Bermuda Botanical Society

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FEBRUARY NEWSLETTER 2023

FROM THE PRESIDENT:

2023 got off to a great start for the BBS – a deep insight into the risks facing Bermuda's endemics from member and former Conservation Officer Alison Copeland, presently working on her PhD in UK. Quite an eye opener when Alison pointed out that some of Bermuda's endemics are only found in 3 or 4 isolated spots in Bermuda – and that's it for the entire planet! The rising sea level, and king tides experienced in recent years here have stressed Bermuda palmetto and cedars at Paget Marsh, threatening the species which live on the palmetto hummocks – particularly Bermuda sedge (*Carex bermudiana*) and Bermuda Campylopus moss (*Campylopus bermudiana*).

End of January saw the visit of Andrew Street, Palm Curator, Montgomery Botanical Center, Florida. The BBS had recently installed the Tree Tales Series 3 signs at the BBG Palm Collection, and there was some debate over the actual species of some of the palms – hence the invite to Andrew. He was extremely busy with visits to the Government House Palm Collection, 3 Government Parks, which included a meeting with BBG staff to discuss identification & care of the palm collection there, a meeting with BBG student volunteers, visits to 2 private collections, and a day visiting BNT properties with Head of Natural Heritage Myles Darrell. Many thanks to Marlie and the team that made the Tuesday evening reception such a success, and to Jen Lyne and Tracy Gibbons for opening Palm Grove to BBS members (photo right).

Thanks to Carol Lee for sorting all the immigration requirements, and to Lisa Greene and Camilla Stringer for facilitating the very well attended presentation at BAMZ, and later in the week a 'behind the scenes' tour of the aquarium for Andrew – a highlight of which was Andrew's introduction to the Galapagos tortoise – he has quite a collection of varied tortoises at his home in Florida!

Members of BBS are also on the Bermuda Botanical Gardens Steering Committee, and volunteering as Friends of the BBG – at the moment working on clearing the Cacti House of invasives, along with the students who are working on a school project on invasives and their control.

Endemic/Native area – the yellow alder – the introduced, now invasive ornamental – has been replaced with *Turnera ulmifolia* and replacements are being sought for the Doc Bushes that sadly died. Regular facebook posts made on the progress.

Can you help?
Help needed with the Endemic/native area – even an hour a month would be useful.
February dates: Saturday 11 & 25, 9 – 11 am or whatever time you can manage.

FBBG regular work at the Cacti and Exotic Houses in the BBG

Seed Saving/Propagation: also looking for people interested in propagating natives and endemics. We're just in the planning stage but would be useful to gauge interest.

Email bdabotanicalsociety@gmail.com if interested in any of the above – subject line HELP

Quick quiz: What's the largest carnivorous plant?

Jennifer Flood.

Southlands tour.

Hippeastrum, January Lily or James Lily, a hybrid reportedly raised by a Mr Harley James of St George's in the early 1900's. Flowering spectacularly at Sunnylands.

Phoenix sylvestris cluster at Palm Grove

In Our Garden - Darrell's fleabane *Erigeron darrellianus*

Words and photos by Diana Chudleigh

If you wish to grow and encourage an endemic Bermudian plant in your garden, then Darrell's fleabane is a good choice as it is attractive, easy to grow and tolerant of drought and poor soils. And as it is on the Bermuda Government's "Red List" of threatened endemics, it is an important plant to encourage.

An endemic is a plant that has been isolated so long in Bermuda that it has evolved into a unique species which were found nowhere else before man's arrival on Bermuda.

Darrell's fleabane is named after a Bermudian Darrell, though there is some uncertainty as to which one.

Nathaniel Lord Britton, an American botanist and co-founder of the New York Botanical Garden, wrote in '*Flora of Bermuda*' published in 1918 that the Hon J K Darrell in 1912 sent several young Erigeron plants to the New York Botanical Garden to be identified. However, there does not appear to be a "J K Darrell" amongst genealogist Margaret Lloyd's comprehensive Darrell family tree.

It couldn't have been named after well known Chief Justice John Harvey Darrell as he died in 1887.

Both Margaret and his great-grandson, historian John Cox, suggest that it was probably named after Joseph D W Carlyle Darrell. He was known as Carlyle rather than Joseph. Britton may have assumed that Carlyle was spelled with an initial "K".

Carlyle Darrell (1866-1940) was manager of the Bank of Bermuda and became its president. He was also responsible, according to John Cox, for introducing to Bermuda the Darrell's cedar *Juniperus silicicola* from Florida, Jacaranda *Jacaranda mimosifolia* and the invasive Indian laurel *Ficus microcarpa*.

Fleabanes have a curious scent which is believed to be repellant to insects. It is not known whether they were used in Bermuda to get rid of fleas though they were used elsewhere.

I obtained my first Darrell's fleabane many years ago from an exchange bench at the Garden Club and it has since flourished and seeded itself all over our garden. The donors of the original plant died some years ago but I remember them as I enjoy its blooms.

Darrell's fleabane is a small shrub that grows to about 1.5 foot tall. It is a member of the *Asteraceae* or Daisy family. It flowers in the Spring, usually around April, and is propagated by seed.

"To encourage and support the study and promotion of the botanical sciences within Bermuda"

A Selection of Plants from Parua Bay, New Zealand

Photos and text supplied by Keren Lomas

These plants were all growing in Parua Bay, on the east coast north of North Island.
They just struck me as being so very different from our flora.

Spider flower *Grevillea robusta*, the largest species in the genus. Family Proteaceae
A native Australian tree that grows naturally in northern NSW and southeast Queensland.

unripe seed pods

ripe seed pods

Texture of silky oak tree timber, used in California for making guitars on account of its tonal and aesthetic qualities

Grevillea rosmarinifolia found on rock garden
Family Proteaceae

Grevillea x Gaudi's Ghost - on this one the tooth-shaped flower is more evident

Tree aeonium, part of a private garden but at the side of a public path. Quite commonly seen.
Family Crassulaceae

Purple toadflax. An erect perennial with stiff stems and pale green leaves, it bears tall dense flower spikes of dainty pale purple flowers, each with two lips and spurs, rather like snapdragons. It's extremely attractive to bees and butterflies, and makes a beautiful cut flower.

5 leaf plant

Campsis grandiflora, Found on the roadside
Family Bignoniaceae

Flower dust plant on wall on roadside. *Kalanchoe pumila* is a dwarf flowering succulent that belongs to the Crassulaceae family. The epithet 'pumila' is a Latin word which means dwarf or slow-growing. It is a perennial succulent that is very easy to grow and does not require much care and attention.

Acanthus mollus - Commonly called Bears Breeches. Naturalised in NZ in 1958. Considered a pest because, among other things, it shades out native plants and is easily dispersed by water and birds. Preferred areas: shady areas and river banks, roadsides and pastures

Actinidia deliciosa - Kiwi vine Family Actinidiaceae

Phormium is a 2-plant genus in the family Asphodelaceae: *Phormium colensoi* and *Phormium tenax*. The former is endemic and the latter native in New Zealand. Tui, bellbirds, saddlebacks, short tailed bats, geckos and several insects enjoy its nectar. It is the New Zealand flax in the photo or *Phormium tenax.*

Two Hazels

Text and photos by George Peterich

The Common Hazel and the Witch Hazel are plants that have flowers in winter when they don't have leaves

Common hazel

Witch hazel

Both are called Hazel and they do have something in common, especially the leaves are very similar. But there is a difference that makes one think whether they are related at all.

The catkins on the Common Hazel are definitely male flowers. But where do the hazelnuts grow? Very close examination reveals the female flowers that are miniscule. With a magnifying glass one can see they are tiny buds with the red tufts.So the Common Hazel is monoecious!

The Witch Hazel, on the contrary, has hermaphroditic flowers. The four attractive fine and curly yellow petals, are surrounded by four shiny red-brown sepals. To see the tiny male and female parts in the flower again a strong loupe is needed; only the four stamens are visible with the the naked eye.

Conclusion : because of the flowers, the Common Hazel and the Witch Hazel cannot be of the same family. Their scientific names are: *Corylus avellana* (Common) and *Hamamelis virginiana*.(Witch)

Common hazel - female flowers (red tufts)

Corylus is the old Latin name, so it is European,
and it is clear that the Witch Hazel originates in America.
I found on the Internet, that the name Witch Hazel has nothing to do with witchcraft. It is a derivation from old English “wice” or “wiche” which means pliant or bendable. Early English settlers found that the branches of the witch hazel could be used to divine for underground water, much as the hazel bush (*Corylus*) was used back in England.

Forests of Bermuda

Text by Gary Taylor, M.F.C.

I have recently been asked what the M.F.C. stands for after my name. Those are post-nominal letters that refer to my latest academic degree. I earned a Master's degree in Forest Conservation from the University of Toronto in 2021. Since I returned to Bermuda two years ago, I have enjoyed talking about my postsecondary education. Unfortunately, a few people have told me that we don't have any forests in Bermuda.

Relatively speaking, our forests (which covered approximately 18.5% of the island in 2020 according to ourworldindata.org) are nothing when compared to what they were 400 years ago or to those of Canada (38.7%), the Bahamas (50.9%), or Jamaica (55.1%). That 18.5% is quite significant for a country as developed as Bermuda and is certainly something to be very proud of. Our forests cover more area than forests in almost 100 other countries.

Another source of pride in Bermuda is the fact that we have over 50 nature reserves. These are protected and maintained by the government and organizations such as the Bermuda National Trust, the Bermuda Audubon Society, and many volunteers. Add to these the various private and public gardens and no one on the island has to walk more than a few minutes to see a natural area.

Also a reason to boast is the uniqueness of many of the inhabitants of Bermuda's forests. We have many endemic plants, from ferns such as the Bermuda shield fern and Governor Laffan's fern, to trees and shrubs like the Bermuda cedar, and olivewood bark. Nowhere else in the world can you naturally find Bermuda skinks, Bermuda land snails, or any of the endemic cave shrimp that are found in our many caves.

Unfortunately, many of our forests are dominated by invasive plants which hinder the endemic species. The most obvious are the casuarinas and Mexican peppers, but there are many more. Invasive plants grow faster than our natives and endemics, forming vast stretches of almost monoculture forests that do not allow native plants to grow and flourish, severely limiting biodiversity. We might not be able to completely eliminate them, but we can control them by removing as many as we can and replacing them with native and endemic species to promote more diverse forests.

Though we don't have the towering redwoods of the Pacific Northwest or the extensive rainforests of South America, there are multiple types of forests in Bermuda. There are coastal forests, rocky coastal and beach dune forests. Wetlands on the island have their own unique forest types. We even have upland, valley, and hillside forests. From manicured gardens like the Botanical Gardens to the remnant native woodlands such as Hog Bay Park, we are blessed with many beautiful forested areas.

Our forests should be appreciated for all of the benefits that they provide, to us and the environment. The trees and other plants sequester carbon from the atmosphere, helping to ease the effects of climate change. They provide shelter and food for endemic and native creatures as well as butterflies and birds that are blown off their migratory courses by storms. (The recent visit by a bald eagle is a perfect example.) Tree roots control erosion, which is particularly important here with our shallow soil. Mangrove forests on our shores protect those shorelines from coastal erosion and provide shelter underwater for breeding marine wildlife and above for land crabs and birds. Fallen leaves and branches help to build nutrient-rich soil and provide food and shelter for various insects. Endemic Bermuda petrels may have once nested in burrows formed by fallen Bermuda palmetto leaves.

Whether you notice them or not, our Bermuda forests are a source of local pride, are beneficial, and are simply beautiful to see.

View of Paget Marsh L. Greene

View, hillside east of Brighton Hill, Dev. L. Greene

Meet the *Uresephita* caterpillar – & its friend, the native Coast Sophora

text and photos - Lisa Greene

You may not be a fan of the caterpillar but there's a silver lining to it - There's another way that coast sophora might be better able to withstand periods of summer drought. David Wingate (pers. comm.) has coined the term "insect-deciduous" to describe this plant because, in the summer, many of the leaves are eaten by the caterpillar of a particular moth.
Dr. Wingate feels this defoliation may be advantageous to coast sophora because it makes the plant effectively 'deciduous' and may help it ride out the drought."

"To encourage and support the study and promotion of the botanical sciences within Bermuda"

Have you seen this plant?

It is Parlour Oak, *Buddleja indica*, and might be naturalizing (self-seeding) in Bermuda. If you've seen it, can you please send an email to elgreenebda@icloud.com with location and date or whatever information you can provide.

Light Pollution

Marijke Peterich

I am sad to see the light pollution in Bermuda. Hamilton is aglow at night. Where are our beautiful star filled skies?

Too much light pollution has consequences:

- It washes out starlight in the night sky
- Interferes with astronomical research,
- Disrupts ecosystems*
- Has adverse health effects
- Wastes energy

This is how we can help:

- Only use lighting when and where it's needed
- If safety is a concern, install motion detector lights and timers
- Properly shield all outdoor lights
- Keep your blinds drawn to keep light inside

*From the Florida Fish & Wildlife Conservation Commission

Artificial light has several general effects on wildlife:

- Attracts some organisms (moths, frogs, sea turtles), resulting in them not being where they should be, concentrating them as a food source to be preyed upon, or just resulting in a trap which exhausts and kills them
- Repels some organisms, excluding them from habitat where they might otherwise make a living. Makes it a form of habitat loss.
- Alters the day/night patterns, resulting in not getting enough sleep, not having enough down time for the body to repair itself, alters reproductive cycles

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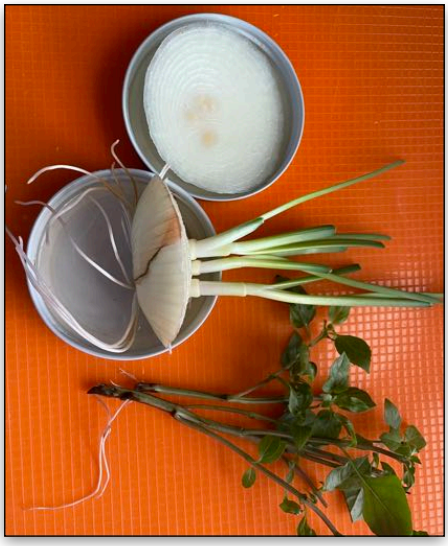
Children's Corner
from Felicity Holmes

Why Toss Veggie Kitchen Scraps – Regenerate them!

It's fun to watch veggie scraps sprout. Place tops of vegetables like carrots, bottoms of veggies like onions or stems of herbs in water on a sunny windowsill, replace water daily for about 10 days. When the foliage and roots appear, plant them in soil to grow fresh produce!



Onion and basil

Try re-growing onions, leeks, garlic, celery, carrots, beets, lettuce, potatoes, cabbage, ginger, radish and stems of herbs. Scraps from locally grown produce grow best.

Carrots

You can also plant scraps straight into the ground. This YouTube video explains how.
https://www.youtube.com/watch?v=_q_thcYfyvk

Try reducing your food waste. Scraps could also be made into a soup broth or added to your compost to make a rich fertilizer!

Veg Pot Pie

Vegan, Gluten-Free, Wheat-free ~ Choose local organic ingredients for best results
2 large or 6 small servings, Prep & Cooking Time = 75 minutes

Ingredients for savoury pastry:

1 cup brown rice flour
1 cup garbanzo & fava flour
1 cup arrowroot starch
1 tsp xanthan gum
1 tsp sea salt
1/2 cup vegan buttery stick
1/2 cup vegan shortening
1/2 cup cold water

Method for savoury pastry:

1. Into a mixing bowl, sift together flours, starch, and xanthan gum.
2. Cut-in small chunks of vegan butter and shortening with knives or pastry blender or using a food processor, add chunks and pulse once to blend between additions.
3. Add splashes of cold water, blend for a few seconds and turn out into waxed paper, chill.

G-F pastry is not elastic like regular pastry. It breaks easily but can be mended by pressing with fingers. Suggest working with it in small amounts keeping dough well-chilled. Flour surface and rolling pin well, use a large jar lid or bowl rim to cut discs to size and transfer to tins with a spatula.

Ingredients for filling:

2 tbsp olive oil
1 Bermuda onion, diced
2 cloves garlic, minced
1 tbsp dried sage, minced
1 tbsp dried thyme
3 tbsp gluten-free tamari
1/4 cup Bob's Red Mill garbanzo & fava flour
2 cups gluten-free vegetable stock
3 cups fresh/frozen mixed veg (peas, carrots, corn)
1 cup frozen or freshly roasted butternut squash
1 cup quorn (vegan mince), cooked
Sea salt to taste
Non-dairy milk for brushing pastry tops

Method for filling:

1. Prepare whilst pastry dough is chilling for at least 1 hour.
2. In a large saucepan heat oil, cook onions, then stir in garlic, quorn, and spices.
3. Add tamari and sprinkle flour over mixture, cook for a few minutes.
4. Add stock, cook uncovered stirring occasionally until thickened, about 15 minutes.
5. Add vegetables and seasoning, cook until veg are heated through, remove, cool slightly.
6. Roll out chilled dough on floured surface to ¼" thickness, cut discs and line pie tins.
7. Scoop filling into tins, add top, seal edges with wet fork/fingers, brush on non-dairy milk.
8. Bake at 375 F for 40 minutes, until golden brown.

Cont.

Pot pies are best served with pickles and a crispy side salad and make a satisfying comfort food for lunch or dinner, especially on a cool winter's day. Store in fridge or freezer.

Contributed by Marlie & Jocelyn Powell, Vegan/Vegetarian chefs at Kingston House B&B
KingstonHouse@BBBermuda.com

If you haven't renewed your membership … Membership can be renewed at the AGM, but the Society now has a presence on BDATIX where membership can be renewed easily.

MEMBERSHIP RENEWALS due annually in August.

Just a reminder that, though the MEMBERSHIP form is available on the BBS Website, PAYMENTS *CANNOT* be made directly from the website. It is simply not cost effective for the Society. Please make a direct debit, giving your name from your bank account or send a cheque. Apologies for any confusion or frustration this may have caused. Many thanks to those who have already renewed.

Events

February 19th: Sunday afternoon (rain date 26th): Join us for a **Tail-gate Tea** - an outdoor opportunity to plant-swap, book-swap, tool swap and catch up with fellow members. Bring your own thermos of tea (or preferred beverage). A few tea treats will be provided. Location: St. Georges, Penno's Wharf Parking Lot (enter near Godet and Young Hardware Store). Sign up: bdabotanicalsociety@gmail.com. subject: Tailgate

March 12th: Tour of Keren Lomas' Garden

April 8th: Save the date for a Tree Farm visit, further details later

Please email bdabotanicalsociety@gmail.com if interested in attending any of the above.

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