

ETHNO- BOTANICAL GARDEN



A CELEBRATION OF LOCAL

FROM INCEPTION TO COMPLETION



JULY 2022



CURATOR'S STATEMENT



Yes! I keep pinching myself. The knowledge that Andromeda Botanic Gardens has an ethnobotanical garden is beyond satisfying. This great historic garden needed, yes needed, a garden dedicated to Ethnobotany for the people of Barbados.

As a botanic garden it is important, I suppose, to use established terminology. The new garden is an 'ethnobotanical' space. It has been created for the study of the traditional knowledge and customs of Barbadian and other people concerning their use of plants, whether that use is for food, clothing, medicine, rituals, jewellery etc.

It is much more than that, though. The sub-heading does our new garden more justice. The Andromeda Ethnobotanical Garden is a Celebration of Local - local people, plants and wildlife. It is a community garden in the widest sense of the word. Dr Sonia Peter, from our collaborator BERP (Biocultural Education and Research Programme) and I wanted to create something special. We didn't want to create a living laboratory just for academics, or a museum where you can look but do not touch. *We wanted to create a resource where ordinary people can take the plants and use them.* We want them to talk about the plants and how they are used. Once that conversation starts, we look back. We return to our ancestors 'my grandfather used to send me to the ground to get...' and, in a way, we honour them. By encouraging the use of plants, we honour them. By educating others, we honour them. And by concentrating on local plants, we are trying to create something specific to our region, conserving local plants and providing a haven for local wildlife.

It is time for a Celebration of Local!

A handwritten signature in black ink, appearing to read 'Sharon Cooke'. The signature is fluid and cursive, written on a light-colored background.

SHARON COOKE

Curator and Business Owner



PAST, PRESENT, FUTURE - A SUMMARY

2012 Dec. Initial idea put in writing by me, for a Native Plant Garden at Andromeda Botanic Gardens. Just a small area...

2014 Feb. Passiflora Ltd took over the management and development of Andromeda Botanic Gardens.

2014-2016. For two and a half years we concentrated on beautifying Andromeda. The Native Plants Garden idea was gently simmering.

2017. Andromeda was 'fixed' and the 'Native Plants Garden' idea started bubbling a bit more, as there was more time to think about it. The concept changed, ingredients were added and the scope of the project became much bigger. The idea over-flowed! It went from a tiny Native Plant Garden to a huge one and a half acre, community-focused Ethnobotanical Garden.

2017-2021. Attempts to get funding agencies interested fail. Many just didn't respond to phone calls, emails etc. Very frustrating times!

2019. First chance meeting with Dr Sonia Peter of Biocultural Education and Research Programme (BERP) in Hamilton's Pottery. Contact details were exchanged.

2019-2020. Further meetings with BERP and our collaboration was solidified.

2021 May. Preliminary manual clearance of a few non-native trees.

2021 Sept. Sandals Barbados phoned regarding potential funding for sustainability projects. We were asked to provide details.

2021 Sept. Zoom meeting with Sandals Foundation and the proposal was finalized and sent to Sandals.

2021 Nov. Funding confirmed. Tears of joy!

2022 Jan. Work starts. Tears of joy!

2022 Jul. The Andromeda Ethnobotanical Garden is completed. Tears of joy!

2022 Dec. Official opening.



FIVE MONTHS OF MAGIC, MAYHEM & MORE MAGIC

In 2021 we had already started some preliminary clearance of some of the non-native trees. We were able to do this as we had received a volunteer in exchange for some plants that we had provided. It was a small and short-lived manual clearance but it made us acutely aware of the scale of the task.

Once the funding was confirmed we were able to commit our energy to the project. The first stage was to walk through and look for plants that we could save, either for use in the new garden or to transplant to the existing gardens at Andromeda. Obviously, this was before the mass clearance so many plants found were shade-tolerant and shade-loving plants including many fabulous Xanthosoma, which were not in the main garden. Finding these was really wonderful. We potted up most of these to grow them on and use elsewhere.

There were lots of other members of the arum family, including philodendrons and alocasias. These were transplanted elsewhere. Ginger and heliconia plants were also rescued. The latter would be used in the Ethnobotanical Garden, particularly along the boundaries. We also found one single milkweed plant - perfect for our monarch butterflies! It felt like the landscape was helping in our task! Magic!





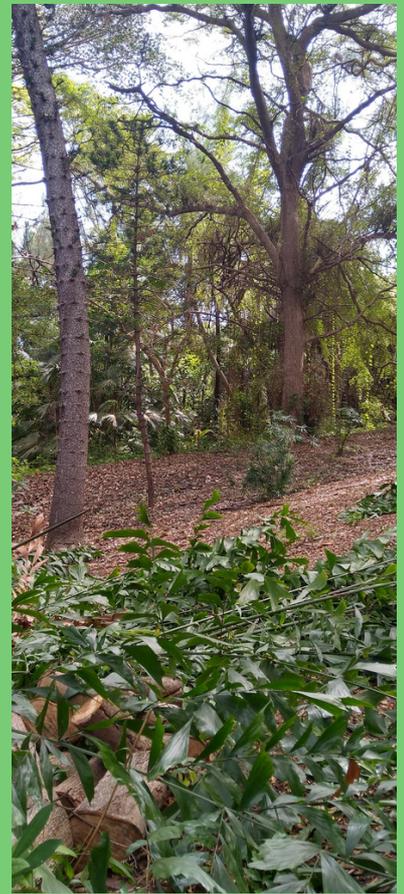
Preliminary tasks were completed so now the excavation work could begin.

An obvious issue was the stream which cut through the site. It was not possible to get the excavator to the eastern side so we had to use our chainsaw in this area. We officially started in January 2022 with the cutting down of many fishtail palms. (These remain one of the worst weeds at Andromeda. A mature specimen can produce a couple of thousand seeds, many which are viable and germinate everywhere!)

These palms were huge and here were so many of them! The calcium oxalate crystals in the plants meant we had to be particularly careful.

The seeds of these mature palms will keep germinating, again and again – all over this area. It is one of those plants that, more than likely, will not be eliminated – just managed.

Cutting them down provided a gorgeous view from the area for the new classroom deck, towards the gazebo in the Palm Garden. Great news! All those huge leaves, branches and stumps would need to be chopped and removed manually. Bad news! But we were just starting to get students on the Give Back Barbados Programme. Great news!



We started propagating in January and did considerably more in February. We took cuttings from existing plants and air-layered the woody shrubs and trees. We asked locals for plants and these were gratefully received. We propagated these. We sowed seeds from our own plants. We wanted to ensure we'd be ready for May/June when planting would begin.



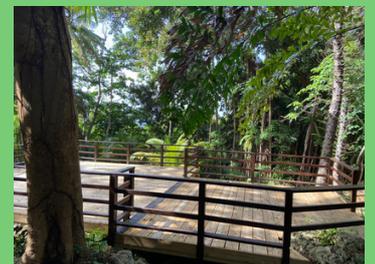
Again, a lot of these tasks were carried out by student volunteers on the Give Back Barbados Programme.



In February work started on preparing the area for the outside classroom/deck. This would be located at the bottom of the silk cotton tree and span the stream. Again, much of the clearance was manual, as expected, and was mainly carried out by UWI student volunteers. In March, the deck construction work began, was scheduled to last one month and it was completed on time.

Although not officially open, a Barbadian tai chi group held a session on the deck. A regular yoga also uses the space. Visitors simply come and view the Ethnobotanical Garden from the deck.

Dr Sonia Peter has plans to use the deck, see below.



Biocultural Education and Research Programme



For Primary School Level
Learn about plants, draw, paint, write stories, perform skits

ART AND BIODIVERSITY
AT THE ANDROMEDA ETHNOBOTANICAL GARDEN

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We are 'Conserving Nature's Beauty'
BIOCULTURAL EDUCATION AND RESEARCH

Tuesdays and Thursdays, 10 am to 2 pm

<https://biocultural-education-berp.squarespace.com>

Children from a local school will learn about plants in a fun environment. These 'in situ' classes aim to stimulate the young minds and connect them to nature.

The kids will perform short skits as a way of both engaging them, and enabling a fuller understanding about the use of plants and our need to conserve them.

Other plans include:

Bathsheba Visual Arts Hub to host painting workshops on the deck.

Screening of Avatar for a community day, focused on plants and biodiversity.

Major 'Worship Brunch' and presentation organised by a local organisation.

Various garden and plant workshops to take place.

The outdoor classroom is already being used by the community - the prime reason for its creation.

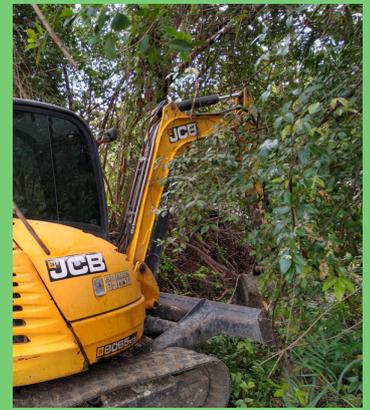
2nd February 2022 marked the arrival of the excavator. It was time to selectively clear the site. All the native trees were to remain as well as trees of unknown species. The casualties of the clearance were *Delonix regia* (common name flamboyant) and *Terminalia catappa* (sea almond). I didn't struggle with the removal of these trees. For a conservation project it was vitally important to remove them. They were non-native; the seeds germinate readily; and the removal of the 15 non-native trees would clear the way for the planting of more local trees and numerous other plants - much more beneficial for our indigenous wildlife, and remaining true to our concept - a Celebration of Local.

So, excavation starts and, in a few days, its job is finished. Much of the site is revealed and it is huge. *What is clear* is that a smaller digger is now needed. The digger starts and, in a few days, its job is finished. More of the site is revealed and it is even bigger.



What is now clear is manual work is required to get to those areas that have been cleared but where the debris is unable to be removed by machinery due to the huge boulders. Plus the shredders/chippers on the island were all out of commission. All of them! The thought of manually moving and chopping all this debris paralysed me, for a moment. I knew the full clearance would take much longer and there was an awareness that the clock was ticking. So we started doing lots of things simultaneously:

- We created some borders using logs and rocks.
- We started planting areas that were ready, while we waited for the others to be cleared. *Heliconia rostrata* (lobster claw/crab claw heliconia) and *Stachytarpheta jamaicensis* (blue vervain) were planted around the deck.



- A very old planting bed, made by Iris Bannochie, Andromeda's creator, was cleaned up and new ornamentals were added.
- The stream was cleared and some of the banks were planted.

All this was being done at the same time as the manual clearance. We worked and we worked. It took a couple of months. It wasn't quite mayhem. It was simply a lot of work, and much of it was unanticipated.

As expected, with much of the area being more exposed to the sun, other plants started appearing. This was great. Regional plants such as cannas, passion fruit vines, paw paw trees, members of the Solanaceae family and *Senna alata* (Christmas candles) started appearing very quickly in large numbers, like magic! We saved them from the whacker (strimmer) and transplanted them to other places within the Ethnobotanical Garden. The Christmas candle plants were a really wonderful find. Dr Sonia Peter uses the plant in her products for its antifungal properties.

Finally, the full site and all its nooks and crannies were revealed. It was a moment of magic and a bit of disbelief. It was enormous, possibly two acres, and the landscape was glorious, challenging, but glorious! I could now begin to fully imagine the new garden.



For the design and creation process, I'd already decided to work with the topography of the site and to be informed by the existing trees, light, boulders etc.

- A pathway was created, next to the main route, creating easy access into the new garden.
- We created organically curvy islands. The beds were large. Logs and rocks were used to demarcate the beds.
- The two flatter areas were created as seating areas. Leaves are the surface material for the seating areas with logs as seats - chopped from the trees that were felled and those that fell after hurricane Elsa.



- Leaf mould from other parts of Andromeda was used to fill some of the planting holes.
- We made an island bed, near the entrance, that soon took on the shape of Barbados!
- Small corses of trees were planted and other species were planted across the site to provide unity.
- Annuals were also planted.
- Areas were screened with plants.
- As the topography was sloping, we opted for lawn as the surfacing material for the walkways - planted as plugs removed from other parts of Andromeda.
- The Monkey Zone, basically where the resident monkeys sleep, has been kept unplanted.
- The garden was planted, the signs were placed into their positions.
- The garden, a celebration of local, was finished!



As at mid-July, one month after planting, there were a total of 914 new and/or transplanted plants that have survived, within the Ethnobotanical Garden. This does not include zinnia and celosia.

Plant Type	Botanical Name	Common Name	Number
Tree	<i>Bixa orellana</i>	Bitterwood	11
	<i>Plumeria spp</i>	Frangipani	12
	<i>Quassia amara</i>	Bitterwood	9
		Sub Total	32
	<i>*Carica papaya</i>	Paw paw	139
		Sub Total	139
Shrub	<i>Brugmansia suaveolens</i>	Angels trumpet	1
	<i>Caesalpinia pulcherrima</i>	Pride of Barbados	9
	<i>Croton flavens</i>	Seaside sage	53
	<i>Duranta erecta</i>	Golden dewdrop	8
	<i>Euphorbia pulcherrima cv</i>	White poinsettia	2
	<i>Lippia alba</i>	Pot sage	20
	<i>Ocimum campechianum</i>	Duppy basil	1
	<i>Ricinus communis</i>	Castor Oil Plant	5
	<i>Senna alata</i>	Christmas candles	160
		Sub Total	259
Herbaceous	<i>Aloe vera</i>	Aloe	72
	<i>Asclepias curassavica</i>	Milkweed	36
	<i>Begonia minor</i>	Begonia	9
	<i>Bromelia pinguin</i>	Penguin bromeliad	2
	<i>Bryophyllum pinnatum</i>	Wonder of the world	58
	<i>Canna glauca</i>	Water canna	8
	<i>Canna indica</i>	Canna	16
	<i>Colocasia esculenta</i>	Taro	40
	<i>Euphorba hirta</i>	Athsma plant	30
	<i>Heliconia spp</i>	Heliconia	62
	<i>Justicia secunda</i>	Blood root	18
	<i>Phyllanthus sp</i>	Seed under leaf	30
	<i>Portulaca oleracea</i>	Pussley	23
	<i>Stachytarpheta jamaicensis</i>	Blue vervain	80
		Sub Total	484
		Grand Total	914
	<i>*Not a true 'tree'</i>		



- The true trees were new additions to the site, so this total is 32.
- The paw paw trees appeared after the site was cleared. These were transplanted into new locations within the site.
- The 160 Christmas candles germinated after the site was cleared. Many stayed in situ and others were moved to new areas within the site.
- All the other shrubs are newly additions.
- Of the herbaceous plants, *Canna indica* and the heliconia appeared after clearance and all were transplanted elsewhere in the site.
- The other herbaceous plants are all introductions.
- Zinnia seeds were cast, and celosia seedlings were planted.
- There are a few more species waiting to be planted. These are currently being grown in pots by ourselves as well as BERP.



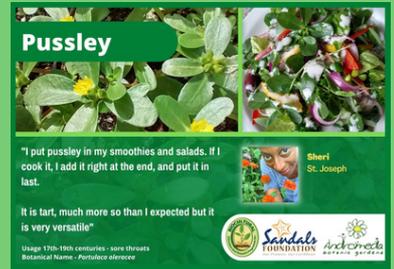
All of the newly-planted trees are native to the region and were chosen due their links to ethnobotany. The shrubs had both/either historic or current ethnobotanical uses and, with the exception of the castor oil plant, all are native to the region. The majority of the herbaceous plants are also local with some exceptions, such as aloe, that have very old ethnobotanical uses in Barbados.

The milkweed plants have been specifically chosen for the monarch butterflies. They lay their eggs on milkweed plants only. To encourage the butterflies to stay within the Ethnobotanical Garden, nectar rich annuals, zinnia and celosia, have been planted.



The total number of signs created is 50:

- 18 Standard Botanical
 - 2 Entrance
 - 10 Interpretive
 - 20 TreeStory
- **Standard Botanical Signs** - Usual information - Botanical name, origin, family, common name.
 - **Entrance Signs** - We needed a welcome to indicate that the visitor will be exploring something new. And, of course, we needed a disclaimer.
 - **Interpretive Signs** - These show local people and how they use the particular plant shown. Having personalized quotes connects them to the garden and shows visitors that people actively use plants for the purposes described. Those plants that have been used during the period of enslavement have a note indicating such use. Common names are used as headings as visitors, especially local people, will be more familiar with those names. The botanical name is shown near the bottom of each image.
 - **TreeStory Signs** - These are interesting and are now found on/near trees within the ethnobotanical space as well as others at Andromeda. One of the most special aspects of Iris Bannochie's unique garden is the incredible variety of trees, each with great stories. These needed showcasing as much of Andromeda is 'ethnobotanical'. We started research into this very early and the students did much of this groundwork.



	<i>Bixa orellana</i> Annatto, Achioté, Lipstick tree	
	Native to Tropical America and used by many tribes as body paint. Worldwide annatto is used as a food colouring for many products. Used today as an additive to oils by many people in the Caribbean. Various parts of the tree are reputedly anti-bacterial, anti-inflammatory and so much more! Flowers are frequented by the beautiful and large carpenter bees.	

	<i>Bixa orellana</i> Annatto Achioté Bixaceae Tropical America	
	<ul style="list-style-type: none"> • Native to Tropical America and used by many tribes as body paint. • Worldwide annatto is used as a food colouring for many products. • Used today as an additive to oils by many people in the Caribbean. • Various parts of the tree are reputedly anti-bacterial, anti-inflammatory and so much more! • Flowers are frequented by the beautiful and large carpenter bees. 	

This report ends with people.

I didn't foresee the inability of machinery to completely clear the site, nor the lack of a shredder/chipper. The amount of manual work escalated. I would stare at these huge piles of debris. I called a few clearance companies to get them to have a look, just in case there was something. There was nothing. I knew I had to start. So, I started. There was so much to move. But I didn't foresee the number of student volunteers I would have. And they kept coming, like magic! They did clearing, planting, moving logs, weeding, transplanting, propagating. And I thank them all, 21 of them, for everything.

Compiling the information for the interpretive signs was a real highlight. Speaking with people and hearing their stories were wonderful. These cultural connections to our past and our ancestors through plants were real and quite special. Some stories went way back to practices and traditions in West Africa. Other were much more recent, to childhoods and stories about resilience during difficult times. Not all of this information was included in the signs but just gaining those insights made the process quite special. And I thank all of these people for sharing their experiences and knowledge.

Barbadians and those that live in Barbados are the people who will really decide whether this project is a success. I hope they will come, learn and enjoy. I hope they will feel connected to the plants and the wildlife. More importantly, I hope that through the knowledge of the use of plants, our communities feel connected to themselves, their ancestors, histories and their futures.



ETHNOBOTANICAL GARDEN

A CELEBRATION OF LOCAL

HUGE THANK YOU

Stacia Brathwaite of Sandals Barbados for simply taking the chance and making that call!

Sandals Foundation for the funding and the belief in conservation and community.

Dr Sonia Peter, our collaborator, for her knowledge, passion, spirit and determination.

Troy and Shane, Andromeda's gardeners who guided our students, effortlessly.

Peter from St Joseph who shared his garden, knowledge and his plants, so generously.

Andrew, Karen, Rob, Sandra and Therese - volunteers who worked simply because they care!

Give Back Barbados student volunteers. Yes, I could not have done it without you.

The people of Barbados who shared their knowledge and experiences.

