Envirotalk

SUMMER 2019
VOLUME 83 No. 2

GOVERNMENT OF BERMUDA
Department of Environment and Natural Resources

TO PROTECT BERMUDA'S ENVIRONMENT AND RESPONSIBLY MANAGE ITS NATURAL RESOURCES

WELCOME

to our summer edition of Envirotalk.

In this issue –

- Learn some tricks for keeping **ducks out of your swimming pool.**
- Find out why you are unlikely to see **snakes at the beach.**
- Read some tips to **keep Giant Tropical Centipedes out of your home.**
- Get informed about **traveling to Europe with your pets after Brexit.**
- Learn how to make **'seaweed tea'** for your garden.
- See the **new species** being discovered on our deep reefs.
- Also see:
  - Our **News & Notice**s for reminders and upcoming events.
  - The **Environmental Calendar** to see what events are happening at this summer.
  - The **Planting Calendar** to get a head start on what to plant this summer.

Tiny Octopus from Tiger Reef – find out more about how it was discovered in **"Exploration and discoveries from our deep reefs".**

Please contact:

Envirotalk mailing list:
envirotalk@gov.bm
to be placed on the mailing list or for suggestions for future articles.

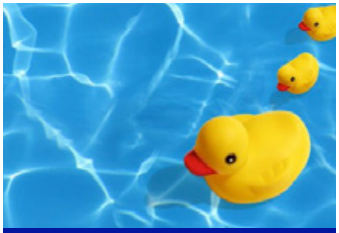


Photo: Capt Stuart Anthony
www.pinterest.com

DUCK OFF! – KEEPING DUCKS OUT OF YOUR SWIMMING POOL.

Rubber ducky in your pool? Sure why not, they're fun!

A family of the feathered variety using your pool deck as a lavatory? Not so much fun.

How do you get rid of them? We've got some tips, but first here are some important details to make note of.

ALL migrant and resident birds in Bermuda are protected under the Protection of Birds Act 1975, except for domestic birds and those listed as pest species: crows, sparrows, kiskadees, starlings, feral pigeons and feral chickens.

The Department of Environment and Natural Resources (DENR) has the authority to destroy pest species for the protection of the environment, agriculture and public health.

Mallard ducks are not considered a pest species. We do not cull ducks, nor do we re-locate them. The Bermuda Aquarium, Museum and Zoo (BAMZ) will not take them. The SPCA will not take them.

They are a part of Bermuda's wildlife and are protected by law. But how do you keep them out of your pool!? Fortunately the internet is full of tips and tricks. We've listed a few of them below.

If you have a persistent problem that may be posing a health and safety risk, give us a call. But please try some of these tricks first!

Photo: www.thriftyfun.com

8 WAYS TO KEEP DUCKS OUT OF YOUR SWIMMING POOL

(Source: www.poolguycare.com)

#1. Use Animal Pool Toys

Leave your shark floaties, flamingo inner tubes and pool noodles floating in the pool when you're not in it and while it is uncovered. Most of the time, ducks will see them as potential threats and fly on by.

#2. Cover Your Pool

There are lots of reasons to keep your pool covered when you're not using it, and keeping ducks out is one of them. Of course, this doesn't necessarily keep them out of your yard altogether. If they're still a problem, try one of the other methods in addition to the cover.

Also, make sure when you are cleaning the duck poop off your cover, that you are careful not to dump any in the water.

#3. Use Sprinklers

An automatic sprinkler system is a great deterrent for ducks; they don't like getting pelted with water unexpectedly any more than you do. You can also just use a good old fashioned sprinkler near the pool and turn it on during times when you've noticed the most activity.

#4. Run Your Automatic Pool Cleaner

Having a machine running in the pool is probably a good deterrent, so make use of your robotic pool cleaner as a duck deterrent.

#5. Install Bird Netting

If you have a persistent problem with ducks or other birds, it might be beneficial to install some bird netting above the pool. This will also help keep out other debris that can contaminate the pool.

#6. Put Your Pets To Work

Consider getting a pet that will stay in the yard during ducking hours. Many dogs enjoy chasing wildlife!

#7. Use An Ultrasonic Pest Repellent

There are electronic machines made specifically for keeping away many kinds of pests. Some emit a high-frequency sound that humans can't hear but that is highly irritating to birds, others have lights that flash to scare them away when the sensor detects movement.

#8. Fill Your Pool With Eyeballs

No, not in a Jeffrey Dahmer kind-a way; I'm talking about the big inflatable balls you can buy that are covered with eye-like patterns. (Some local hardware stores keep them in stock). They confuse birds and ducks by making them think they are predators watching and waiting for them to land.

Creepy, right? Apparently ducks think so too!

Mandy Shailer
GIS Mapping Analyst

SNAKES AT THE BEACH??

Each summer the DENR receives queries about sea snakes in Bermuda and reports of 'snake-like' animals around our shores. Sea snakes are reptiles, usually with visible scales, that live in the ocean but must breathe air. Bermuda has no sea snakes and there are no records of sea snakes being found here in the past. In fact, there are no sea snakes in the Atlantic Ocean (see Why are there no sea snakes in the Atlantic? written by the Florida Museum of Natural History).

Bermuda does, however, have a variety of eel species, which are marine fish with snake-like bodies covered by smooth skins. If you are snorkelling or swimming and see a snake-like animal, it is likely an eel. Bermuda has several species of moray eels, including the Green Moray (*Gymnothorax funebris*) and the Spotted Moray (*Gymnothroax moringa*); along with the Sharptail Eel (*Myrichthys breviceps*) and several snake eels.

Sharptail Eel (Photo: Ron Lucas)

One of the most commonly seen species of snake-like eels in Bermuda is the Golden-spotted Eel (*Myrichthys ocellatus* formerly *oculatus)*. The body and head of this eel are whitish or tan, sometimes light green. The back of the animal, from head to tail, is covered by dark, brownish patches, with a vibrant gold to pale yellow spot at the centre of the patch. The head is not significantly wider than the rest of the body, which can reach up to 3 feet long, and the tail is sharply pointed. This eel has fairly prominent, tubular nostrils.

Golden-spotted Eels can be seen in seagrass beds or moving over the sand between patch reefs. They can be observed in the day, but are mainly active at dusk and during the night when they hunt for crustaceans. Clearwater Beach and Turtle Bay (both at Cooper's Island) and Somerset Long Bay are good places to see one. Golden-spotted Eels are not a threat to people, and will generally not swim away from snorkelers. Like any animal, it may bite if it is handled or feels threatened, so enjoy it without getting too close or disturbing its activity.

Golden-spotted Eel (Photo: Florent Charpin)

The migratory behaviour of two eel species may also be responsible for some reports of 'snakes at the beach.' The European Eel (*Anguilla anguilla*) and the American Eel (*Anguilla rostrata*) are what is termed 'catadromous' fish. They hatch from eggs somewhere in the Sargasso Sea and migrate to freshwater rivers or ponds as juveniles, where they spend their adult lives before migrating back to the sea to reproduce. Although they are fish, European and American eels are able to move across land for short periods during their spawning migration to the sea. They may cross roads from ponds to the sea, and move across coastal rocks and through vegetation (normally at night when it is raining or there is heavy dew). Sightings of this behaviour are very rare.

These eels are found in Mills Creek, Pembroke canal, and in some brackish water ponds across Bermuda. Both species have round bodies that can grow up to 4 feet long, with generally brownish backs and light coloured bellies, but the colours change at various life stages (more descriptive information can be found at https://environment.bm/american-european-eels).

European and American eels can be distinguished from snakes because they have obvious fins on the sides of their body, a dorsal fin along the back, a paddle-shaped tail and their skin does not have obvious scales. It may look like a snake on the beach, but it is a fish on a mission and should be allowed to reach the sea as quickly as possible. Both American and European eels are listed as protected species under the Bermuda Protected Species Act 2003 and it is an offence to disturb or harm them.

An American Eel in a Bermuda pond (Photo: Philippe Rouja)

The DENR would like to hear from anyone who has seen a European or American eel. Also, if you have seen an eel that you can't identify or you think you have really seen a snake, please get in touch with us by calling 293-2727. Photos can be emailed to environment@gov.bm.

Alison Copeland
Biodiversity Officer

GIANT TROPICAL CENTIPEDE

Giant Tropical Centipedes, *Scolopendra subspinipes*, often referred to locally as the St. David's centipedes, can deliver a painful bite and they should not be handled. These unusual looking creatures can be found throughout the island. At maturity, they can reach lengths of 7 inches, but younger specimens will be smaller.

Tropical centipedes normally reside outside dwellings. If one is found inside, it has probably entered accidentally through a gap in a window screen or under a door, or wherever there is a crack or opening large enough. Centipedes can also be carried inside on plant pots, firewood or similar items that were previously stored outside.

They like dark, damp surroundings, so drier environments inside most houses are not their preferred habitats and they do not ordinarily seek out these locations. Centipedes are rarely found 'nesting' inside dwellings as they prefer constant moisture, particularly in damp, rotting vegetation to have their young, however some basements or cellars may have a suitably damp environment for them. Gaps between the

flooring and walls may provide enough space for centipedes and insects to climb up from open spaces under the floorboards. All gaps should be sealed securely to prevent pests from gaining access to the main living space. If the under-floor area can be accessed, a 'bug bomb' treatment (available at any grocery or hardware store) can be considered in this location to kill off any additional centipedes or other insect pests that may remain. Follow all safety instructions on the label.

To prevent centipedes from entering the house:

1. Do a thorough survey of openings into the house. Ventilation bricks either under the house, or into an attic area, can provide openings for small centipedes to enter. These can be covered with fine mesh wire to block entrance of pests. Pay particular attention to air-conditioning duct holes, gaps under doors or along windows, window screens, under eves, grease traps or outside drains or cracks and holes in walls.

2. Keep vegetation away from the house as much as possible as centipedes will head for the dark, damp areas under bushes and hedges. Try to keep overhanging trees away from the roof and sides of the house, as centipedes can climb and may gain access across branches.

3. Store firewood, rocks and rubble away from the house and remove any unnecessary debris around the edge of the house, which may provide hiding places for the centipedes.

Wherever possible, do not use pesticides around the house, particularly where children are present unless it is absolutely necessary. However, in certain circumstances a chemical treatment may be warranted.

A Giant Tropical Centipede that drowned in a pool in Warwick (Photo: Choy Aming)

Bermuda has several resident species of centipedes and specimens can be brought to the Department of Environment and Natural Resources for identification, or clear, high resolution images sent to cjessey@gov.bm.

Claire Jessey
Government Plant Protection Officer/Entomologist

PET TRAVEL TO EUROPE AFTER BREXIT

While the political turmoil unfolds in the United Kingdom over the pending departure of that country from the European Union, the uncertainty surrounding Brexit is beginning to affect Bermuda's dogs and cats destined to travel to Europe following Brexit. At the moment, the UK's divorce from the EU is scheduled to occur on October 31, 2019.

The United Kingdom Government has posted advice for UK residents regarding travel to the European Union following Brexit, however the content has implications for animals in Bermuda. The advisory appears on the UK Government's website at https://www.gov.uk/guidance/pet-travel-to-europe-after-brexit. It is a site that any pet owner wishing to travel to Europe should check periodically.

No-Deal Brexit

The UK Government's advisory includes the text: **"The UK is likely to be treated as an unlisted country under the EU Pet Travel Scheme if it leaves the EU without a deal."** At least two important consequences affecting pet travel will emerge out of a No-Deal Brexit:

1. Pet passports issued in the UK will not be valid for travel into the Europe Union.
2. The UK will likely become an 'Unlisted country', and thus a protocol, which is lengthier and more complex than the current protocol, will apply to dogs and cats from the UK and to those transiting the UK on their way to Europe:
   (a). The dog or cat must be microchipped and then vaccinated against rabies before it can travel.

(b). The pet must have a blood sample taken at least 30 days after its last rabies vaccination (whether that's a booster or initial vaccination). Your veterinarian may recommend a booster rabies vaccination before this test.

(c). The veterinarian must send the blood sample to an EU-approved blood testing laboratory.

(d). The results of the blood test must show a rabies antibody level of at least 0.5 IU/ml.

(e). The animal must wait 3 months from the date the successful blood sample was drawn before it can travel to the EU.

(f). The veterinarian must provide you a copy of the test results and enter the date the blood sample was taken onto an animal health certificate.

(g). Dogs travelling to Finland, Ireland or Malta must be treated for tapeworm between 24 and 120 hours before travel.

(h). The animal owner must obtain an EU health document from your local veterinarian no more than 10* days prior to travel. The document will need to be endorsed by the Veterinary Officer at the Department of Environment and Natural Resources. *The 10-day period is reduced to 5 days for dogs travelling to Finland, Ireland or Malta.

The above protocol takes a minimum of four months to complete, and applies even if your animal was previously rabies vaccinated or travelled to Europe.

The pet will not be able to travel if these steps have not been completed.

The pet's EU health document will be valid for:

- 5 or 10 days after the date of issue for entry into the EU;
- onward travel within the EU for 4 months after the date of issue; and
- re-entry into the UK up to 4 months after the date of issue.

Brexit with a Deal

If the UK becomes a 'listed country' or if Brexit occurs with a deal, a less involved protocol will apply, and likely will be similar to that which is in place today.

Movement into the Schengen area

The protocol adopted for the European Union countries will likely extend to other non-EU countries within the Schengen Area. Thus travel to Iceland, Liechtenstein, Norway or Switzerland will become the same as travel to any EU member country.

'TAKE HOME' MESSAGES:

1. Currently, there is no indication of a pending change in Bermuda's standing and ability to export dogs and cats into the United Kingdom. Dogs and cats from Bermuda will qualify to enter the UK using the current protocol.
2. Bermuda's standing and its ability to export dogs and cats into the 'remaining' European Union will not change. Dogs and cats from Bermuda will qualify to enter Europe. However,
    a. Dogs and cats from Bermuda may travel via North America to enter any Europe Union country, with no change in protocol or conditions of entry.
    b. If Brexit occurs with no deal in place, the UK will likely become an 'unlisted country', and the protocol for animals to travel from Bermuda to Europe via the UK, will change significantly to that described under 'No-Deal Brexit'.
3. The UK Government offers that to ensure your pet is able to travel the EU via the UK after Brexit in any scenario, begin the protocol described under 'No-Deal Brexit'. Action is required at least 4 months before travelling.
4. Travel to Iceland, Liechtenstein, Norway or Switzerland will follow the protocol for travel to the EU.

5. In the event of a No-Deal Brexit, the UK Pet Passport will not be valid for travel to Europe.

PLEASE DO YOUR HOMEWORK, SO I DON'T GET LEFT BEHIND.

Dr. Jonathan Nisbett
Veterinary Officer

SEAWEED-GOLD ON OUR BEACHES

In May and June of this year we saw an abundance of Sargassum seaweed that clogged many of our beaches and bays around the island. 'An abundance' may be a bit of an understatement, 'biblical proportions' may be more accurate! Though perhaps an eyesore and nuisance to beach lovers, the mineral-rich seaweed does provide farmers and home growers with a very valuable, yet free source of nutrients for their gardens.

I'm sure that over the years many us of have heard stories from our parents and grand-parents of how they collected seaweed to use in their banana patch. Many of us still carry on this tradition and make the pilgrimage to the nearest accumulation of seaweed to load up bags and containers and spread it around our own banana patches. There is no doubt that the nutrients released as the seaweed breaks down give the banana plants a huge boost. Unless collecting directly from the ocean, rinsing the salt from the seaweed is not critical when using around your banana plants. Place a thick layer of seaweed around the base of the plant taking care not to bury any small emerging suckers.

Seaweed can be easily made into a liquid fertilizer (seaweed tea) which is also good for your vegetable and flower gardens. All you need is seaweed, water, a lidded container, time and patience. The amount of seaweed tea you make is only limited by the size container you use and the amount of seaweed you want to collect. An old 5 gallon bucket with a lid is ideal for making your first batch.

When harvesting seaweed try to avoid patches covered in sand or containing plastics and other debris. Rinse the seaweed with fresh water to remove the bulk of the salt. Fill your container almost to the top with seaweed. Add enough fresh water to cover the seaweed. Find an old sturdy stick and stir it around. You will need to stir/plunge the seaweed every couple days. The process can take from a few weeks to a couple months to complete. Be aware, this process will create a strong odor, hence the need for the container with lid. For the sake of a happy family and happy neighbors, make sure to place your container in an area that won't be offensive to their sense of smell or sense of humor! You will know when the process is complete when the heavy ammonia smell has disappeared. Strain off the liquid into another container. This can now be used in your

garden at a 4:1 ratio, four parts water, and one part liquid fertilizer. You can re-use the seaweed to make a second batch of seaweed tea or simply add it to your compost bin.

Yet another use for freshly collected seaweed is as a top dressing or mulch in the garden. Rinse the seaweed and incorporate it between the rows. I wouldn't advise using it around small tender seedlings. Not only will the seaweed act as a fertilizer but as it dries and becomes hard and brittle it also acts as a barrier to snails and slugs which resist climbing over the sharp edges. If planting activity in your garden is winding down for the summer you can place a layer of seaweed over the garden and leave to rot down. The seaweed will help keep certain weeds from sprouting up, prevent the soil from drying out and give your garden a great organic boost for the next planting season. Go for the gold!

Author's Note: If harvesting seaweed from beaches, please do so in a sustainable way. Seaweed is an important component that helps with the integrity of our beaches by holding the sand and dunes together.

Tommy Sinclair
Agricultural Officer

EXPLORATION AND DISCOVERIES ON OUR DEEP REEFS

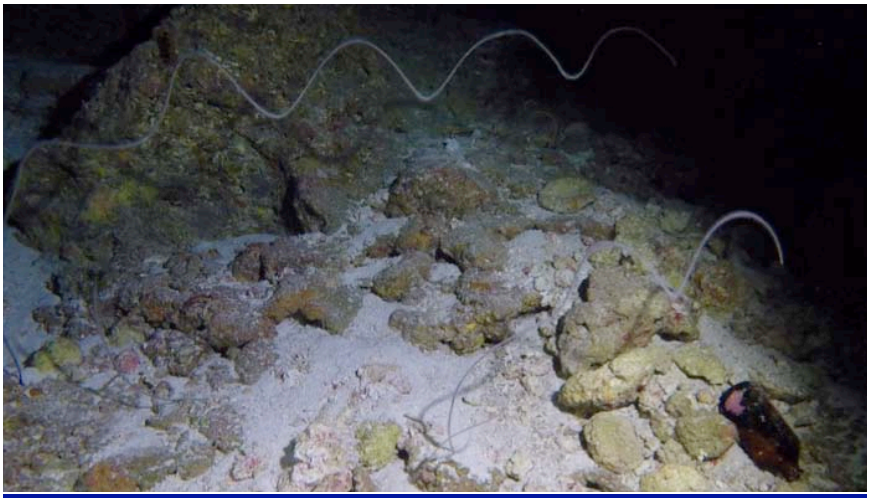
A major scientific expedition took place in Bermuda during the summer of 2016 - the NEKTON *XL Catlin Deep Ocean Survey to Bermuda and the Western Atlantic*. This first NEKTON mission received a great deal of press coverage locally and internationally as highly trained technical diving teams from Project Baseline along with scientists in a pair of submersibles, all equipped with video cameras, recorded the biological diversity (algae, corals and fishes) on our reefs at depths from 15 m down to 305 m (50 – 1000 ft!). The technical divers conducted 50 m long transects at 15 m, 30 m, 60 m and 90 m depths, while 100 m long transects were recorded by the subs at several depths between 130 m and 300 m. More than 75 video surveys were done across the various depths at five different sampling locations around the Bermuda platform: on Plantagenet (Argus) Bank, at Tiger Reef (SW edge), off Spittal Pond in the middle of south shore, the XL Catlin site (SE edge), and to the Northeast of the island. These surveys covered nearly 19 km of reef surface altogether.

The Triton submersible used in the surveys (Photo: Nekton)

In addition to the opportunity to work with leading scientists from around the world, NEKTON provided submarine dive time for ourselves and Chris Flook (BAMZ and now BIOS) so that we could see the deep reefs directly and be able to add our experience and knowledge to the analyses and interpretation of the results. A number of other scientists took advantage of the opportunity provided by this level of field support to deploy novel research instruments, and NEKTON also helped fund BIOS scientist and technical diver Dr. Gretchen Goodbody-Gringley of BIOS to expand her study of the growth patterns of deep water hard corals in the "low-light" mesophotic zone.

Chief Scientist Professor Alex Rogers (Oxford University) led a team of researchers through a detailed analysis of the video records and some of the results have recently been published. The video footage documented 4 new deep reef fishes not previously recorded in Bermuda (*Gephyroberyx darwinii*, Darwin's slimehead; *Ostichthys trachypoma*, bigeye soldierfish; *Prognathodes* cf. *guyanensis*, French butterflyfish; and a small *Squalus* sp. shark known as a spurdog), and noted the presence of invasive lionfish across all depths and as deep as 304 m. Importantly, it gave us a much clearer picture of how distinctive the fish community is below 125 m. This work helped to demonstrate that the so-called rariphotic (= very little light) zone fish community that had recently been discovered in Curacao was actually a wide-spread phenomenon. Somewhat disappointingly, it also demonstrated that human impacts in the form of trash and fishing debris are fairly common, even in our deeper waters. You can read more about this at https://www.frontiersin.org/articles/10.3389/fmars.2019.00307/full .

Deep reef fishes. Clockwise from left: lionfish (*Pterois sp.*), Darwin's slimehead (*Gephyroberyx darwinii*) and roughtongue bass (*Pronotogrammus martinicensis*) (Photo: Nekton).



Soft corals and trash at 100 m depth near Tiger Reef (Photo: Nekton).

The coral communities also changed remarkably with depth, with distinctive communities of soft corals found below 100 m. Nekton has published a Deep Reef Benthos of Bermuda Field Identification Guide,

assembling a catalogue of images from the video records. (https://figshare.com/articles/Deep_Reef_Benthos_of_Bermuda_Field_Identification_Guide/7333838).

While some corals can be identified by their distinctive shapes and colours, others remain enigmatic.
Specimens collected by the technical divers and the manipulator arms on the subs allowed for more careful assessment of the diversity of the invertebrate community, with over 400 biological and geological samples deposited in the Natural History Museum and additional materials distributed to taxonomic experts for identification. Many of these specimens were used to confirm what was observed in the video records. To date, new Bermuda records for five species of black coral, a type of deep water soft coral, have been published. Long-time Bermuda algae researcher Craig Schneider has also published descriptions for a remarkable nine species of deep water algae that are entirely new to science, and found some interesting connections between Bermuda's deep algae species and groups that have only previously been found in the Pacific Ocean!

Anatomical details of *Distichopathes filix* – this is the first record of this soft coral in Bermuda (Photo: Nekton).

On the deep slope, there are few safe places for small animals to live, because the surface is either hard and exposed, or covered in a film of fine sediment and therefore unstable. As a result, many smaller invertebrates cling on to, or burrow into, other larger organisms, such as soft corals and sponges, that are attached to the substrate. Many of these so-called commensal organisms are filter feeders, and being associated with these larger hosts also allows them to access areas with more water flow, which helps them feed. The work on these sponges, worms, crustaceans and other invertebrates is ongoing, and there are guaranteed to be some further surprises.

Tube-dwelling sabellid polychaete, which was attached to a sponge at 150 m depth offshore of Spittal Pond (Photo: Joanna Pitt)

Squat lobster (about 1 cm long!) that was living on the same sponge (Photo: Joanna Pitt)

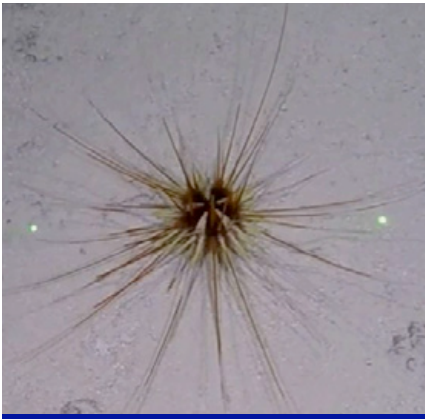
Project Leader Oliver Steeds is rightly proud of having accomplished such an ambitious set of science goals and focused the attention of media around the world on the deep ocean, which has often been ignored.

NEKTON's work in Bermuda has also demonstrated the value of a coordinated scientific mission such as this, and a key output has been the development of standardized protocols for conducting similar work in the future. In fact, NEKTON began their second major mission around the Seychelles Islands in March of 2019. This successful collaboration has revealed much about our own deep reefs, giving us the opportunity to consider how best to manage and conserve them, and is now benefitting other locations.

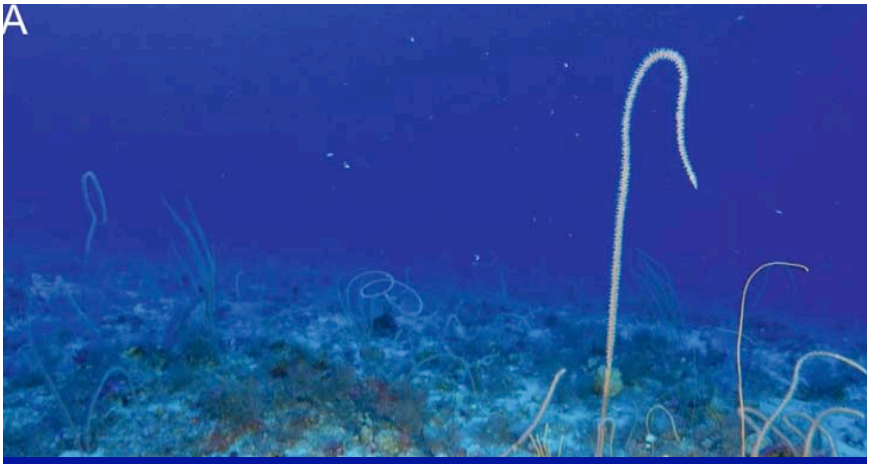
For more about the Nekton Missions and their current work, visit www.nektonmission.org.

Dr. Joanna Pitt, Marine Resources Officer & Dr. Robbie Smith, Curator Natural History Museum

Polygon moray (*Gymnothorax polygonius*) (Photo: Nekton)

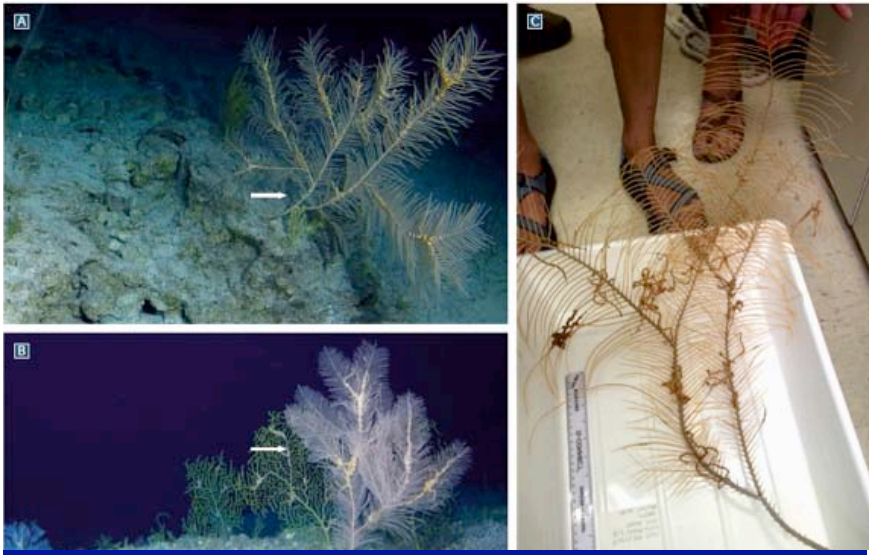


Sea urchin *Coelopleurus floridanus*, at 250-300 m (Photo: Nekton)

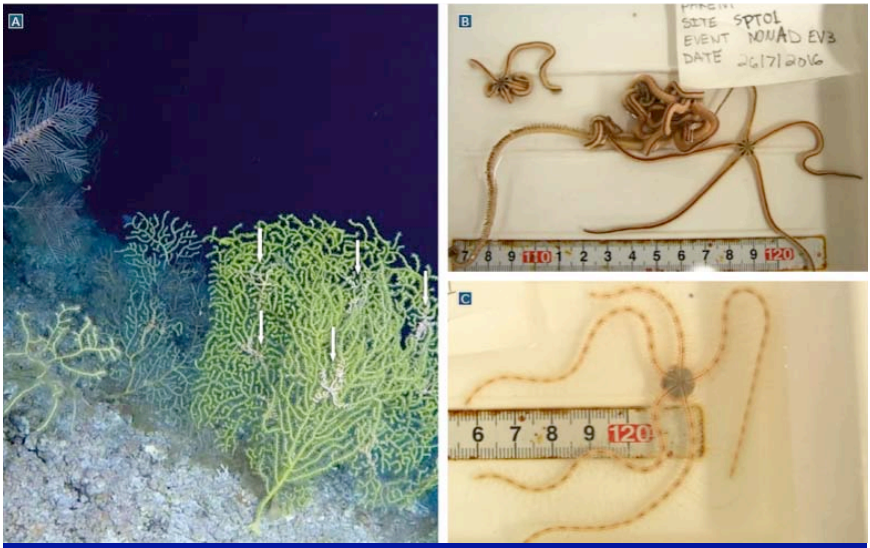


Wire coral *Ellisella elongata* at 90m off Spittal Pond (Photo: Nekton).

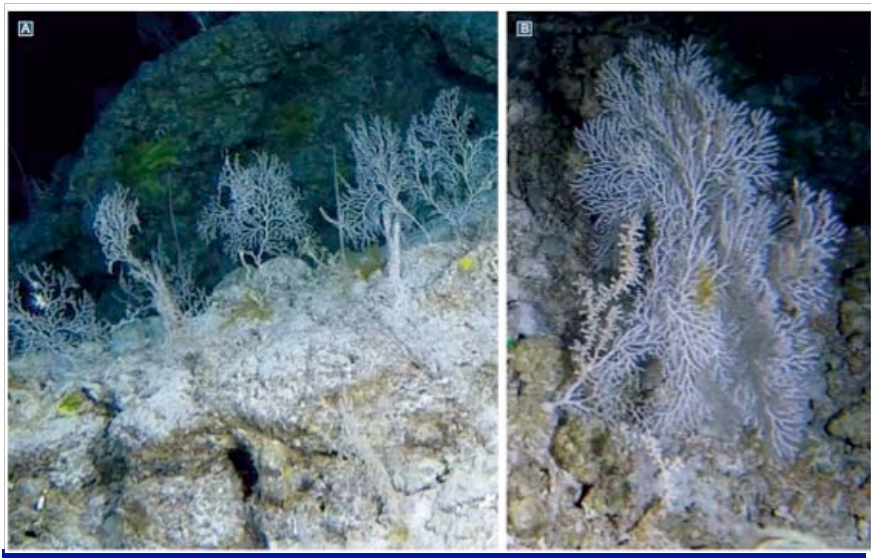
Soft coral *Placogorgia* at 200 m (Photo: Nekton)



Callogorgia sp. soft coral with commensal sea stars at 195-250 m (Photo: Nekton)



A *Placogorgia* soft coral at 180-300m. On the soft coral were a brittle star *Asteroschema oligactes* (top right) and a second brittle star *Ophiothrix suensonii* (bottom right). (Photo: Nekton).



Soft coral *Hypnogorgia* sp. at 145-303 m depth (Photo: Nekton).

NEWS & NOTICES

Spearfishing Reminder

The annual licensing period for recreational spearfishing runs from September 1 through August 31 of the following year, and DENR will be taking applications for 2019-20 licences from Monday, August 5. Recreational spear fishers are reminded that their spearfishing statistics should be submitted monthly using the online portal at www.fisheries.gov.bm. Statistical reports must be up to date before applying to renew your licence. Please call 2935600 or email fisheries@gov.bm if you are having difficulties accessing the portal.

Recreational lobster diving

The 2019-20 lobster season will begin on Sunday, September 1. DENR will be taking applications for recreational lobster diving licences for the upcoming season at the main offices in the Botanical Gardens from Monday, August 5.

Please note that if you held a lobster diver licence for the 2018-19 season and did not submit any statistics then you will NOT be granted a licence for the upcoming season. This decision has been made at the ministerial level, in consultation with the Marine Resources Board, and exceptions cannot be granted by DENR staff. Anyone who acts in an abusive manner towards any staff member will be given a two-year suspension.

Heatwave Lionfish Tournament

Blue Water Divers and the Bermuda Lionfish Taskforce will be hosting the Heatwave 2019 lionfish tournament on Sunday August 18th (weather date August 25th), at Robinson's Marina, Somerset Bridge. Holders of valid lionfish permits may register at Makin' Waves Hamilton Store (with $30 in cash), by Saturday August 10th.

ENVIRONMENTAL CALENDAR SUMMER 2019

JULY 2019

July 26th: International Day for the Conservation of the Mangrove Ecosystem

The International Day for the Conservation of the Mangrove Ecosystem, adopted by the General Conference of UNESCO in 2015 and celebrated each year on 26 July, aims to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem" and to promote solutions for their sustainable management, conservation and use.

Mangroves contribute to the wellbeing, food security, and protection of coastal communities worldwide. They support a rich biodiversity and provide a valuable nursery for fish and crustaceans. Mangroves also act as a form of coastal defense against storm surges, rising sea levels and erosion. They are highly effective carbon sinks, sequestering vast amounts of carbon.
Take the time on this day to appreciate a mangrove!
https://en.unesco.org/commemorations/mangroveday

AUGUST 2019

August 17th: National Honey Bee Day

Celebrated the 3rd Saturday in August, this day celebrates beekeepers and honey bees and recognizes the contribution they make to our everyday lives. Did you know bees are responsible for more than 1/3 of the food we eat?
http://www.nationalhoneybeeday.com/

August 22nd: National Take Your Cat to the Vet Day

As humans, we tend to take our health pretty seriously. But when was the last time you took your cat for a general checkup? If the answer is 'you can't remember' then use today as a gentle reminder to get your feline friend booked in for a health check. National Take Your Cat To The Vet Day on August 22nd is the day used to remind cat owners to pay a visit to the Vets.

SEPTEMBER 2019

September 21st: World Cleanup Day

The 3rd weekend in September is World Cleanup Day.
In Bermuda, events on this day are led by KBB, who will host their annual coastal cleanup on September 21st. Sign up here:
http://www.kbb.bm/cleanupsep.htm

PLANTING CALENDAR – WHAT TO PLANT IN THE SUMMER...

VEGETABLES

July: Beans, Carrots, Tomato

August: Beans, Broccoli, Brussel sprouts, Cabbage, Carrots, Kale, Leeks, Mustard Greens, Pepper, Radish, Rutabaga, Tomato

September: Beans, Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Celery, Chard, Cucumber, Eggplant, Kale, Leeks, Mustard Greens, Parsley, Pepper, Potatoes, Radish, Rutabaga, Tomato, Turnip.

FLOWERS

July: Celosia, cosmos, gazania, globe amaranth, impatiens, marigold, salvia, snow-on-the-mountain, vinca and zinnia.

August: Celosia, cosmos, gazania, globe amaranth, impatiens, marigold, salvia, snow-on-the-mountain, vinca and zinnia

September: Celosia, cosmos, gazania, globe amaranth, impatiens, marigold, salvia, snow-on-the-mountain, vinca and zinnia.