower of rain will break the dormancy. This is the reason for its fine and attractive grain, while its natural resistance is due to the oily fragrance of the wood.

Teak is resistant to weathering and has many outdoor applications with a wide range of uses, including garden furniture, shipbuilding, decking, flooring, high-class joinery, interior trim, doors and window frames, paneling and fancy turned items, Plantation-grown Teak timber is known to fetch prices of US$7.50 per board foot in Florida.

AVL-TFC Joint Venture Plantation - Tissue culture Teak plants from Thailand

Location: *Macrae, Agualta Vale Estate, on the Belfield Road, St Mary*
Extent: *Approx. 25 acres (10+ hectares)*
Age: *10 years, planted mid-2005*
Spacing: *l0 feet x 20 feet (on the tops of drainage ridges), approx. 218 stems/acre*
Av. Height: *40 feet (2012 measurement)*
Av. DBH: *6.8 in (2012 measurement)*
Av. Vol/tree: *127 board feet (2012 measurement)*

A difficult site originally shaped for citrus with mounds and drains. Hydrology indicates excessive water retention and periodic flooding, causing heavy growth of ground vegetation and climbers, as well as excessive water shoots and persistent branches on the trees. However, survival has been excellent, despite damage by Hurricane Sandy in 2012. The stand now needs completion of salvage operation and heavy thinning of remaining trees to reduce the density to 150 stems per acre.

This site has had problems in the past as it would regularly be inundated by the nearby Haughton River.

After citrus, Agro- Forestry had also been tried on the property with bananas, mint, cassava, etc. Papaya was also planted but destroyed by a hurricane.

The Forestry Conservancy is trying to plant the most valuable items in the available space. Because of the premium price its lumber fetches, teak has been planted in many countries in this region. It is an all-purpose wood (see above), resistant to termites and better than mahogany in most ways.

Traditionally teak trees are planted quite close together to encourage the trunks to grow straight. Nowadays it is a case of planting each tree with a space of 3-4m x 4m and the area has got to satisfy:- watershed management / climate change / environment. They need to open up and thin out what is there, to let crowns spread and roots develop. Because it is a lot of space between trees, there is the idea of intercropping vegetables etc, bearing in mind that they need to tolerate shade. These teak plants are grown by tissue culture as it takes about half the time to grow to maturity with this technique. It matures in 10-25 years. They are not expecting disease problems as these ones come from Thailand. Ongoing maintenance includes trimming off the side branches and pruning, and it is hoped that sales of the biomass from these pieces will help pay for maintenance costs. Here, they are mostly grown for wood but the wood also contains valuable oil. (There is a teak dye – of a reddish colour, which is also present in the leaves).

If anyone is interested in buying Teak plants, Mr Symes still has some in stock and can make them available at $500 each, with instructions on how to plant them.

(To propagate for oneself, take a very small stalk; cut off any leaves (to prevent excess liquid being taken away from the root); dip the end (the piece with callous tissue, which generates roots) in a rooting hormone; leave in sand; wait for bud to grow; tie onto the teak plant)

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The final part of the field trip was a visit to the beautiful home of Paul and Pam Chong in the hills overlooking the Rio Nuevo area with the final battle site between the Spaniards and the British and Great House of the same name.

Among his hobbies, Paul is a vintage car restorer. In his garage are shelves laden with trophies he has won over the years for his restorations. Everyone enjoyed looking at the vintage cars –a beautifully restored blue 1931 Model A Ford, a Metropolitan (Austin) and in a corner, a large, not yet restored Buick.

Pam is a champion orchid exhibitor and breeder and has as many trophies for her orchids as Paul has for his cars.

Their house is a mass of orchids with a panoramic view of the forest and coastline below. Pam also plants many exotic flowers and fruits, especially from Central America.

Out in the beautiful garden and patio she plants mostly sun vandas, as they can survive full sunlight. A lot are around a spectacular swimming pool, helping to provide the right amount of humidity. There are also other beautiful vandas inside the house. To grow them, you need to have a stable regime as they need water and feeding each morning (because they are not planted in dirt)

Another interesting feature of their home is that they are essentially off the national electricity grid and theirs was one of the earliest homes to have done so, using both solar and wind generated power. There was a lot of 'man-talk' on the energy stuff!, from which I gather:- If you don't use batteries (which are very expensive) you can sell extra energy to JPS, but this makes you vulnerable to power cuts just like other people. Also if you need to use JPS at night they charge at a much higher rate than what they gave you!

NHSJ FIELD TRIP to Sussex Great House

Saturday, April 19, 2015

WRITTEN BY LISA GORDON

A caravan of 9 vehicles containing 28 NHSJ members left from the Scientific Research Council on Old Hope Road. The group convened at the end of the new North-South highway and continued on a scenic route via Claremont and Lime Hall (westwards), to the Sussex Great House which is located above St. Ann's Bay. Our host, Mr. David Rickham greeted us at the gates of this beautiful estate and Great House, originally built in the 1700s, which took our breaths away. We had ample space to park under a huge guango tree and amongst lovely works of art/sculpture in David's garden.

After being introduced to our hosts (David and Elly Rickham), David gave us an historical account of the 'plantation' and its owners throughout the years. Wendy Lee was also on hand to speak about the birds that frequent the area. After the talk we proceeded on a tour of the property, originally a pimento farm, now consisting of a myriad of trees as well as farm yard animals not limited to turkeys, chickens and dogs.

The Great House has a panoramic view of the area, the Caribbean Sea to the north and the Seville Great House and its surrounding property, which is in close proximity.

After a delicious lunch, it was decided to take some nature walks, one of which involved bird-watching with Wendy. She named a long list of birds that frequent the area and one group went to observe as many as could be seen and identified. From her list, the following species were observed:

i. American Kestrel
ii. Jamaican Tody
iii. Jamaican Crow
iv. Loggerhead Kingbird
v. Grey Kingbird
vi. Jamaican Parakeet
vii. Northern Mockingbird
viii. Jamaican Woodpecker
ix. Turkey Vulture
x. White-crowned Pigeon
xi. White-winged Dove
xii. Common Ground Dove
xiii. Red-billed Streamertail Hummingbird
xiv. Jamaican Mango Hummingbird
xv. White-chinned Thrush
xvi. Nest of Jamaican Becard

(The Jamaican Vireo and Black-whiskered Vireo/John Chewit were heard.)

'This is a very short list for Sussex!' Wendy said, claiming that it was because of the rains and shortened walk that we did not see more species.

Another group went for a walk to observe the trees on the estate with David and took a walk on roads to the west, which circled back to the house. Many fruit and forest trees have been planted on the

property. Among them are breadfruit, naseberry, otahetie apples, pimento, avocado pears, lychee, miracle fruit, and a large number of palms.

An interesting bit of information is that water is pumped to the Great house by a colonial invention called a Ram pump. It seems to be a Victorian invention used all over the old 'Empire'; it requires a river or stream with a gradient. By an ingenious design, gravity is harnessed and used to generate the pressure needed to pump the water, and deliver a steady flow across some distance. In generating the pressure needed, one can hear the ramming sound of the pump from a distance. The property is totally independent of the National Water Commission (NWC) and a series of tanks feed to the house and garden for a sufficient water supply.

Of interest to note is on the way back, along the rough road to Sussex, Trevor Yee pointed out the abundance of the orchid, *Bletia purpurea* in the area. We collected a few of the abundant plants growing along the roadside when leaving the Great House. It is one of two species of this genus and is common in the Moneague area especially on the road verges and bauxite mining lands. The other species here is *Bletia florida* , the flowers of which are slightly larger and with darker purple flowers.

Another interesting terrestrial orchid seen on the walk at Sussex was a species that is now common in many parts of the island, *Oeceoclades maculate* (was not flowering at the time of the trip).This orchid is believed to have arrived in the Western Hemisphere in the 1950's from dust storms from the Sahara desert, which resulted in a haze of Saharan dust in this region. It is now common in many countries of the region in South, Central America, the southern USA and the Caribbean.

Due to the inclement weather, a planned hike to the river was deferred. The missed hike to the nearby river would seem a good reason to return again to Sussex House and for another visit in the future.

Because of the bad road from Lime Tree to Sussex, some drivers opted to take the alternate route, from St. Ann's Bay through Fern Gully, while others having enjoyed the newly-traveled scenic road retraced their path onto the new highway.

It was a day well-spent, enhancing our senses and love of this island.

Picture 1: *Bletia purpurea* (orchid) collected from road to Sussex Great House.

NHSJ FIELD TRIP to Crocodile Sanctuary owned by Lawrence Henriques in Springvale, St. Mary

Sunday August 23, 2015

WRITTEN BY JENNIFER CHEESMAN

A little-known treasure in St. Mary, the crocodile sanctuary operated by Lawrence Henriques has been in operation for about three years. A winding, but pleasant half-hour's journey from the Ocho Rios roundabout, in the direction of White River and going past Upton, will bring you to Springvale where Henriques lovingly and jealously tends some 30 crocs, including three bulls, in small groups, just outside his modest home. Indeed, an open, thinly meshed door off his kitchen reveals three of these hefty animals lazily cooling themselves in a shallow, shaded pool.

Just outside the kitchen door

There was a time, the conservator recalls, when the crocs were allowed to roam about inside the house, guided only by three rules, posted on the walls, to which they were expected to abide!.

This is quite a different picture of crocodiles from that to which the average Jamaican is accustomed. Generally, we cringe from the mere sight of these creatures, and stories about their savage and predatory habits abound. The less law-abiding among us poach them, largely for meat to feed myths about the aphrodisiac properties inherent in the reptiles' meat, which currently sells on the black market for a whopping UD$35 per lb.

But to see Mr. Henriques move among these reptiles, as if they were pets, touching a tail or head here and there to rouse them from slumber to the awe of visiting spectators, is to realise the truth about these endangered animals.

Visitors view Henriques with his crocs from behind a protective fence

The crocodile, which appears on our country's coat-of-arms, has been around since the time of the Tainos. Known as the American crocodile (*Crocodylus acutus*), the reptile is listed as a CITES 1 (Convention on International Trade in Endangered Species of Wild Fauna and Flora) endangered species. Lawrence Henriques's self-appointed mission is to rescue and re-habituate as many of them as the Government will allow him (currently he has permission to house no more than 36 at any one time) in

order to preserve the species in Jamaica. For, as he explains, given the rate of their destruction in Jamaica, it may not be long before they disappear completely, as they have in Haiti, Belize and Nicaragua. With the disappearance of their natural habitats, Henriques sees no future for life in the wild for crocodiles; but a few sanctuaries, three at most, properly managed by wardens, is all that it will take to ensure the survival of the species in Jamaica, he pleads.

The conservator relates, from his more than 30-year history of rescuing and rehabilitating them in the face of their disintegrating and disappearing natural habitats, crocodiles are, by and large, naturally harmless, unless provoked. In addition, and more important, they play a vital role in preserving Jamaica's ecosystems by keeping our waterways clear to allow fish and other marine life to breed and thrive.

Henriques rescues a wounded and stressed croc in the wild (photo by Klaus Wolf)

Henriques sees educating the public as integral to his role in the national protection plan for Jamaica's crocodile. Therefore, over the past year, he has opened up his 50,000 square-foot property on the bank of the White River to groups whom he familiarises with the habits of these animals that he has rescued and brought back to health, where they have been severely wounded or stressed. And, he is proud to share; he has never had a croc escape from the sanctuary!

The conservator is, by training, a biochemist and poly-engineer. He explains to his audience that crocodiles are, by nature, wild animals, and will bite if disturbed. Many of the stories about crocs harming people reveal that the crocs had been stepped on, or otherwise provoked. Crocs often submerge themselves in the water to sleep and recoup, and whether on land or in water, if an intruder disturbs their rest, they are likely to attack. The creatures are known to crawl out of the water, within inches of fishermen, to feast on the discarded waste of their gutted and cleaned catch, with no threat to the fishermen's life or limbs.

Members of NHSJ stroking a three-year old croc

A swim anyone?

Recent Sightings of the Endemic Citrus Swallowtail Butterfly, *Heraclides* (*syn. Papilio*) *thersites* (Papiionidae) Fabricius

WRITTEN BY TREVOR YEE

Having started to investigate and observe the Citrus Swallowtail Butterflies in Jamaica I have begun to develop an appreciation of them, and have had several sightings of the somewhat rare endemic species *Heraclides* (syn. *Papilio*) *thersites* (Papilionidae), recently.

There are two endemic Citrus feeding swallowtail butterflies in Jamaica, *H. thersites* mentioned above and *Heraclides melonius* (syn. *thoas:melonius*) Rothschild & Jordan. The first is a relatively large butterfly, about one and a half to twice the size of the common Citrus swallowtail, *Heraclides andraemon.*

Heraclides thersites **(Male)**

Heraclides thersites **(Female)**

H. andraemon, is an invasive species that was first observed in the island and reported in the Natural History Notes of the Natural History Society, in 1945. As noted by the editor of the soon to be published revised early Natural History Notes of the Society, Dr. Eric Garraway, it has become the dominant Citrus Swallowtail on the island while the other two have since become rare, with reports e.g. by the late C. B. Lewis of the Institute of Jamaica that *H. melonius* already appeared to be becoming extinct in his time. *H. andraemon* was initially observed near the Sandy Gully area and various locations in downtown Kingston in 1945, and C. B. Lewis identified the subspecies as *H. andraemon:andraemon* Hubner, one of the two subspecies of *H. andraemon* that existed in Cuba. The other recognized subspecies of *H. andraemon* are: *H. andraemon:bonhotei* Sharpe on Nassau in the Bahamas, the Turk and Caicos Islands and the Florida Keys, *H. andraemon:hernandezi* de la Torre and H. *andraemon:andraemon* Hubner on Cuba, and *H. andraemon:tailori* Rothschild on Grand Cayman Island.

Heraclides andraemon

Unlike all the other Citrus Swallowtails on the island, the male and female members of *H. thersites* have different appearances (see photos). With a little familiarization, however, one can fairly easily distinguish between males and females of all the species by an observation of the sexual organs at the base of their abdomens.

***Heraclides melonius* (Female)**

At home in Stony Hill, St. Andrew May 1st, 2010, I saw a male *H. thersites* with its characteristically broad central band of yellow on its wings flying across the lawn. Later in the afternoon, I was fortunate also to observe the large, darker coloured female hovering around a grapefruit tree with young shoots. Her relatively large size was a most noticeable feature. Then I saw a jerky rustling of the twigs of the tree. A large green lizard, *Anolis garmani,* had also noticed her and made an unsuccessful leap across some twigs to catch her but she appeared to have seen him coming and floated away. The last time I had seen another female was on the NHSJ's field trip to Harris Savannah, when Eric Garraway pointed one out on Nov. 21st, 2009, and the last time I had seen another male was soon after on Dec. 2nd, 2009 at the Ocho Rios Jerk Centre.

The survival of the endemic species may have recently taken a step for the worse. In 2004, the first documented report of another related invasive species of Citrus Swallowtails from the Far East and with the reputation of being a voracious Citrus pest, *Papilio* (syn. *Princeps*) *demoleus* L., was reported for the first time in the New World in the Dominican Republic. How it arrived in this region has not been established but with increased travelling, transportation, and shipment of goods and produce across the world, such unplanned introductions are not new. What is known is that this invasive pest has started to spread across the Greater Antilles and was reported in Puerto Rico in 2005 and Jamaica by Garraway and Murphy in 2006. Not long afterwards, it was observed on the Citrus trees on the UWI Mona Campus.

Papillo demoleus **(Female)**

P. demoleus is proving to be a formidable invader and may establish itself as the most common Citrus Swallowtail butterfly on the island, if unchecked, in the future. Not that *H. andraemon* is a slouch as an invader but it does appear that *P. demoleus* has been more aggressive in its laying of eggs on the *Citrus* spp. (Rutaceae) on the Campus than *H. andraemon*. Nevertheless, *H. andraemon* has a number of advantages as an invader.

Recent investigations by the writer and a group of researchers at UWI have shown that it has another major alternative host plant, *Piper amalago* (Piperaceae). In addition, it has been found feeding on still another host plant, *Zanthoxylum martinicense* (Rutaceae), in the wild. These investigations have revealed that its choice of a particular host plant, is not random, but is a more complex and deliberate selection of the particular host plant. These investigations have in fact broken this “code” in revealing the reasons for the gravid females choosing a particular host plant instead of another, at least in the overwhelming majority of cases, when they are ready to lay.

Further investigations have also unearthed potential ecologically friendly but very effective methods of control against both of the invasive species, *H. andraemon* and *P. demoleus*. What unfortunately appears likely, if unchecked, is the continued demise and possible extinction of the native species, *H. thersites* and *H. melonius*.