Bermuda Botanical Society

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FEBRUARY NEWSLETTER 2024

FROM THE PRESIDENT:

Palm Awareness Week II

Andrew Street, Palm Curator, Montgomery Botanical Center, Florida, arrived late Sunday evening and hit the ground running on Monday, meeting with George and Sandra Ogden, and Danny Simmons. Andrew had reviewed George's Survey and created a very useful document listing Bermuda's palms along with details of their care. It is a mine of information and will be posted on the BBS website.

Most of the week was given to touring the island to collect palm berries and update the survey. Weather was kind to allow a fascinating tour led by Trevor Rawlins taking in not only the very old stand of *Sabal bermudana*, (when I finally learned why my husband, as a child, and his siblings ate 'cockle berries' the ones on Trunk Island were quite juicy and tasted almost like raisins quite unlike any I'd tried before!) but the recently established *Rhizophora mangle* (red) and *Avicennia germinans* (black) mangrove areas, Sabals where markings which possibly indicated sap collection by early settlers, a newly discovered midden, thriving *Casasia clusiifolia* (seven year apple) shrubs and much, much more. Thank you Trevor Rawlins! Other areas included Tuckers Point, plant nurseries, Walsingham the Bermuda Botanical Gardens and several private gardens where interesting discoveries were made. Presentations included "Bermuda: Which Palm, Where and Why*: A planting and care guide to Bermuda's palms,* a joint venture with BZS, well attended, standing room only! A very lively – and somewhat controversial – discussion ensued. Thanks to Camilla Stringer and Stephanie Torro for facilitating this. The visit to Walsingham on Wednesday morning to identify a palm which turned into a wonderful tour of the area led by Alison Copeland, thank you. That evening, a members' only reception at Daylesford, followed up some concerns expressed in Tuesday's talk with a 'show and tell' highlighting the differences between Bermuda Palmetto and Chinese Fan Palm seedlings. Andrew also answered numerous questions concerning palm care, identification, and propagation. Thursday morning saw Andrew at the BBG in discussion with Parks Staff regarding the BBG Palm collection, and the importance and value of botanical gardens. A great opportunity for staff to ask questions, and express concerns. Torrential rains that day kept us all indoors, and a cancellation of the afternoon visits – but time was well spent cleaning the collection of berries ready for approval at DENR on Friday. Friday saw visits to private gardens and the necessary work at DENR for seeds to be sent to Montgomery Botanical Centre for propagation.

On Trunk Island, Trevor Rawson and Andrew with bags of palmetto berries (left) and old palmettos (right).

As I am sure you are all aware, palms (including palm seeds) are not allowed to be imported to Bermuda, as Andrew regularly emphasized. Therefore, to maintain the collection of plants propagation needs to take place. Some Palms he found are represented here by only one or two plants, many collections are of old palms, so really important propagation gets underway soon. Following his visit a number of people have expressed interest in this and it is hoped to follow up in a structured way with appropriate record keeping. As a side note, at a suggestion from Lisa Greene, records of the books and journals at the former BBG library were found online and will help Danny Simmons with his vital work on the libraries surviving documents. They include a number of historical references as to when and where many palms were planted.

Many thanks to Dr Patrick Griffith, Director, Montgomery Botanical Center, Florida, and Chad Washburn, Caribbean & Central American Botanic Gardens Network as this hugely successful visit could not have taken place without their support.

Locally, thanks to a number of Society members and others including but not limited to Marlie Powell, providing accommodation for Andrew, and excellent food at the Reception, Deb MacKenzie, Felicity Holmes and June Sousa who also assisted at the reception, Marijke Peterich, and drivers Jocelyn Morrison, Alex Smith, Jennifer Flood and Peter Lee. Thank you also to those who provided seeds for Andrew. He was very pleased to receive them. And finally thanks to all members who have supported the BBS by renewing memberships and making generous donations at various events. Your continued support is vital to the ongoing work of the BBS.

Jennifer Flood

Primary School Outreach Programme
Jennifer Flood

School Tours continue with Tour Guide Winifred Smith – these have proved very popular and give government school primary students 'outdoor classroom' opportunities at the Bermuda Botanical Gardens. The children are introduced to Bermuda's endemic and native plants, as well as learning about ornamentals, introduced and invasives. BBS is sponsoring the minibus transport.

Bermuda Botanical Gardens
Jennifer Flood

Endemic/Native area – most of the plants have settled in really well here though the *Baccharis glomerulifolia*, Doc Bush, needs replacing and a *Forestiera segregata* would be a nice addition. If anyone has one to spare it would be appreciated. Pleased to have a student volunteer join us in this work.
Next volunteer date: Saturday February 17th 9 – 11 am

Cactus/Succulent House: BBS volunteers have assisted here, the previous collection has been assessed, and once the roof is in place will be returned. Work has continued on the Library collection, and if you didn't already hear, Col. Burch announced that the former visitor centre will be renovated and house the library. Thanks to Danny Simmons for saving and ensuring the restoration of these important documents.

If you have not already renewed your membership, please consider doing so and support the work of the BBS 'To encourage and support the study and promotion of the botanical sciences within Bermuda.

Use BDATIX at https://bdatix.bm/memberships.html Direct payments can be made to BNTB 20 006 060 897188 100 please be sure to include your name and membership renewal. If contact details have changed please email BBS: bdabotanicalsociety@gmail.com Cheque to P.O. BOX HM 2116 Hamilton HM JX be sure to include contact details.

In our Garden - Allspice, *Pimenta dioica*

Words and photos by Diana Chudleigh.

Allspice is a slender evergreen invasive tree with glossy leaves which thrives in sheltered areas of the island and has some interesting local uses.

The seed of our tree was dropped by a passing bird in a relatively sheltered spot in our otherwise exposed garden. It suffers in storms but struggles on. Despite being an invasive, we keep it because of its attractive appearance, fragrant leaves and interesting history.

Its fresh leaves can be used as a substitute for Bay leaves, *Laurus nobilis,* found in the Mediterranean but difficult to grow in Bermuda. Allspice leaves have a strong taste and an interesting flavour. An unusual treat is to wrap fish in foil and bake with Allspice leaves.

The dried berries of the tree are ground to produce a useful spice that has the flavour of cinnamon, cloves, and nutmeg. Some locals are said to produce their own seasoning by grinding their own berries. I haven't managed to do that yet but find bought Allspice particularly useful at Christmas for spicing numerous festive dishes. Interestingly it is an ingredient in Jamaican jerk seasoning. The bark of the tree peels which gives it a bicoloured cream and light brown appearance. Sticks from Spice trees were used to make fish pots, back at the time when they were legal, and are increasingly used for rustic fencing as traditional cedar is scarce.

Allspice is dioecious*, trees are either male or female. Our tree is male and its flowers are heavy with pollen bearing stamens (photo left).

Pimenta dioica is native to the West Indies and Central America. It is not known who introduced it to Bermuda or when. An Allspice, growing at "Long House", is listed in his *Botany of Bermuda* by General Sir John Henry Lefroy, who was governor of Bermuda from 1872 to 1877. Long House, which was built by Samuel Wood between Bermudiana and Par-La-Ville roads, was replaced first by the Bermudiana Hotel and now by the Chubb and XL buildings.

Allspice has naturalised in sheltered inland valleys and has become monopolistic at Warwick Pond, the Bermuda National Trust's Sherwin Nature Reserve. There is a single specimen in the Botanical Gardens growing just inside the northern entrance to the Sensory Garden. It is on the west of the entrance and a similarly looking Bay rum tree, *Pimenta racemosa*. on the east. Both are members of the Myrtaceae family. Beware of planting it if your garden is in an area where it may become invasive.

L. Greene

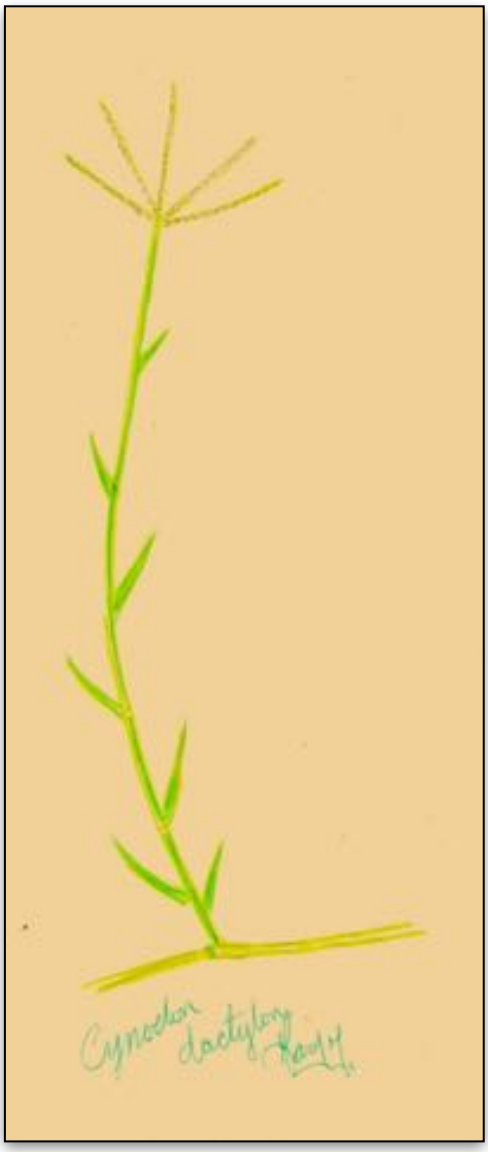
*Editor's note: Some sources say that the flowers have both male and female structures but the Missouri Botanic Garden describes the plants as either male or female (https://www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?taxonid=282860). If your tree doesn't bear fruit, take a close look at the flowers to see if they are male or female.

Under foot and underappreciated: Bermuda Grass – *Cynodon dactylon*

Text and drawing: Gary Taylor, MFC

Living in Bermuda, I thought that Bermuda grass would be fascinating to research and write about for our newsletter. It did not disappoint me. Its best-known common name is misleading, but it is a truly interesting member of the Poaceae family.

Having originated in eastern Asia, and/or eastern Africa, and spread throughout most of the world, it is easy to understand the many common names associated with *Cynodon dactylon*. It is known as quick grass, devil's grass, wire grass, scutch grass, couch grass, Bahama grass, dog grass, and dog's tooth grass (*Cynodon* is Greek for dog tooth, referring to the shape of its rhizome buds) and many more. Knowing its origin in the East, it is difficult to understand why its preferred common name is Bermuda grass. The natural history literature in Bermuda that I have read considers the moniker a mystery and it is locally known as crab grass.



Very few grasses were reported by early visitors to Bermuda in the 17th century and Bermuda grass was not one of them. It has been assumed that the grass made it to the West Indies from Africa on slave and other trade ships, making its way to Bermuda and North America from there. Because many people think that Bermuda is in the Caribbean, it is easy to see why they may have traced it from there and given Bermuda grass its most common common name.

Linnaeus listed the grass as *Panicum dactylon* in 1753 as a native of southern Europe, but it has been an important part of Indian culture for at least 3,500 years. It was known as the "shield of India" or "preserver of nations" because its tolerances made it a survivor in India's harsh climates and kept cattle fed when other feed-grains suffered. *C. dactylon* garlands are still used in wedding ceremonies in many parts of India as the grass symbolises long life.

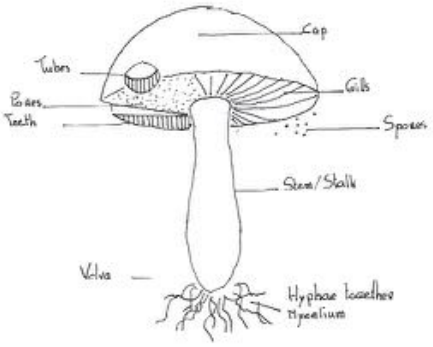
Most places that Bermuda grass has spread to, including the island of Bermuda, it is considered invasive, spreading quickly and outcompeting native and other introduced plants. It is difficult to kill, being drought, high temperature, and poor soil tolerant. It also recovers quickly when damaged. Its quick-spreading nature and many tolerances make it the perfect grass for sports turf. Hybrids of Bermuda grass make up the playing surfaces in twelve NFL and five MLB stadiums.

Bermuda grass is also medicinal. It has been used in traditional medicine for centuries. The rhizomes are used as a diuretic and the grass juice acts as an astringent. Even dogs have been known to eat it to induce vomiting when they have stomach issues. Studies have been done that have found that chemical constituents in *C. dactylon* can be used for central nervous issues, cardiovascular issues, as an antidiabetic, gastrointestinal, antioxidant, immunological, antiallergic, anti-inflammatory, antipyretic, analgesic, anticancer, dermatological, diuretic, protective, antimicrobial, and antiparasitic, to name a few.

I hope that this shows that something we so often ignore, unless we are a groundskeeper or homeowner with a lawn, can be quite interesting. Most have no idea where the grasses that we so often walk over, or watch our favourite sports teams play on, originated, much less what they are capable of. Though its name is misleading, Bermuda grass is truly fascinating.

How the mushroom developed a cap

This article was published in the NRC (Amsterdam newspaper) on 25th March 2019



The mushroom is about 180 million years old. Around that time a group of fungi started to change. At first they grew as a kind of crust on dead wood, slowly they developed a stalk and a cap. It turned out to be a very successful evolution. Very quickly new species developed in this group, which spread around the world. Thus according to an international group of mushroom experts in their magazine Nature Ecology and Evolution. They made an evolutionary family tree based on DNA of 5000 kinds of fungi, which belong to the Agaricomycetes. This is the group with the most diversity in types of mushrooms, with stalks and caps in different forms and sizes. The 5000 are representative of ¼ of the described Agaricomycetes. Up to now there are about 130.000 kinds of fungi described. According to a recent count there are worldwide 2.2 to 3.8 fungi. The unknown are microscopic small.

“A mushroom with a cap had a lot of evolutionary advantages”: says biologist J. Geml, one of the writers and a researcher at the Naturalis Biodiversity Centre in Leiden, the Netherlands. The spores which grow under the cap are better protected against rain and because of the stalk the spores could be dispersed further. Geml is of the opinion that the cap was first to develop and later the stalk.

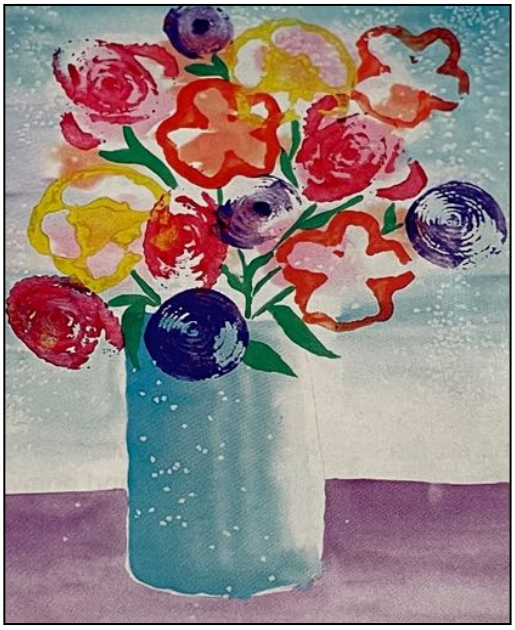
The 62 authors who have contributed to this article, thought that the rapid development of the Agaricomycetes happened due to the break-up of Pangea, the supercontinent that existed between 250 – 210 million years ago and later through plate tectonics disintegrated. Also during this period the weather was warm and humid - ideal for fungi. From the tropics the conifers started to spread. We think that many Agaricomycetes are bound to particular conifers. “Either they lived in symbiosis or they were specialised in breaking down dead wood of conifers”: says Geml, who wrote the thesis in 2004 and 2005) on which he graduated.

On the basis of DNA analysis the researches think that 150 million years ago, when earth was cooling down, Agaricomycetes started to decline gradually. Very poignant is the fact that when the meteor hit the Gulf of Mexico which caused many animals and plants to die out, the Agaricomycetes profited, because of rampant death of trees, which is a source of food for them. This peak of fungi has been described in “Science” magazine.

Also the researchers write that contrary to a well-known ecological theory that the number of species multiplies when one travels from the poles to the equator does not hold for Agaricomycetes. This group has the most representatives between the 20th and 40th latitude. According to Geml this has to do with pine and deciduous trees, with which many mushrooms are bound.

Children's Corner - from Felicity Holmes

Paint and Print with Veggies



Materials

- Watercolour paint and brush
- Tempera paint (for flower prints)
- White art paper (placed vertically) & a pencil
- Vegetables sliced across:

  bell pepper

  onion and

1. Draw a vase two thirds down the page.
   Then draw a line diagonally across the paper for the table behind the vase.
2. Use 'wet on wet' painting technique for background – wet the top of the paper down to the table line (leave the vase dry). Apply drops of watery paint onto the wet area and lightly brush with a wet brush across the page. It will make a light, faded background for the flowers. If you'd like to add texture, sprinkle the wet paint with a little salt in patches, brush off excess once it has dried.
3. Do the same technique for the table and leave to dry.
4. Brush water on the vase. Add paint to the left (or right) side of the vase then stroke the paint with a wet brush across the vase using vertical strokes so it looks darker on one side and lighter on the other.
5. Once paint is dry, paint the ends of your veggies with tempera paint and print the 'flower' shapes to make a bouquet. Add green stems and leaves.

Juliet enjoyed veggie printing, we hope you do too!

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

Crustless Veggie Quiche

Vegan, Gluten-Free, Wheat-free ~ Choose local organic ingredients for best results
Makes 1 x 8" Quiche, Prep Time = 10 minutes Bake Time = 40 minutes

Ingredients:

2 cups spaghetti squash, cooked
1 tsp coconut oil
1 large onion, chopped
1 cup fresh spinach, chopped
3/4 cup sharp cheddar cheese, grated
4 eggs, beaten
1/2 tsp sea salt
black pepper, freshly ground, to taste

Method:

1. Preheat oven to 350 degrees F and grease pie dish with coconut oil
2. In a large skillet, sauté onions in coconut oil until tender
3. Add spinach and sauté a few more minutes until tender, remove pan from heat
4. In a medium bowl, combine cooked, cooled squash and veg
5. Stir in beaten eggs, half the amount of cheese and seasonings
6. Pour mixture into pie pan and sprinkle the rest of shredded cheese evenly on top
7. Bake for 40 minutes. Quiche should be golden brown and crusty.
8. Cool 10 minutes before slicing into wedges and serving.

Variations: Other tender greens like chopped baby kale can be used. Other additions might include chopped sweet peppers, mushrooms, chopped zucchini, etc. It's possible to substitute other baked squashes but be mindful that some other vegetables can cause quiche to be too wet. Spice it up with a dash of Srirache sauce or chilli flakes to taste.

This simple, savoury quiche forms its own cheesy crust. It makes a delicious (healthy, lower calorie) winter dinner any day of the week. Leftovers can be stored in a sealed container for up to a week.

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

Events - A varied and interesting selection of activities over the coming months include:

March – To be announced

April - Red Barracks Garden visit, home of Michael Spurling - date to be announced

April 18th – 20th Agricultural Exhibition – BBS will have a stand here, looking for volunteers to help over the 3 day period – even an hour would be appreciated! Will also be looking for small . potted, examples of endemic, native and invasive species.

May - Carter House & Gardens Tour - date to be announced

Further details and sign-up requests will be sent separately closer to the dates.

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