

April 2012



▶ **Newsletter 1/2012**

STENAPA Update

Reintroducing...the White Crowned Pigeon!

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Don't forget...

Guided Hikes: Available for groups of 2 or more

Botanical Garden: Open from sunrise to sunset. Great for family picnics and BBOs

Congo Preserve: The eco-friendly camp site on island. Call for information and rates.



Hans Verdaat from the Netherlands based research institute, Imares visited us in Statia during April to conduct an investigation in the status of our Important Bird Areas (IBAs) - the Quill and Boven sectors of the National Parks. Hans spent much time out in the field with National Park Ranger Hannah Madden in what proved to be a very productive week. Significant moments of the week included four sightings of the rare Bridled Quail Dove in the Quill and an assessment of the Red-billed Tropicbird nesting areas.

However, the most exciting moment came when Hans showed us a photo he took of a White-crowned Pigeon near the Quill. This bird has not been sighted on Statia in over 15 years and was thought to be extinct! We are thrilled to be able to list this species as once again present in St Eustatius and it just goes to show how important our IBAs really area!

REMINDER

**Lionfish are
venomous and
should only be
removed by Marine
Park Staff.**

**If you have any
questions or a
Lionfish sighting
please call us on
318 2884**

Greater Antillean Bullfinch confirmed breeding on Statia

Since 2009, Stenapa has been conducting terrestrial bird surveys twice a year, in January and June. We are pleased to announce that during those surveys we have observed a Greater Antillean Bullfinch, which is a new breeding record for the island. This bird looks almost identical to the Lesser Antillean Bullfinch, however it is larger and has a red patch over its eye. We have spotted it once in the northern hills and twice outside the Botanical Garden over the past three years, which means it is most likely resident and breeding. The individual we observed in January this year was an immature bird and did not have the red eyebrow which led to some confusion over the species, however we were able to distinguish it from its Lesser Antillean cousin due to its larger



size. Dr. Adrian Delnevo, who has visited the island several times to train park staff in bird identification, confirmed this and said: “Note that juvenile birds and/or adult molting birds will not always have clear, obvious or complete and fully ‘mature’ plumage. Consequently, I think this is a Greater Antillean Bullfinch that is either coming into its first complete adult plumage or is an adult bird that has not finished its

molt.”

Greater Antillean Bullfinches are common residents on most larger islands of the Bahamas, Hispaniola and Jamaica and can be found in dense thickets and undergrowth at all elevations, from dry coastal scrub to wet mountain forests.



The bird in question, seen during this year's bird survey outside the Botanical Garden

The leatherbacks are back!

St Eustatius National Parks Foundation are delighted to announce the start of their leatherback nesting season on Zeelandia beach. Marine Park Manager, Jessica Berkel was on hand to witness the first nest of the year and was able to identify this female as a new individual to our beach. “This was a small



Leatherback re-entering the sea after nesting on Zeelandia beach (stock)

leatherback” stated Berkel “and we think that due to her size and her apparent inexperience with the nesting process this could possibly be her first nesting season, she is certainly a new

individual to St Eustatius”. Her nest was verified as a successful laying and now the incubation process is underway. Within about 60 days, this nest will hatch and we hope to

be on hand to witness the emergence of our first hatchlings of the year.

Sea turtles, including leatherback, return to the same beach season after season to lay their eggs, this is why it is so important that we ensure the integrity of the beach and limit sand mining activities to designated areas. It is against the law to remove sand from the protected beach at Zeelandia and we urge members of the public to respect this law. Beach barriers have been put in place to minimise the opportunity for this illegal activity while still allowing access to the designated areas for sand collection.

Why our palm trees are dying....



Over the last couple of months we, on Statia, have seen some of our coconut trees developing the terrible disease known as Lethal Yellowing (LY). It affects palm trees, mostly Coconut Palms and Date palms but up to 30 different varieties are known to be susceptible. Although treatments are available in the form of injections of the anti-biotic Oxytetracycline there is no known cure for the disease at the moment.

Here are some of the things to be on the look out for in your palms. Drooping of all nuts/fruits both mature and immature, blackening of flower stalks, excessive drooping and yellowing leaves at first towards the base of the crown and then extending into the top and eventually death of the terminal bud and crown of the tree. All leaves on palms will at some point show some yellowing, sometimes it's a mineral deficiency or as the leaf is dying off it will lose some of it's normal green colour, this is normal yellowing and not associated with the LY disease. The time to be concerned is when you see yellowing leaves in conjunction

with any other symptoms or if the yellow leaf is up in the crown of the tree. Once a tree starts to show signs of the disease it will usually die 3-6 months later unless treated.

The disease is believed to be spread by the planthopper insect. The insect lives in grass, eats palm sap and infects the tree as it feeds. It is thought that the importation of grass seeds from Florida to turf golf courses, larger hotels and gardens on some of the more developed tourist islands is how the disease began to take hold in the Caribbean.

On Statia there appears to be several trees dying from LY at the moment, we have had 2 at the STENAPA office and littered along the bay road and around Golden Rock are more trees either showing definite symptoms or that have already succumbed and are just long, leafless, trunks. Here are a few things you can do to limit the risk to your trees.

- Don't plant grass around the base of your palms, if you can limit the exposure of the planthoppers to your trees you can reduce the risk. Plant them in a separate flower bed

and use other ground covering plants such as Purple Heart, Beach Morning Glory (Sea Bean) or Lady in a boat.

- Although no cure is available, the life of the tree can be extended by administering injections of Oxytetracycline on a quarterly basis (available to buy on the internet.) This has to be done carefully and according to instructions as trees can be more susceptible to fungal infections around the site of the injections.

- Remove any dead or infected trees as soon as possible from your yard. Be careful when sawing or cutting the tree and collect all the debris and burn it.

Ensure that you disinfect any tools you use on infected trees thoroughly before using them on any other trees. You can do this by dipping them in a solution of Lysol or something similar before drying them and oiling (WD40 is fine) as you normally would.

By far the best way to reduce your risk (and the only 100% effective way) is to invest in cultivars and palms that are resistant to the disease in the first place. Malaysian Dwarf varieties were considered to be resistant and were the replacement tree of choice for many years. Now many of the varieties have been cross bred with other taller varieties and so their natural resistance has been too watered down. Fijian Dwarf varieties are now being tried in some areas and these seem to be showing good resistance for the time being. Ask your nursery or supplier about LY resistant varieties and they will be able to advise you on your choices.

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STENAPA is an environmental not-for-profit foundation on St Eustatius and was established in 1988. The objectives of STENAPA are to upkeep the natural environment, to preserve and protect endangered or endemic species (flora and fauna) and to educate the community about the importance of the protection of the natural environment.

Areas of responsibility include management of the marine park, the national parks and the Miriam Schmidt Botanical Gardens. STENAPA is legally delegated by the Island Council to manage these protected areas.

Acting President: Roberto Hensen
Vice President: Ira Walker
Treasurer: Ruth Pandt
Secretary: Linda Berkel

www.statiapark.org

Marine Park to the Rescue

Earlier this year, in January, a call came in to the Marine Park office from the Harbor Office about a small green sail boat that was apparently drifting in the direction of a moored barge and the tugboats.

Marine Park staff Anna Maitz, Nadio Spanner and Jessica Berkel went out in the patrol boat Blue Runner to see if the boat could be caught and towed back in. When the Blue Runner arrived on the scene it appeared that the boat had been on anchor in the designated area of the bay but had somehow dragged loose. Park staff managed to snag the anchor line and pull up the rope and anchor. The sailboat was secured behind Blue Runner and slowly towed back to the bay. It was then placed on one of the new white yacht mooring in the bay that



Marine Park Ranger Nadio Spanner securing the drifting yacht

were specifically put in for visiting yachts. The captain was taken out to the boat by park staff so that he could check on his boat. Park staff also instructed him on how to secure his boat properly on the mooring.

Happy ending to what could have been a disastrous event!.

Pollination Study

For the past few months we have had the pleasure of working with Dr. Stephen Bush, a professor in plant genetics from Coastal Carolina University. We are conducting a six-month study on around 20 per cent of Statia's native plants in order to understand general patterns of reproduction in the plant community. Dr. Bush wants to determine whether Statia's pollination and flowering characteristics favour inbreeding or outbreeding, since there is a theory that plants on islands have generic flowers that attract a large variety of pollinators. Additionally, he hopes to determine whether the pollinators and floral traits found on Statia are similar to that on other oceanic islands.

In order to determine whether some plants favour inbreeding or outbreeding (in layman's terms: whether they need a pollinator to reproduce or can self-fertilize), Dr. Bush attaches a see-through mesh bag to a few unopened flower buds and leaves them there for a day or two so that pollinators are unable to visit the flowers. After removing the bag and marking the flowers that were excluded, he returns to check whether the flowers have formed into a fruit. If so, he can confirm that this particular plant favours inbreeding.



Using a simple mesh bag, Dr. Bush prevents some flowers from being visited by pollinators

Dr. Bush spends most of his time in the National Parks collecting data together

with National Park Ranger/Education Officer Hannah Madden, and sometimes an intern or volunteer. This involves finding a native species in flower and watching it for a total period of six hours. If after six hours there are no visitors to the plant, the observation time is extended to 15 hours, often setting up video cameras overnight in case there are nocturnal visitors such as hawkmoths. If pollinators are observed visiting the plant, attempts are made to catch them in order to identify the species. So far the variety of pollinators has been surprisingly high, with a number of bee species that have not yet been recorded for the island. In fact, only two native species of bee are officially recorded. One is the carpenter bee, *Xylocarpa mordax*. The second is *Athophora eustachensis*, a species of bee that is endemic to Statia and St. Kitts. The photo below may be this particular bee, which is described as having ochre-coloured hairs.



"Statia bee?"

Another bee that was observed pollinating has been nicknamed the "red butt" bee, due to its orange/red abdomen. This is a very fast-moving bee that was difficult to catch and often guarded its favoured plant vigorously, chasing away other potential pollinators such as butterflies. This bee has been observed both in the Quill and the drier northern hills of the island (photo below).



Two weeks were spent researching Statia's only endemic plant, Statia Morning Glory (*Ipomoea sphenophylla*). There is a large population located just outside the boundary fence of the oil storage terminal and they granted us access to study this species at odd times of the day – often before sunrise. Initially it was thought that the carpenter bee was the main pollinator of this vine, since it is often seen visiting the pink, open-faced flowers. Carpenter bees are known for doing a special type of pollination known as buzz pollination. This involves them approaching a flower and changing their wing pattern to make a different sort of buzz from their regular flight pattern. In fact, these bees did not enter the flower but landed on top and climbed slightly to one side. It was thought that they were moving their hind legs to brush pollen that had fallen from the anthers onto them following the 'buzz'. However, after a few weeks of observation, Dr. Bush concluded that the carpenter bees were simply stealing nectar from a hole in the base of the flower and not pollinating at all. Consequently he came up with the theory that, due to its name *sphenophylla*, the morning glory might be pollinated by nocturnal hawkmoths, a type of *sphyngid* moth, and indeed his camera captured this creature visiting flowers early one morning.



Sphinx moth (*Pseudosphynx tetrio*), a type of nocturnal hawkmoth

Pollination study (cont)

Another interesting observation made by Dr. Bush and Hannah Madden was that one large *Statia* Morning Glory plant had flowers with split petals (usually they are fused) and that it was sterile. This plant had many visitors due to the abnormal formation of its flowers, enabling a greater variety of pollinators to enter its flowers and crawl to the base to drink nectar. Normally only a pollinator with a long proboscis – such as the hawkmoth – would be able to do this. Dr. Bush concluded that this individual suffers from a genetic abnormality that causes the petals to split. After researching the papers published by Howard on *Statia* Morning Glory, Dr. Bush realized that there was an error in the description of the species. The paper states that there are two types of flowers, whereas in fact the plant with the split petals is a genetic mutation. An Emendment of the description will be published by Bush and Madden in due course.



The split petals of this particular *Statia* Morning Glory allow pollinators easy access to the nectar

During the past few months many pollinators have been observed, including:

- **Tarantula hawk** (*Pepsis ruficornis*)

It was surprising to see the tarantula



hawk pollinating a small number of native species. This large wasp preys on tarantulas, stinging and paralyzing them and laying a single egg on them. After hatching, the larva devours the spider from the inside out, keeping it alive as long as possible.

- **'Red butt' bee**



So far very little is known about this bee, and the scientific name has yet to be confirmed. It is a fast flier and proved difficult, though not impossible, to catch.

- **'Hairy leg' bee** (*Centris* sp.)



The genus *Centris* contains over 110 species of large apid bees occurring from Kansas to Argentina. This bee was observed 'buzz' pollinating a number of species, including Solanaceae and Malphigiaceae.

- **Hummingbirds** (various)



Hummingbirds have to eat every 10 minutes, consuming around 2/3 of their body weight in food every day. They mainly feed on sugar, obtained from flower nectar. Hummingbirds do not pollinate flowers on purpose. When they stick their bill into a flower to reach the nectar, some pollen will stick to it. When they land on another flower to feed, they cross-fertilize it.

- **Halictid bee**



This tiny bee was observed foraging in the flowers of Pandou (*Jatropha gossypifolia*). **Halictidae** belongs to the order Hymenoptera, consisting of small to midsize bees which are usually dark-colored and often metallic in appearance. They are commonly referred to as sweat bees (especially the smaller species), as they are often attracted to perspiration.

- **Syrphid fly**



The *syrphidae* are famous for their bee and wasp mimicry - this fly uses its front legs to mimic the jointed antennae of the Vespids. When the fly lands, it hold its front legs up in front of its face and waves them about. The clouded leading edge of the wing also mimics the appearance of wasp wings.

- **Pyrrhocorid bugs** (poss *Dysdercus* sp.)



This is a fairly common, plant-feeding insect found mostly in the tropics and subtropics. It was observed drinking nectar from this *Sida acuta* flower. It pollinates accidentally, like hummingbirds.

Photos by Hannah Madden