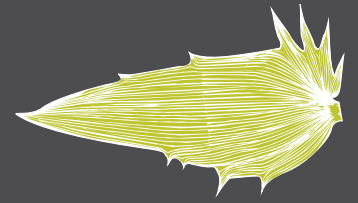


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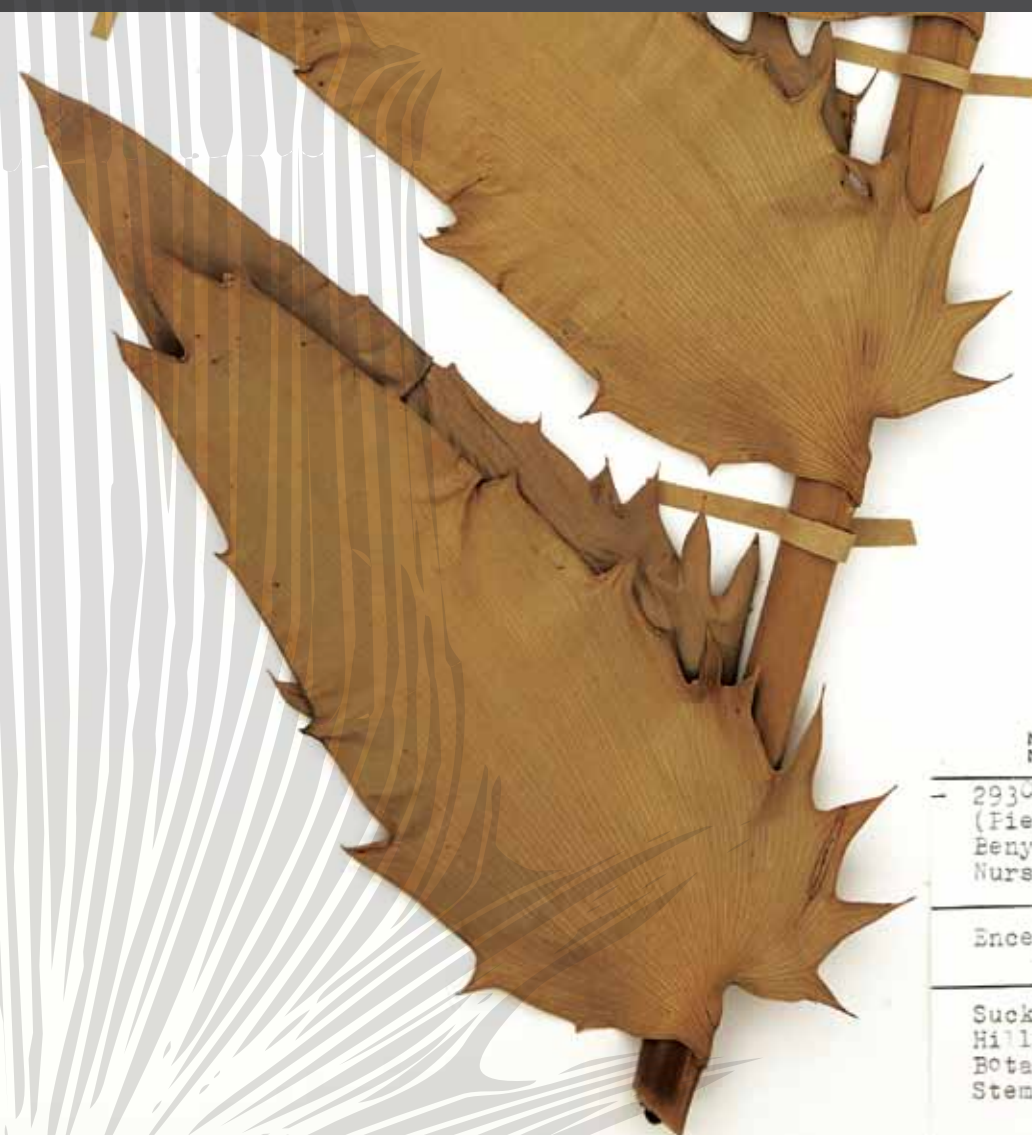
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2013



Cultivating People and Plants

- 1913 – 2013: Durban Botanic Gardens retrospect
- Here's to a legacy! – 130 years of togetherness and more
- Trust Projects
- Janet Gates - our new horticulturist
- A monospecific moment
- Music at the Lake

A Publication of the Durban Botanic Gardens Trust



Encoded as

NATAL HERBARIUM
No. 72508.2
DURBAN

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Encephalartos woodii Sander

Sucker shoot - Sucker growing in
Hillary Originally from Durban
Botanic Garden.
Stem 18" high, no fruit.

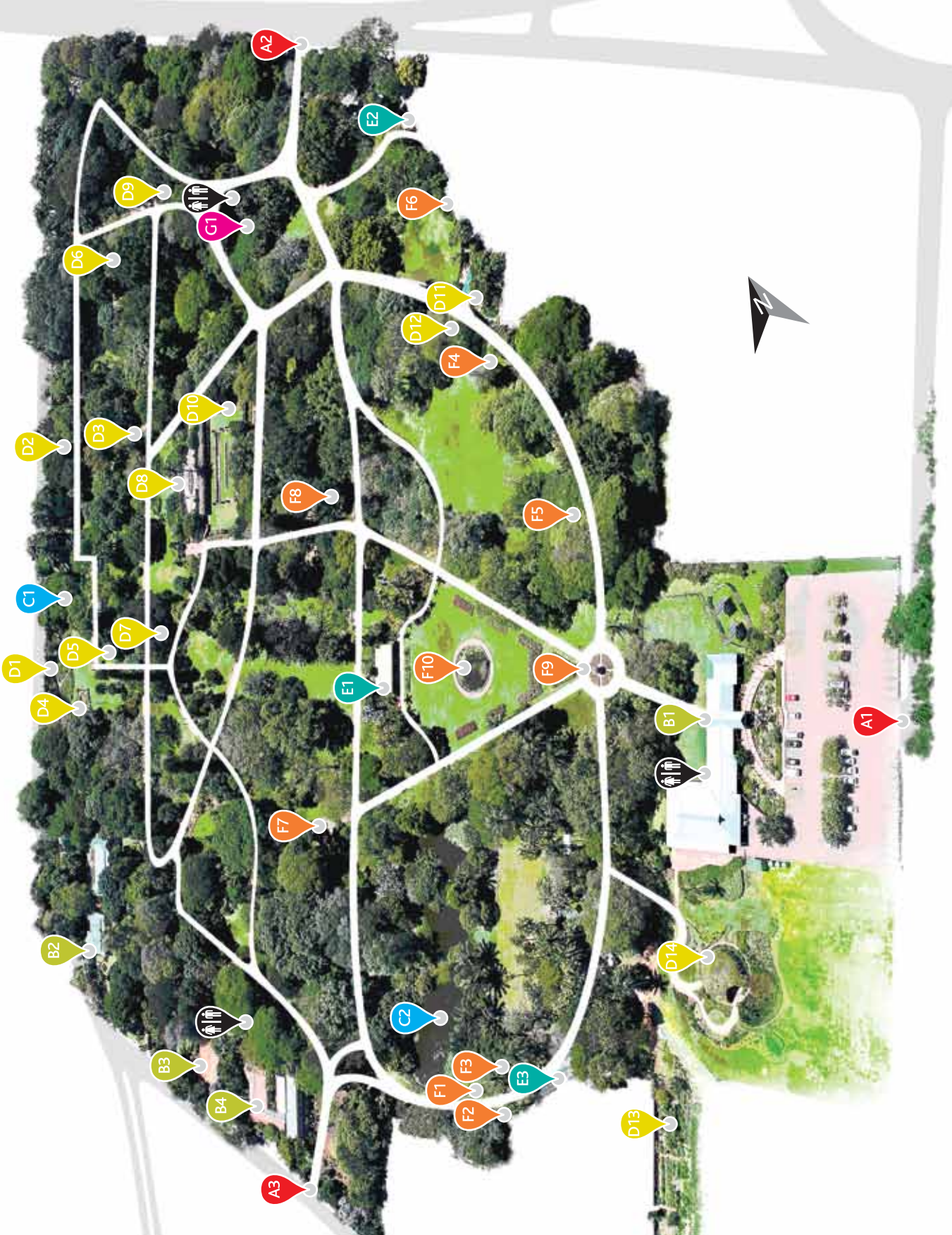
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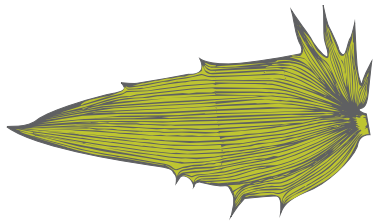
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Winter Edition

Sheet 1 *Encephalartos woodii* Sander

- A1 Main Entrance & Parking
- A2 Tea Garden Entrance & Parking
- A3 Pedestrian Entrance (closed on weekends)
- B1 Visitors' Complex & Information Centre
- B2 KwaZulu-Natal Herbarium
- B3 Curator's Office
- B4 Parks, Leisure & Cemeteries Admin Office
- C1 Reservoir
- C2 Lake
- D1 Indigenous Grassland
- D2 Palm Walk
- D3 Fern Dell
- D4 Herb Garden
- D5 Wood's Cycad
- D6 Amphitheatre
- D7 Japanese Garden
- D8 Garden of the Senses
- D9 Monocotyledon Garden
- D10 Sunken Gardens
- D11 Alien Alley
- D12 Bromeliad Garden
- D13 Permaculture Garden
- D14 "Beehive"
- E1 Ernest Thorp Orchid House
- E2 Discovery Room
- E3 Biodiversity Display House
- F1 Currie's Fountain
- F2 Sculpture "Family"
- F3 Sculpture "Earth Mother"
- F4 Sculpture "Greatest Shoal on Earth"
- F5 Sculpture "Standing Parker 1"
- F6 SA Flag
- F7 Dr John Medley Wood Bust
- F8 Bell Tower
- F9 Gazebo
- F10 Lily Pond
- G1 Tea Garden





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A Message from the Curator

Martin Clement - Curator: Durban Botanic Gardens



Photograph by Clinton Friedman

The Gardens celebrates its Centenary this year with a programme starting in July. It was 100 years ago this year that we became a City Botanic Garden, managed as a flagship of our City's then Parks, Leisure and Cemeteries Department. It's a proud moment, and as we delve into our institutional memory this year, we hope to share much of our history with our visitors. Other celebrations this year include the 20th anniversary of the Durban Botanic Gardens Trust, and the 50th anniversary of the much-loved Tea Garden, which is staffed mostly by volunteers, and the proceeds of which are donated to the Natal Anti TB Association.

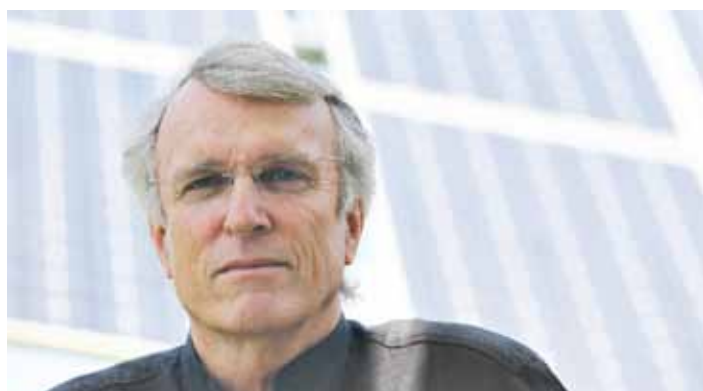
I am pleased to welcome two new staff to the Gardens this year. Janet Gates, our new Gardens Horticulturist joins us to take over horticultural operations, and Jody Fuchs, our new Education Officer, will run interpretation and plant education programmes. Both portfolios are broad and exciting. Horticulture is the lifeblood of the Gardens; providing a world class visitor environment, and underpinning the management of our conservation and heritage collections. Interpretation practice helps us to connect with people meaningfully, so that the Gardens is revealed to them in the richest possible way.

Botanic gardens are reliant on plant specialists, and we are grateful to have worked this year with local cycad expert, Avis Nel on an inventory of our South African cycad collection; and Hendrelien Peters who has done wonders with our orchid collection. The contribution of plant specialists provides mentorship for students, and the timing has served Durban University of Technology Horticultural students who started off their 6 month practical programme with an intensive hands-on week at the Gardens. Student development is part of our story, and in keeping with an historical role that can be traced back to the earliest botanic gardens, the DBG has made a significant contribution to the South African horticulture industry over the years.

Another key person joining our team this year is Kerry Phillips, the new DBG Trust Marketing & Fundraising Manager who will support our vision through the activities of the Trust. The Durban Botanic Gardens is growing and changing but remains a beautiful sanctuary within a bustling city. The Gardens is always vibrant and fresh. It may be old, but like a venerable old tree it continually inspires.

A Chairman's View

Ivor Daniel – Chairman: Durban Botanic Gardens Trust



Photograph by Clinton Friedman

Welcome to the second edition of Woodiana, which celebrates our centenary – established in 1849 and transferred to the Durban Municipality in 1913, the Durban Botanic Gardens has thrived under its municipal guardians for 100 years, and remains the oldest surviving botanical garden in Africa. Fittingly, the Durban Botanic Gardens Trust logo – a leaf of the cycad, *Encephalartos woodii* – recalls the illustrious curator and scientist John Medley Wood, and his collection of the last wild *E. woodii*, a specimen that remains in our collection to this day, iconic and irreplaceable, like the Gardens themselves. Indeed, it is this unique character that the Trust was founded to protect and enhance, for the Gardens are a singular asset to eThekweni, and are needed, now more than ever.

As an independent body, the Trust's mandate is to support and develop the Gardens as a centre of excellence, inclusion and innovation, so that it may address a broad audience about issues of concern to us all. The Gardens also serve as a needed social and cultural meeting point, as we seek richer interactions both with each other and our environment, which like the Gardens themselves, belongs to all.

In pursuing this task, the Trust requires and seeks close ties with the City, and we celebrate the centenary of eThekweni's custodianship of the Gardens as a remarkable milestone of which the Parks, Recreation and Culture Department can be proud. We applaud the City's care of the Gardens and are grateful for the common ground we share. With this firm platform underfoot, the Trust will continue to raise money from the public, other trusts, public benefit organisations, corporates and international benefactors so that the Gardens which have served the City for 100 years may continue to do so.

Director's Cut - A View from the City

Thembinkosi Ngcobo - eThekweni Municipality - Head: Parks, Recreation & Culture Service Unit

I grew up in Durban during a time when open spaces were inaccessible amenities to me, but I have a single, cherished memory of my father taking myself and my two brothers to a park, and this experience has stayed with me ever since. I returned to Durban many years later as Director of Parks with these twin boyhood memories still vivid – parks as places of both enjoyment, and exclusion.

During my tenure as Director of Parks, I have come to view the Durban Botanic Gardens as an asset offering the City two services – an agenda, and an arena for transformation. In Botanic Gardens all over the world, a new model is emerging, of which we are a part. Its ambition is not simply to court a more inclusive clientele, but to pose fundamental questions about the role of horticulture itself.

From the specific perspective of horticulture, we must renew our interpretation of the issues affecting society at large. In doing so, we must invite as many perspectives as possible, honouring the many ways in which plants are studied, used and appreciated. Our most vulnerable city residents deserve ecologically progressive assistance that optimises plant use to address food security, ecosystem service restoration, livelihood and primary health care challenges, amongst others. I believe that the success of both the Gardens as an institution, and horticulture as a profession, will depend on how compassionately we understand our social context. Importantly, there is no such thing as a social or cultural context that does not include plants. Thus, horticulture has the potential to evolve into a practical, multidisciplinary social ecology in which plant use can become an instrument of environmental justice and the IDP, and connect the Botanic Gardens to an all-embracing and multi-cultural constituency.

As a venue potentially available to all eThekweni's residents, and one that already hosts a variety of events, the Gardens also offers a space of cultural rapprochement in which we can learn how different groups seek recreation, how they relax, and what fascinates and inspires them. The recent Mafikizolo, Prime Circle and Hugh Masekela concerts were wonderful examples of how the Gardens plays this role, reminding us that music, art and education are all arenas in which we learn about each other. These things too create the cohesion and understanding that we need in order to

respond to the challenges that face us. For this reason, and with the proviso that the institution is not undermined, there is no limit to the number of interests, aesthetics and activities the Gardens can cater to.

This aspiration cannot be realised by the City alone, and the Gardens are supported by the Durban Botanic Gardens Trust, who are allied to eThekweni in their vision of a multi-faceted humanitarian horticulture and a venue that serves it. In the pursuit of this shared agenda, the City and the Trust have much good work to do together, and it is my wish that our relationship will strengthen so that the Gardens can reach their full potential through our partnership and our joint efforts.

Just as my father once took me and my brothers to a park the name of which I cannot remember, I now take my brother's twins to the Durban Botanic Gardens. Each time I go there I see something new. Sitting peacefully near the lake or the cycads, I am able to relax and enjoy my own company in this special place.



Photograph supplied

Thembinkosi Ngcobo - eThekweni Municipality - Head: Parks, Recreation & Culture Service Unit

1913 – 2013: Durban Botanic Gardens retrospect – Donal P. McCracken

It was at once the best and worst of years. Abroad, the world stood on the brink of the greatest war ever fought; nationally, South Africa was at last unified, but already legislation was being passed to subjugate the African population. And as the long heyday of European empires drew to a close, in the botanical world so too did the great British imperial network of 120 botanic gardens scattered across the globe – from Fiji to St Helena; Hong Kong to Jamaica; Calcutta to Mauritius. In South Africa 16 botanic gardens had existed in the Cape, one in Pretoria and two in Natal.

Of the two Natal gardens, Durban had ruled supreme for many decades. It had been established by the Natal Agricultural and Horticultural Society as early as 1849 when the settlement of D'Urban was little more than a village with three or four sandy tracks and an assortment of thatched cottages and huts. Founding a botanic garden had been a copycat move to match Cape Town, which had just revived the old Dutch East India botanic gardens in the centre of the Mother City. At first, Durban's botanic gardens was situated on the south bank of the Umgeni River, but it was re-located from this hippo and crocodile-infested site to the lower slopes of the Berea forest in 1852. There it languished in splendid isolation, still visited by roaming lion, though somewhat cut off from the growing town by the famous Eastern Vlei, a wetland which extended from the Umgeni to the present-day Warwick Avenue.

By this time, the Durban Botanic Gardens was flourishing under a series of outstanding, scientifically-minded curators, such as Mark McKen, Robert Plant and John Medley Wood. By the 1890s the Gardens were the finest in Africa, and a rival to scientific colonial gardens in India, the West Indies, Mauritius and Australia. They doubled as an agricultural experiment station and became the centre for the collection of the indigenous flora of south-east Africa. In 1881 an herbarium was established and the Durban gardens became a centre for taxonomy – the first botanic gardens to do so. The Gardens was recognised as an important botanic research and collection station, boasting a palm avenue, the Victoria lily pond, an attractive collection of African and Indian trees (a suitable reflection of the human diversity of the town) and a popular tea-room where tea, ginger beer and cakes could be purchased. So what went wrong?

Any garden is an ephemeral thing. With the turn of the century, deterioration set in, despite the support of the Royal Botanic Gardens at Kew in London. Kew had been associated with the Durban gardens since the early 1850s, exchanging plants, herbaria specimens and letters over 50 years and providing encouragement and support. But Kew, too, was soon to enter into relative decline, as the Victorian fascination with botany waned in the early 1900s and the Great War of 1914 took its toll.

In South Africa botanic gardens also suffered, and while the Durban Botanic Gardens retained its scientific orientation under the peerless curatorship of Medley Wood, the economic depression of the late Edwardian era saw visitor numbers decline.

Eventually, the government grant was reduced and the publication of annual reports for the Gardens and herbarium ceased. The flora series *Natal Plants* was suspended, never to be revived. The aging of Medley Wood and his retirement as director of the Gardens in 1913 all brought an era to a close. In 1913 the Gardens were taken over by the Durban municipality, and two years later, Medley Wood died, having devoted 33 years to his curatorship.

Ironically, 1913 also saw the foundation of the South African Botanical Society and the establishment of the National Botanic Gardens at Kirstenbosch. The Union of South Africa in 1910 had seen parliament, government, the civil service and the judiciary centred in Cape Town, Bloemfontein and Pretoria, and this configuration was in part reflected in the botanical world too. As the decades passed, South African botany located itself in two centres of influence – Kirstenbosch (in Cape Town), and what would become the Botanical Research Institute in Pretoria.

The municipal takeover of the Durban Botanic Gardens in 1913 also heralded two trends which would not be reversed for over 80 years. The first was the termination of the institution as a scientific garden. The new curator had no inclination to academic botany, and the herbarium, which had been at the heart of botanical endeavour in the province, was separated from the Gardens during the transfer. It was retained by the government for the

FEATURE ARTICLE

purposes of entomology before finally becoming an outstation herbarium for the Botanical Research Institute in Pretoria. The Gardens were saved, but at a price.

The second trend was the loss of Botanic Gardens land. This had commenced as early as 1881 when a small segment of ground had been taken away for the building of an observatory. Under the municipality Botanic Gardens land was lost to a reservoir, council flats and a road which split the Gardens in two. Later, Parks Department headquarters were built in the Gardens adjacent to St Thomas' Road, and a large block of apartments was erected on Gardens' land. Cumulatively, these excisions reduced the size of the Gardens by over a third.

Only in recent decades has the municipality once again recognised the value of the Durban Botanic Gardens as a jewel in the city's crown. New land has been acquired and a curator, education officer and gardens' staff are employed by the municipality. The Durban Botanic Gardens Trust has raised funds over a 17-year period and directed millions of rands towards gardens-related projects. A healthy balance between indigenous and exotic

plants has been effected, and the Garden's outreach programmes and activities appeal to a diverse and growing user group. A visitors' centre has been erected and is maintained by the Trust, and a Friends of the Durban Botanic Gardens has been established. It is a long way since the dark days of 1913, when only Kew Gardens had the courage to speak out in support of this garden, which had contributed more than any other botanic gardens in Africa to the scientific study of botany on the continent:

It must not be forgotten ... that in Natal, South Africa has possessed a Botanic Garden for over fifty years where the true functions of such an institution have been ably maintained in spite of many difficulties. It is a matter of regret that the area of this Garden is so small, but small though it be its maintenance is as important now as ever it was (Kew Bulletin 1913).



Photograph by Lauren Dyll-Myklebust

Donal McCracken is a trustee of the Durban Botanic Gardens and is a senior professor of History at the University of KwaZulu-Natal

Here's to a legacy! – 130 years of togetherness and more

Yashica Singh - Curator: South African National Biodiversity Institute (SANBI), KwaZulu-Natal Herbarium

As organisations move into an era of unique identity and driven vision, their origins are becoming deeply buried, more so with the decline of narrators of history and heritage. Yet some establishments manage to stay mutually connected. Such is the relationship between the KwaZulu-Natal Herbarium and the Durban Botanic Gardens, which share a long and close history.

In 1849, the Durban Botanic Gardens was established as an experimental station for the purpose of testing East Indian and South American plants for commercial purposes. The Garden's second curator, Mark McKen introduced a number of potential beverage, food and spice plants. Arrowroot, coffee, tea and sugar showed initial promise, and sugar later became the province's most profitable product. After McKen, there were eight curators between 1853 and 1881, before John Medley Wood was appointed to the post in March 1882. Prior to his appointment, Medley Wood was a successful farmer and trader in Inanda.

Brian Schrire, writing on the centenary of the herbarium (1882–1982) recalled Medley Wood's approach to his task:

"On becoming the curator of these Gardens, my first and most important object in view was that of starting an herbarium, for without one the name of Botanic Gardens was not justified."

Using as a basis the 2000 specimens collected by McKen and William Gerrard, and others from Australia and Syria, Medley Wood started up an herbarium in a wood and iron building. As curator, Medley Wood collected extensively in the province, rapidly adding new records as seen in his collectors books, reports and publications.

From 1885 to 1890, government took a keen interest in the herbarium and provided support for its development, notably after a visit by the Governor of the Natal Colony, Sir Henry Ernest Bulwer. The herbarium contents were taken over by government and it became known as the Colonial Herbarium. A house was built for Medley Wood in 1890, and in 1902 a building for the collection was completed.

In 1913, due to lack of funds, the Botanical Society split the property. The two acres on which the herbarium stood were transferred to the Secretary of Lands in the Union of South Africa, and the Gardens to the Town Lands of the Borough of Durban. Thus, this year marks the centenary of the Durban Botanic Gardens.

The herbarium was transferred to the Division of Botany and Plant Pathology, and later to the Division of Botany (separated from the former) which became the Botanical Research Institute (BRI). The BRI changed to the National Botanical Institute (NBI) which in 2004 became the South African National Biodiversity Institute (SANBI). The Colonial Herbarium became known as the Botanic Station, then the Natal Herbarium, and in 2004 the KwaZulu-Natal Herbarium. The collection shaped by Medley Wood's tireless efforts celebrated 130 years of existence last year. It remains in a 110 year old building and contains close to 130 000 specimens.

The bonds forged in the quest for knowledge over this long period make the relationship between the herbarium and gardens vibrant and productive. Today, both establishments recognise areas for collaboration that benefit their users and visitors. The herbarium, being regional, offers an identification service mainly of plants in the province. Staff at the herbarium assist the gardens with plant identification and are closely involved in projects run by the gardens. Colleagues in the gardens assist the herbarium with growing plants of research interest. The herbarium has fond memories of friendly, open dialogue with the gardens on the province's flora and rarities. Above all, regardless of organisational or leadership changes, the KwaZulu-Natal Herbarium and Durban Botanic Gardens continue to maintain their legacy of being good neighbours.

We wish the Curator and our colleagues at the Durban Botanic Gardens well as they recall their long history and celebrate the garden's centenary.



Photograph supplied



Yashica Singh – Curator: KwaZulu-Natal Herbarium

TRUST PROJECTS

Managing the Durban Botanic Gardens Cycad collection

At the request of the Durban Botanic Gardens, the DBG Trust has appointed independent assessors Avis Nel and Terry Andrews to survey the Garden's cycads, with a view to improving the management, protection and display of this special collection.

Starting in the nursery, Avis has catalogued, re-potted and grouped over 900 plants. She then turned her attention to the Garden, spending nearly three months locating, cleaning and pruning the cycads in preparation for the planned inventory. Now clean and accessible, the collection is being documented. The cycads have been given a GPS location and garden number. They have also been identified, sexed, photographed, and measured for width, height and the status of their offsets, or pups.

As a separate, parallel project, data on their coning and pollen-shedding behaviour will be gathered with a view to optimising the collection's potential to produce propagules, and to contribute to pollen banks and breeding programmes. Additional management interventions include the removal, documentation and securing of suckers, and attending to plants that are diseased, or require fertiliser or re-positioning. Finally, the collection is also being permitted, so that it can be optimally and legally managed as a dynamic, breeding collection, composed of individuals of known provenance. Management recommendations will be made to the Trust upon project completion and data collation in the form of a summary assessment report that will guide a long-term approach to caring for the collection.



Photograph by Clinton Friedman

Perhaps the most significant single outcome of John Medley Wood's prolific plant collecting was the discovery of the giant cycad, later named *Encephalartos woodii* in his honour, on a steep south-facing slope at the edge of the Ngoye forest in what is now KwaZulu-Natal, in 1895. By the early 1900s this plant had become extinct in the wild, but Wood's original specimens remain the flagship of the DBG cycad collection

Groundwater supply for the Gardens

The Durban Botanic Gardens Trust, with the assistance of architect and project facilitator Derek Thomas, recently turned their attention to a key, but neglected aspect of the Garden's environmental footprint – water! An analysis of expenditure over the last 15 years revealed a monthly water usage of 1.4 million litres, at a cost to the Gardens of R 250 000 annually.

In searching for an alternative to the use of expensive, potable water, the project has identified groundwater as the most feasible among a number of options. Engineering and environmental consultants have located two potential borehole sites and established the drilling costs of testing them. Should either site show promise, then the Trust will commission further testing to assess the suitability and sustainability of the supply. If extraction proves feasible, and in the interests of the Gardens, then the Trust will seek permission from the Department of Water Affairs, and a commitment from the Municipality to implement the irrigation infrastructure needed to bring the water into the Gardens. Should this promising project come to fruition, it will enhance the Garden's operation as a water-wise and cost-clever institution.

Janet Gates - Senior Horticulturist

Janet Gates is the new Senior Horticulturist at the Durban Botanic Gardens, and brings with her a 30 year wealth of varied experience in the UK, SANBI, the cut flower and tissue culture nursery sector, tunnel growing of vegetables, the private nursery, fertiliser and landscaping businesses, and garden centre work. After a stint at Production and Display with the Durban Parks Department, Janet was transferred to the Gardens where she is happy to be “back in touch with plants” and the challenges of the classic landscaping horticulture that constantly draws supporters of the Gardens back through its gates.

As part of this back-to-basics approach, Janet hopes to improve the accessioning of plants coming into the garden and nursery, beginning with the cycad and palm collections, and complementing them with a growing indigenous component. The Gardens are much in need of a landscaping upgrade, the thinning of overgrown sections, and the cleaning of trees that have been smothered in unwanted creepers. New plantings are needed, as is the need for more efficient water use, and that of compost and mulch to promote its retention. Janet believes that it is these basics which create the backdrop for a unique historical presentation of plants; and one which must remain varied and interesting both for educational purposes, and to maintain the Gardens international standing and appeal, because, in her own words, “...the Gardens are of vital importance for those who value them.”



Photograph by Clinton Friedman

Janet Gates, DBG's new Senior Horticulturist

A monospecific moment

The existence of an undiscovered species of *Adansonia*, the iconic Baobab, may have been unwittingly suggested by a chance photograph, taken in the Durban Botanic Gardens in 2002. The Gardens contain two specimens of *Adansonia*, and the 2002 photograph, taken by horticulturist Martin Clement (now the Garden's Curator) shows their respective flowers side-by-side. The differences between the two flowers were noted with sufficient curiosity to prompt the photograph, but safe in the then-botanical orthodoxy of a single species of African baobab, the picture was archived, and forgotten.

The status of *Adansonia* as a monospecific genus in Africa has not gone unquestioned, however, and in 2012 the Journal *Taxon* published a paper with the following title: Morphology, ploidy and molecular phylogenetics reveal a new diploid species from Africa in the baobab genus *Adansonia* (Malvaceae: Bombacoideae).

Based on an examination of comparative pollen characteristics, and on chromosome number, the article's authors reported the existence of a new baobab species, *Adansonia kilima*.

While the separation between these species was largely posited on evidence from molecular techniques, the paper's authors noted that the two species were additionally distinguishable on the basis of observable floral morphology. Particular defining features between *A. kilima* and *A. digitata* include the size of the flowers, the length of the pistil, the

number of anthers and the position of the petals. The illustrations of these differences in *Taxon* recalled the Garden's archived photograph, which also appears to indicate the floral differences between *Adansonia digitata* and *A. kilima*, although this cannot be confirmed until the trees next flower. These differences are indeed, readily observable, and it is interesting that they only attracted the attention of taxonomy when the arcane and esoteric insights of molecular phylogeny cast them in a new light. As the paper's authors concluded: “It is somewhat surprising that a separate baobab species has co-existed alongside *A. digitata* without detection when both are common and widely distributed.”



Photograph by Martin Clement

the 2002 photograph that juxtaposed flowers from two different garden specimens of the then-monospecific African Genus, *Adansonia*. The larger flower on the left (*A. digitata*) is from the Baobab outside the Discovery Room, while the smaller one on the right (*A. kilima* ?) is from the larger specimen next to the Orchid House. By 2012 it had been proposed that the Genus was represented by two African species, the respective floral structures of which appear to be shown in the 2002 photo

Music at the Lake - Livening up the Lake with some socially responsible music

The Durban Botanic Gardens Old Mutual Music at the Lake concert programme brought in the heavy-hitters for two industrial-strength concerts which have cemented the Gardens status as a venue-of-choice for the growing outdoor music industry. The Lake, generally known for its tranquillity, recently played host to some of SA's hottest names in entertainment. March saw raging rockers Prime Circle accompanied by Durban-based crowd pleasers, Gangs of Ballet; and as if this were not enough, April brought to the once-demure Gardens celebrated multiple SAMA Award winners Mafikizolo and crowd favourite and Idols 2012 winner Khaya Mthethwa. The Nature VS Culture conundrum was solved once and for all, as the Garden's botanical beauty was clearly put to good use in the service of multi-culturalism and music. For the Gardens, such concerts are important both as fund raisers, and as instruments to welcome a more diverse group of supporters and friends. The association between the Durban Botanic Gardens Trust, and sponsors Old Mutual, greatly assists the Trust to maintain the standards, values and activities that are needed to broaden the Gardens outreach programmes, which are increasingly using plants to assist some of the city's most vulnerable residents. If music can provide a soundtrack to this socially responsible agenda then play on!



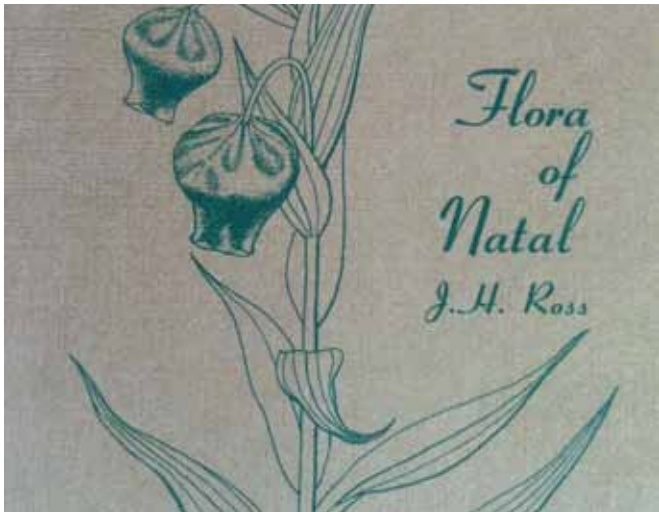
Photographs by Timothy Lubbe

Ross Returns - The little green book...Botanical Survey Memoir No. 39



Photograph by Jody Fuchs

Dr. J. H. Ross



Photograph by Jody Fuchs

For the last 50 years, the botanical exploration of KwaZulu-Natal has been closely associated with the 418 page Botanical Survey Memoir No. 39 – The Flora of Natal, compiled by J.H. Ross and published in 1972 by the then Botanical Research Institute in Pretoria. The Flora of Natal replaced J. W. Bews' 'Introduction to the Flora of Natal and Zululand' which was published in 1921 after John Medley Wood's "Handbook", by then considered dated, went out of print. After completing the book, Ross left Natal for Kew Gardens, returning briefly to South Africa in 1974 before accepting a post at the Royal Botanic Gardens in Melbourne and the National Herbarium in Victoria, Australia, where he spent the remainder of his working life.

It was thus a matter of considerable excitement when Dr. Ross returned to Natal in February 2013 to revisit the institution where he'd last worked in 1968, 45 years previously. Dr. Ross gave a short talk at the Durban Botanic Gardens Visitors' Centre in which he recalled his early days on the staff, his modus operandi in preparing the Flora before the advent of computers, and the help he received from Olive Hilliard and Kath Gordon-Gray. Fond recollections of Kew Gardens made mention of both Roddy Ward and Snowy Baijnath, both of whom spent time at Kew while he was there. While much has changed since his last visit, Jim Ross's Flora of Natal is unchanged, still in use, and still readily available to botanists and the public alike. In fact, Botanical Survey Memoir No. 39 is currently on special at the South African National Biodiversity Institute (SANBI) bookshop at a cost of R10!



Staff of the Botanical Research Unit at the Herbarium in Durban in 1971. From left to right: Mr. C. F. Musil, Miss R. E. de Jager, Mrs A. M. C. Breytenbach, Mr. E. J. Moll, Mr. A. Murray, Dr. J. H. Ross and Mr. R. G. Strey [Source: Schrire, B. D. (1983). Centenary of the Natal Herbarium, Durban, 1882 – 1982. *Bothalia* 14, 2: 223 – 236.]]

A view from across the fence, or, what's it for?

By Dr. Hugh Glen, Specialist Scientist –South African National Biodiversity Institute (SANBI), KwaZulu-Natal Herbarium

What is a Botanic Garden for? In particular, what is Durban Botanic Gardens for – or what should it be doing?

When this Garden was founded, it had an important role in the economy of the young Colony of Natal, introducing and testing crops which could possibly be grown profitably. That made sense in Queen Victoria's glorious days, but now there are other bodies which can do the job better. So this possible function of the Garden is of, at best, limited relevance in the 21st century.

Botanic Gardens should have a scientific function; think of Kew as the scientific Garden par excellence. DBG certainly has had such a function in the past, and the KwaZulu-Natal Herbarium, still on land that once belonged to the Garden, is a monument (literally: two of the buildings bear National Monument medallions) to the part that DBG has played in the discovery and documentation of the flora of the eastern seaboard. This role is no longer the be-all and end-all of the Garden's existence, but it is far from being extinct. Nevertheless, I do not believe that it is or can be the most important role of the DBG today.

What about conservation? To be sure, DBG does important and valuable work here; of necessity most of this takes place out of the public gaze, and it would be possible to argue that the best place for a facility dedicated to ex situ conservation is somewhere out of the way (for reasons of security if nothing else) and not in the centre of a city as DBG is. So this too is not the most important function of this Garden.

Now consider the function of education. Where else can students, children, interested amateurs go to see what the plant kingdom in all its glorious, riotous variety does, if not in a good Botanic Garden? How many readers know what cinnamon, cloves, kapok, chocolate, teak, mahogany, balsa wood and many other products look like when alive? All of these can be seen in DBG and nowhere else in Durban, and it is important to remind users of the Garden that all these are natural products of living, growing plants. One should also note that here all these plants are growing out in the open, as they would naturally, and not confined and mutilated at enormous expense in a greenhouse, as they would

be in most temperate first-world countries (so the plants, properly marketed, form a tourist attraction).

At its best, the Garden's collection of the whole world's plants could – or should – limit the ability of the lunatic fringe of the indigenous fanatics to make absurd statements and get away with nonsense. For instance, recently somebody in a bunny-hugger publication widely touted in this town claimed that the Cape sundew *Roridula gorgonias* was the world's largest carnivorous plant. It isn't, though it may be the largest sundew. If DBG had a good collection of carnivorous plants, we would be able to trot out a specimen of the Bornean *Nepenthes raja*, which is many times the size of a full-grown *Roridula*, and rather more obviously carnivorous.

For another example, consider the classic Victorian picture of a young girl looking like Alice of Wonderland fame sitting – dry -- on a waterlily leaf still attached to its plant, in a pond. Faked? No, and the waterlily (*Victoria amazonica*) would grow quite easily (give or take the wind) in the lake at DBG. And there are many examples like this.

So what should we do to make the most of this amazing resource? First, make a list of what is there. Next, make a list of what we should be able to show the world to demonstrate what plants really can do. Then start planning and sourcing the difference. And, of course, telling the world what an amazing place DBG is.



Photograph by Mark Mattson

Where does that Cappuccino come from? It comes from a tree called *Coffea arabica*, which can be seen in the Durban Botanic Gardens

The DBG Centenarians

By Dr. Hugh Glen, Specialist Scientist -South African National Biodiversity Institute (SANBI), KwaZulu-Natal Herbarium

For some years now, Di Higginson Keath and I have been working with DBG staff – first Des Marimuthoo, then Barry Lang and now Janet Gates – on a project to check on each tree in the garden, confirming its identity, location and need of labelling among other things. We have been using Mark Mattson's printed and now out-of-print list, with the idea of possibly making a new edition giving blocks and grids like the old one, but with updated names. At present, the fruits of our labours are stored as a spreadsheet with the information already mentioned and much else besides for each tree.

In the course of doing this, we found a copy of Medley Wood's 1897 numbered list of trees in the Garden, which has a map attached, showing (by number) where each tree was then. Naturally the same idea occurred to Di and me, and she nobly went back into the list to correlate our survey spreadsheet with Medley Wood's list. Would she find any centenarian trees? That phase of the task is not quite finished at the time of writing, but our current score is 101 trees and lianas, and they include some stunners.

Here are a few of the extra-special trees we found - Pride of place goes, obviously, to *Encephalartos woodii* (Wood's Cycad), one of the rarest, if not the rarest, plant in the world. It has been in the garden for 106 years, and grew in the wild for at least as long again before that, to judge by surviving pictures from the time of its collection.

Then there's the *Ziziphus mucronata* (Buffalo Thorn) by the top pond, evidently the last survivor of the original Berea forest that clothed the site before the Gardens moved here in 1851, so over 160 years old, and a magnificent tree.

There is a male *Hyphaene coriacea* (Lala Palm) in Block I, planted by Mark McKen in 1867 according to Medley Wood, or by Wilhelm Keit in the 1870s according to another source. Either way, a splendid specimen in its 15th decade.



Photographs by Clinton Friedman

DBG centenarians from left to right: Lala Palm (*Hyphaene coriacea*), Monkey Puzzle (*Araucaria bidwillii*) and the Buffalo Thorn (*Ziziphus mucronata*)

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Next in line and our first exotic is *Hura crepitans*, the Sandbox Tree near Medley Wood's bust. The great man himself gets credit for this one, as he says it was planted in 1890. The specific name *crepitans* means 'rustling', and indicates that the fruits are not silent when they open. Beware of the sap, which is deadly.

I love showing visitors the mighty cinnamon tree, *Cinnamomum verum*, near the bell in block K. Their expressions as they realise that this is the source of that aromatic brown powder in the spice rack, are a study. It was certainly there in 1897, but how much earlier it was planted is unknown.

Pretorians (I know, having lived there for 26 years) may not believe this and may have difficulty accepting it, but the now rather moth-eaten Jacaranda (*Jacaranda mimosifolia*) in Block P is the oldest in the country, having been planted in 1885.

The Banyan Tree (*Ficus benghalensis*) in Block Q near the Lake was planted in 1868, but appears to have been severely pruned at some stage. The one behind the amphitheatre is larger, but evidently younger.

The Garden's Araucarias (Monkey Puzzles) are tall, and visible from most of the neighbourhood. Possibly the oldest is the Bunya-bunya tree (*A. bidwillii*) in Block S, planted by Mark McKen in 1867.

Lovers of Asian cooking will be familiar with tamarind (*Tamarindus indica*), possibly as a substance that looks like wet black compost and comes from Thailand in small plastic packets. But that compost started out as the fruit of an attractive tree that is rarely seen in gardens; DBG has two old ones, one in Block F and the other in Block D. Both were there already in 1897, and so are over 116 years old. It certainly is indigenous to India, as Wood says, but I have seen it growing wild in the Zambesi Valley a very long way from human habitation.

And finally, the most breathtaking of all in my opinion: the Giant Kauri (*Agathis australis*) in Block I, a strapping youngster of some 116 summers, with another 700 at least ahead of it. Economically, it produces a valuable gum and timber that is an exact replacement for Yellowwood, but which can be harvested in half the time.

Of course there are many other grand old trees in the Gardens, but them you get to seek out by yourself.



Photographs by Clinton Friedman

DBG centenarians from left to right: Kauri Pine (*Agathis australis*), Jacaranda (*Jacaranda mimosifolia*) and the Banyan Tree (*Ficus benghalensis*)

Communities in Nature: Growing the Social Role of Botanic Gardens

By Asimina Vergou and Julia Willison, Botanic Gardens Conservation International (BGCI)

Focused by definition on scientific research, conservation, education and recreation (Wyse Jackson, 1999), botanic gardens are not generally thought of as organisations that tackle gritty social issues and embrace the excluded. However, Target 14 of the Global Strategy for Plant Conservation (GSPC) requires that everyone understands the importance of plant diversity and the need for conservation. Growing botanic gardens' social role involves reaching broader segments of society, and advocating that environmental issues do not exist in a vacuum and that they are intertwined with people's daily lives (Dodd & Jones, 2010; Rose, 2012).

Some of the major challenges that our world currently faces include threats to global biodiversity due to anthropogenic climate change, deforestation, invasive species, but also poverty, food security and obesity. Considering that in many cases botanic gardens tend to attract a very specific audience of white, middle class, older visitors (Dodd & Jones, 2010), David Rae from Royal Botanic Garden Edinburgh argues that there is no point in addressing sustainability issues by engaging with only 5% of the population. It is important to engage with 100% of the population, 'so we've got to find new ways of reaching people who don't naturally visit the garden'.

Already there are botanic gardens worldwide that are pioneers of social inclusion work. Chicago Botanic Garden has 30-years experience engaging low-income urban communities through gardening and science education. Kirstenbosch National Botanical Garden also has a long history of supporting townships in Cape Town with projects such as the 'Farmers of home' which helps people turn waste land into market gardens. Whilst much good work is being done, botanic gardens can do much more according to recent research (Dodd & Jones, 2010) which identified key areas through which gardens can grow their social role. These areas comprise broadening audiences, enhancing relevance to communities, education, conducting research which has socio-economic impact, contributing to public environmental debates, modeling sustainable behavior and changing attitudes and behavior.

Growing a social role requires botanic gardens to develop their commitment to working with their local communities

on common issues of social and environmental importance, for the benefit of those communities, the gardens themselves, and towards a sustainable future for our planet. In order to do so, Dodd & Jones (2010) have indicated a number of factors which need to be addressed. These include a lack of capacity and skills, a workforce with limited diversity, management hierarchies, limited funding and a lack of evidence for the impact of gardens on their communities. However, a number of forces also exist that can motivate gardens to reconsider their social roles and responsibilities, such as involvement in wider networks, social and environmental policies, and public funding and accountability.

Bringing change in a botanic garden involves re-evaluating its mission, values and vision. Organisational change however is not an easy task. Jennifer Schwarz Ballard from Chicago Botanic Garden suggests that gardens 'start small and build slowly: start with one project and establish its success. Each time a component is added, evaluate its success and ensure that there is organizational capacity to maintain the addition. Building too quickly can negatively impact program quality and stability'.

Following this approach, BGCI, with support from the Calouste Gulbenkian Foundation since 2010, has been working with UK botanic gardens by piloting and evaluating small scale projects with their communities, providing training, running organizational workshops, and building a Community of Practice where partner gardens share their experiences and learn from each other.

Evaluation revealed that even small scale projects can have a significant social and environmental impact on individuals and their communities (Vergou & Willison, 2013). Bryan, who is at risk of homelessness and took part in the Edible Gardening project run by Royal Botanic Gardens Edinburgh, spoke about his new job aspirations: 'since I've come to the garden, I've changed, I want to be a gardener. Being a gardener, it's keeping me out of trouble and that's it'. Jamal, a member of Bristol Drugs Project visiting Westonbirt, The National Arboretum during the Hidden Voices project commented about the health and wellbeing benefits: It was an amazing experience...It gave me a bit of hope that I can be part of the community, be

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normal. The natural high from that day got me through the whole weekend (without using drugs) which I was worried about'. Mary, a resident of sheltered housing and participant of the Bristol Community Plant Collection run by Bristol Zoo Gardens (BZG) noted about her involvement in a practical plant conservation project: 'I knew that there are things that are going extinct. But I didn't think much about it...you just assume that someone else is going to do something about it...For me it is great that they are saying well they are going to see if people in sheltered accommodation would like to do it...and it has brought us together as a community'.

Growing a garden's social role is not just about helping individuals and families to change how they live, but it is also about working with people to help them collaborate to generate structural and systemic change. In order to do so BGCI, as part of the Communities in Nature programme, is currently aiming at developing an alliance of European botanic gardens that will work conjointly on bringing social and environmental change. This alliance will be the stepping stone for BGCI to expand its initiative worldwide in the future. To find more information and published reports on this initiative, and to express your interest to be part of it, visit BGCI's website: http://www.bgci.org/education/communities_in_nature

*Bristol Community Plant Collection: Sheltered housing residents growing *Calendula* sp. for Bristol Zoo Gardens*

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Photograph by BGCI



Photograph by BGCI

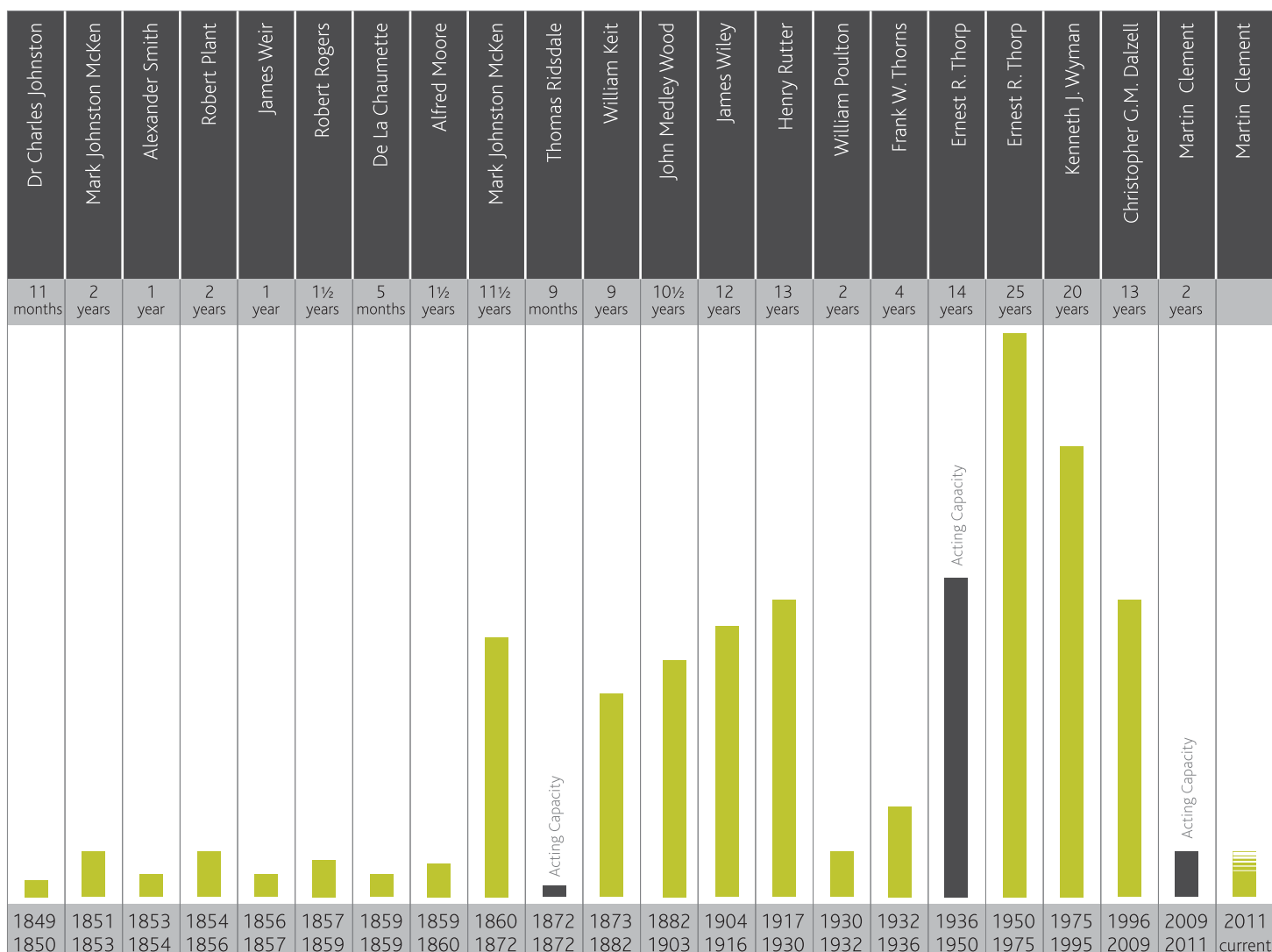
Hidden Voices project: Bristol Drugs Project group doing woodland conservation management at Westonbirt, The National Arboretum



Photograph by BGCI

Edible Gardening project: Young people learning how to grow their own food at the Royal Botanic Garden Edinburgh

Curators Timeline 1849 - present



Give a Gift support the 'Gardens Refreshed' Campaign

Should you donate to the Durban Botanic Gardens Trust, you are investing in the future work of the Gardens in areas of Plant Conservation, Education, Heritage, Research and Horticultural Excellence. There are a number of exciting projects which need support, ranging from cycad security, new garden features, maintenance of existing projects, restoring heritage spaces in the Gardens, and the water conservation project.

Contact: Kerry Phillips _ 031 309 9240 _ marketing@dbgt.org

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Follow these easy steps of electricity saving tips and soon you could have extra money in your pocket to treat your kids and loved ones more often than you thought possible.

So, when you get home from the DBG, here's where you start your journey to switch and save.

- 1 Boil only as much water as you need for your afternoon coffee or tea – and do so every morning, afternoon and evening.
- 2 Keep your morning shower short (5-7 mins); avoid taking long full baths because it makes your geyser use more electricity to heat the replacement water.
- 3 Take food out of the freezer in the morning and put it in the fridge to thaw; it'll save you using the microwave to defrost it later that night.
- 4 Cook in the microwave whenever you can, it is the most energy efficient cooking appliance in your home.
- 5 Close your fridge door quickly so it doesn't use extra power to get back to the correct level of coldness.
- 6 Don't leave your TV, computer and DVD player on standby mode - they still use up to 50% of their operating power if you don't switch them off at the power button.
- 7 In summer, keep your air-conditioner in the comfortable 'golden zone' of between 18°C and 22°C.
- 8 In winter, only heat the room you are planning to spend time in, and rely on the built-in thermostat to turn it off automatically or use a gas heater.
- 9 And, the easiest thing to do? Switch off lights in all unoccupied rooms.

and to save even more...

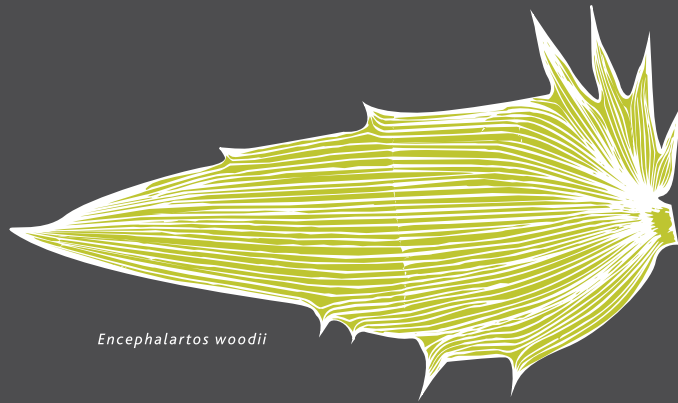
- 10 Lower your geyser thermostat to 60°C, cover your geyser with a geyser blanket and insulate all water pipes connected to the geyser.
- 11 Install energy and water saving shower heads in all your showers.
- 12 And, replace your old-style incandescent bulbs with energy saving compact fluorescent lamps (CFLs).

Now you've reached a point where the next switch will save you most of all.

- 13 Install fire retardant insulation - an insulated room requires 51% less energy to heat up than one that is not (remember to check your windows and doors for gaps - fill it to prevent cold air from rushing in). This "switch" will save you most of all.
- 14 And, replace your electrical element geyser with a solar water heating system or heat pump; it can help you save up to 24% of the electricity you use to heat water in your home.

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Encephalartos woodii

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John Medley Wood, 10th Curator of the Durban Botanic Gardens (March 1882 to December 1903), Director of the Gardens (January 1904 to June 1913) and first Curator of the KwaZulu-Natal Herbarium (March 1882 to August 1915), recognised for establishing an herbarium of international standing

