



Bermuda Botanical Society

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MAY NEWSLETTER 2014

FROM THE PRESIDENT

AIR PRUNING

A problem with growing plants in containers is that when the root tips reach the container wall or base, their further growth is directed around the inside of the container. This can quickly lead to the plant becoming “root-bound” with the growing medium displaced or exhausted. Furthermore, if the plant is then planted out in open ground, or into a larger pot, the roots will tend to keep growing in circular fashion, resulting in the plant failing to prosper and being more susceptible to wind damage due to poor anchorage.



Hornbeam plants in air pruning containers

When planting out such plants, it is essential to try to tease out, or even prune, the roots to encourage them to grow radially away from the trunk. Some experts also advocate planting in square, rather than round, holes to further discourage circular root growth.

An ingenious means of preventing these problems is to use the technique known as *air pruning*. This utilizes the fact that if a root tip becomes dehydrated, by being exposed to the air, it dies and lateral roots start to form.

When in the UK recently, I visited a wholesale nursery, Crocus Ltd. in Surrey, that supplies plants to landscape design companies, including many that

exhibit at the annual Chelsea Flower Show. They use special air pruning containers, particularly for their larger specimens. *See photos.*

The sides of the containers are made from a roll of a perforated material which is cut to size and secured with fasteners. The base is raised from the ground on a pallet covered with a breathable cloth to prevent the base from staying moist, which would defeat the air pruning effect. A good air flow underneath the container is essential.

The material is made from injection molded plastic and shaped with dimples leading to each hole, so that the root tips are directed to the openings and thus the air. The dimpling also provides some shading to the sides of the container.



Detail of air pruning container material

The result is that root systems become more finely branched and the plants can be maintained for much longer in the nursery without becoming root-bound.

When the time comes to plant out, or grow on in a larger container, the fasteners are removed and the sides peeled back. This means that growth is unchecked and the plant less likely to be damaged, as might be the case in banging it free from a rigid container.

Nigel Chudleigh nchudlei@ibl.bm

Photos © Nigel Chudleigh

AT A LOSS IN THE JUNGLE

(OR FICUS, CONTINUED)

BY GEORGE PETERICH

For many years I have been trying to get full knowledge about the different species of Ficus that can be found in Bermuda. It is not easy!

There is a large Ficus tree on Harbour Road, across from Waterville, the National Trust Headquarters. It has drooping twigs and half-inch orange fruit (I should say “pseudo fruit”, but for simplicity I’ll use fruit or berries).



I thought that because of the droopy twigs it was Ficus benjamina, until I asked a botanist. It was not. Then I found out that F. benjamina has red fruits, and they are smaller.

I now know a few trees that fit the description: drooping twigs and red fruit.

There is one at the Ferry Terminal on Front Street, and another on St. John’s Road, just west of St John’s church. I have recently looked again at the latter. The colour of the berries is still somewhat pale at this time, but they will be bright red.

Now let’s face it: I am still at a loss. Can anyone tell me what that Ficus is with the orange fruit?

For every tree is known by his own fruit . . . (Luke 6:44). I quote this because it is proverbial, but it is taken out of context.

Photo © George Peterich

In Memoriam

From Canada the news has reached us that Allison Randall has passed away.

Allison was one of the founding members of the Bermuda Botanical Society. She had a great interest in natural history, volunteered for the Zoological Society, and was a tour guide in the Botanical Gardens even before the BBS was founded. I was on one of her tours of the Botanical Gardens when she told me that a Botanical Society was in the making, and she advised me to join. Since then we have been friends and I have learned a lot from her. Her enthusiasm was contagious, and even after she left Bermuda with her husband to retire in Canada, she stayed interested in what was going on here. She was a devoted gardener and also took a great interest in the animals that surrounded her.

Lisa Greene, who knew Allison even before I did, remembers from as early as 1983 (when she first went to work in the Botanical Gardens) that Allison often came

to her in her office and peppered her with questions. Lisa recalls that together they delved into the books in the Library for the answers and she gives Allison credit for inspiring her and starting her on her journey to learn about Bermuda’s flora.

Allison came back to Bermuda a few times to visit (and ask questions).

We exchanged Christmas greetings and she always wrote a long letter with the card that she sent, telling about her life and asking many questions again, so in January I always wrote a letter back, answering her questions one by one.

Allison will be remembered for a long time

George Peterich

THE BERMUDA NATIONAL LIBRARY...

... is in the process of digitizing all back issues of the Royal Gazette, and its predecessors, and making them available online at : <http://cdm16347.contentdm.oclc.org/cdm/landingpage/collection/BermudaNP02>

Presently, they are up to about the year 1920. My wife, Diana, by way of entertainment during a recent convalescence, started reading through all back issues from the first one published in 1784. She came across the following letter which appeared in the Bermuda Gazette and Weekly Advertiser on Saturday January 3, 1795. I thought it might be of interest to our readers.

Nigel Chudleigh

For the BERMUDA GAZETTE

PUMPKINS

Mr. Stockdale,

In the month of June last I finished preparing a piece of ground, intended for a fruit garden, situated on a hill, much exposed to bleak winds, which, before I undertook the work, was for the greater part rocky, and shallow of soil, but here and there some deep holes of mould.

My first operation was to reduce with a pickax the rocks that appeared above ground, on a level with the surface. I then divided the piece of ground into sundry beds or borders, as it would admit; in the whole about three roods (*three quarters of an acre*); and laid them out in walks about six to eight feet wide. I took all the soil that I could from these walks and spread (it) over the beds or borders, together with the soil procured from the holes; then leveled the whole, and filled up the walks with stones and gravel.

The beds and borders thus being prepared, I opened trenches as near together as the depth of soil would admit, and filled the same with green weeds, which I sprinkled over with plenty of salt water, and then covered the trenches with earth and leveled the whole for planting. Thus prepared, I planted all round the outside border with a double row of cedar

trees in order to shelter the garden from bleak winds, to which it was exposed.

And round the beds within, by the side of the gravel walks, I planted various sorts of fruit trees and grape vines. One of the beds, not exceeding half a rood (*an eighth of an acre*) at most, I planted the beginning of last June, with pumpkin slips, from which I have already reaped more than one ton of pumpkins, and I was robbed of many. The pumpkin vine is still producing in abundance.

From the best estimate I could make of the cost of finishing the piece of ground (taking in the count some negro children that were employed who otherwise would have been doing nothing) does not exceed eighty dollars, the full value of which I expect to be reimbursed in pumpkins before Christmas day; and at the same time I have laid the foundation of much comfort and profit, in the course of three years from my garden. Indeed, when designing this garden, I had no thoughts of planting pumpkins therein; therefore it was accidental.

Had I attended to no other object but the planting of pumpkins, the cost of preparing the ground that produced the quantity before specified would not have arisen to five dollars. From the abovementioned experiment, I am convinced that the most rocky and hilly parts of these islands might be improved to produce bountifully of many necessaries as well as of luxuries.

The more shallow the soil, the broader the walks should be, in order to afford the more soil for the beds or borders that are to be planted; always attending to trenching into the beds or borders plenty of green weeds, well watered with salts.

Much of the land of these islands is of a shallow soil, therefore if the great abundance of people who have little to do, were employed in such useful improvement of their lands, in the course of a very few years no country would exceed it in beauty and fertility. And many people would thereby be exempt from the reproach of destroying the growth of timber by foul pillage. Every child of three years of age might be made useful by being employed in making the improvement hereby proposed, by carrying stones, gravel and weeds, that will be

necessary to perfect the work, and should to that end be provided with suitable baskets or tubs; a further good purpose would be answered, by giving such children an industrious habit, which is much required in these islands.

I have been prompted to make the foregoing observations, from a consideration of our dependent state; and to guard against the dreadful effects that would take place, should our accustomed resources for the necessaries of life be withheld from us; being at the same time persuaded, that these islands might be, with tolerable industry, improved in

agriculture to such a degree, as to afford provisions for double the number of inhabitants, as the same spot of ground might be made to yield three successive crops a year; and pumpkin vines, if well watered and the ground well manured, as before suggested, will produce the whole year round.

The Bermuda pumpkin is of a singular quality, being to the full as dry as the Irish potatoes, and fully equal to it as substitute for bread.

J.

Port Royal, Dec. 15, 1794

From our 2013 Scholarship winner comes the following:
EXPERIENCING UNIVERSITY OF HERTFORDSHIRE

My name is Kahnae Bean and I am currently studying at the University of Hertfordshire. I am studying Environmental Management which is a three year course ending in June 2016. The determination I had to get to university has allowed me to keep myself motivated and continue to apply for scholarships. My hard work paid off as I was granted a scholarship from BELCO in 2013 as well as a scholarship from the Botanical Society. Thanks to these scholarships and other donations from family and friends, I finally was on my way to attending university. Upon my arrival in the UK, the cold weather was one of the biggest challenges I had to face. I was very excited and anxious about starting my classes and meeting my teachers and classmates.

My course involves a lot of fieldwork irrespective of the weather. *Investigative Skills and Techniques* module revolved around a big field course trip in Cumbria. It took 6 hours to get there by coach and we stayed at Blencathra, a residential science building for students studying in the area. The field course was as physically intense as it was academically demanding. We had to climb Mount Latrigg in the cold rainy weather, which took a total of 4 hours to get to the top. I was able to visit and explore Honister slate mine and go quite deep into the mine. We took soil samples at the top of Fleetwith pike and tested river discharge at Gatesgarthdale. I enjoyed the field course and additionally was amazed by the sights. The course gave me experience in data handling, surveying

populations of small towns and a brief insight on how to assess environmental impacts. *Sustainable Futures* is taught by an enthusiastic teacher, which makes learning the information easier. This module looks at the Green movement in history, water conservation and policy. *Exploring planet earth* explored the interactions of the earth's natural systems and how humans have an impact at each level. *Mapping Human Geography* was about the history of Britain and the development of the country. It also explored the oldest maps and how humans have learned to create maps that show a better representation of the world around them.

This semester I'm taking *Geographies of Governance* which looks at how human society interacts at a local and global scale. This module explores how geographers have to plan for urban sprawl and the problems associated with development. *Dynamic Earth* is about rocks and how they form. It also looks at river systems and flood plains around the UK. The *Ecosystems and Environmental Change* module involves field trips to Bayfordbury to look at woodlands and how they are being managed. It also explores invertebrates and how they are biological indicators. This module gives the tools you need to work as an environmental assessment officer. *Investigative Skills and Techniques* teaches me how to input data into Excel and how to apply t-test to accept or reject a hypothesis. This module is challenging and involves a lot of math. Most of my teachers seem interested in what they are teaching so it makes the

course that much more exciting. The work is quite challenging as I constantly have assignments and reading to do. Nonetheless, I am excited to see what my next year has in store for me.

Photos of the Fieldtrip Course in Cumbria



Photos ©Kahnae Bean

IN THE ARBORETUM

BY LISA GREENE

In the last couple of months, a few more trees in the Arboretum have been identified. The first was the Noni tree (also known as Indian mulberry) discovered and identified by Andrea Peets.



Noni fruit

Its scientific name is *Morinda citrifolia* and it is in Rubiaceae, the coffee family. According to Food Plants of the World, an illustrated guide by Ben-Erik van Wyk: “The tree is indigenous to India, Southeast Asia and the Pacific region. It is a traditional source of food and medicine in India and especially in Hawaii, where the fruit (see photos) is known as noni. The fruits were used as a famine food on Pacific island but were also a staple food of choice in Samoa and Fiji.” The tree is near the *Ficus* and fruit tree collections.



Young Noni fruit with tree

The second tree identified is *Eucalyptus torelliana* in Myrtaceae, the myrtle family. On a recent trip to Florida and the Marie Selby Botanical Garden, I spotted this tree with a label! The tree is distinguished by rough grey to black fibrous bark

on the lower trunk and smooth and green above so it was easy to recognize.



Bark of Eucalyptus tree

The specimen in the Arboretum is southeast of the palm collection and has a smooth grey trunk with a few patches of brown (see photo). The leaf is wider than most eucalypts. The tree in Florida was flowering (see photo) but the tree here is so tall that flowers will be very difficult to spot.



Eucalyptus tree in flower

A third tree identified is *Pterospermum acerifolium* in Malvaceae, the mallow family, or Sterculiaceae, the sterculia family, depending on which source you read.



Dinner plate tree

It is a large tree northeast of the Montpelier entrance in a valley between two hills. Its common name is karnikara tree, bayur tree, or the dinnerplate tree. It is indigenous to Southeast Asia, from India to Burma. The flowers are white and the leaves are large. (photo).

I encourage you to visit the Arboretum and if you see anything in flower or fruit to take a photo and send it to me at elgreene@ibl.bm. I can only get there infrequently so other eyes on the lookout would be appreciated.

Photos © Lisa Greene.



*BBS took part in the recent Bee Fair, organised at BUEI by BEST.
On the left, BBS's Helle Patterson and Lallitah Durgah.
Photo courtesy Harrison Isaac.*