

The Auckland Garden

Newsletter of the Auckland Botanic Gardens and Friends

June 2023





Contents

ON THE COVER

- 4 Domain Winter Gardens

GARDENS NEWS

- 10 Jack's update
11 Easter engagement activities

FRIENDS AND VOLUNTEERS

- 13 From the President
15 Art Group news
16 Friends membership subscriptions
17 Artist in residence
19 Photographic Competition
19 Growing Friends
20 Friends Midwinter Soup Day
20 Wiri Rambler

A FOCUS ON PLANTS

- 21 Edible flowers
22 New Zealand Gardens Trust Conference
29 Climate warming and plants
30 Melbourne Flower Show

**Auckland
Botanic Gardens**
102 Hill Road,
Manurewa,
Auckland, 2105

.....

**Contributions to the
newsletter are welcome**
Material for the September
2023 issue should be submitted
by 3 p.m. Friday 1 August 2023
to the Editor
ross.ferguson@
plantandfood.co.nz

.....

©

No part of the Newsletter may be reproduced, stored in a retrieval system or transmitted in a form or by any means electronic, mechanical, photocopying, recording, duplicating or otherwise without the prior written permission of the Editor and, where appropriate the owner of the copyright. The views expressed by contributors are not necessarily those of the Friends, Auckland Botanic Gardens or of the Auckland Botanic Gardens, Auckland Council. No responsibility is accepted for any damage or financial loss incurred by following any advice given in the Newsletter.

.....

Images

Front cover: *Winter Gardens at Auckland Domain. Photograph: © Salmond Reed Architects.*
Opposite page, clockwise from top left: *Chrysanthemum 'Ivor Mace'* (Exhibition form),
Foeniculum vulgare 'Purpureum' and *Zinnia elegans* Zahara Yellow 1.

Domain Winter Gardens

The completion of the seismic strengthening and conservation of the Winter Gardens is a major achievement. A much-loved Auckland building has been conserved for the future. It is remarkable that this was accomplished on time and, even more remarkable, within the original estimates. Tracey Hartley of Salmond Reed Architects was the project lead and heritage consultant. She describes what was involved. The photographs are © Salmond Reed Architects.

Seismic strengthening and major repairs 2021-2023

Introduction

The Domain Winter Gardens are the most popular of sites of heritage importance in Auckland. They are visited by both international and domestic visitors, many of whom are repeat visitors who come to see the changing horticultural displays, seasonal variations, and the unique architecture. Access all year round and free entry makes this place a wonderful and appreciated haven for many different members of the community to enjoy and escape from the hustle-bustle of the city.

The structures have the highest level of heritage recognition and protection, being a Heritage New Zealand Category 1 place and scheduled category A within the Auckland District Plan. The glasshouses are considered one of the earliest surviving purpose-built and planned botanical structures in New Zealand. They form an extremely significant part of New Zealand's architectural and

botanical heritage. From a technological perspective they are an early example of steel and glass construction in New Zealand. They were collectively designed by William Gummer (Temperate or Cool House) and the architectural practice of Gummer and Ford (Tropical or Hot House, and Fernery) – among the foremost architects in the country at the time. They were built between 1916 and 1930.

The glasshouses are located on a man-made terrace on the northern side of Pukekaroro Hill. The Temperate House was the first to be started, but completion was delayed by World War I and it was finally opened in 1921. It contains year-round changing displays of flowering plants and cacti. The Tropical House and connecting courtyard were completed by 1928. The Tropical House had a purpose-built boiler room attached at the western side and incorporates a tall ornate Chimney with flues that straddle the central window of the western recess opposite the porch, which leads to the courtyard. The Tropical House has a more permanent display of tropical specimens, many of which are rare, and is kept heated in winter by the large pipes which run within a floor duct and below the shelving. The Fernery was completed in 1930 and was planted with many native ferns. Since then, exotics have been introduced and the fernery structure has been replaced at least twice since its construction.

Seismic Upgrade and Repairs Project

In March 2023, the glasshouses were

fully re-opened to the public following a complex two-year project to seismically upgrade and undertake major repairs and improvements to the structures and wider site. The total cost of the project was \$5.7 million, and it was completed on-time and on-budget.

In 2015, the Council identified that the glasshouses were earthquake prone. A structural engineer was appointed, and the focus was, understandably, on the seismic retrofit of the structure during the period of concern following the Christchurch earthquake. However, after completion of the seismic design it became apparent that the existing high-level toughened glass, particularly the barrel-vaulted roofs, no longer complied with the updated New Zealand Code of Practice for glazing. The Council therefore appointed a specialist glazing engineer to advise on the replacement of the glass and supporting frames so that the steel roof structure and its glazing could be brought fully up to standard. The recommendation was that all glass and glazing bars over 5 m needed to be replaced or a safety net would need to be installed in order to catch falling glass in the event of an earthquake.

This meant potentially significant changes to the buildings so there was much deliberation as to how to make the buildings safe, whilst assessing the financial implications and impact upon the heritage values of the buildings. Salmond Reed Architects (SRA) were commissioned to prepare a report on the buildings, because the condition of complex structures is an important aspect of seismic resilience. In 2019, SRA was given the challenge of bringing all aspects of the project together and project

managing a final coordinated proposal that would have the best outcome and least impact on heritage values.

The buildings were in very poor condition, mainly through water damage inherent in their function, but also because of years of water penetration from an inadequate rainwater disposal system, blocked drainage and the more frequent intense rainfall being experienced. This manifested itself as leaking roofs and overspilling gutters saturating the masonry encouraging damaging plant growth, decaying joinery, cracked and delaminating plaster, corroded steel elements, deteriorated paintwork, and rotting timber display shelving.

The Tropical House had the most challenges for the gardening staff and project team – it contained several specimens which had outgrown the space with the large cycad planted in the 1940s starting to branch leaves out through the roof glazing. Relocating the cycad was explored, such as donating it to Auckland Zoo, but unfortunately it was impossible to remove from the building because of its size, and with no guarantee it would survive. The gardening staff had started preparing replacements in anticipation of emptying the Tropical House, including propagating pups from the cycad from 2016 onwards. The modern glasshouses at the Domain Nursery Depot were fully utilised throughout the project.

Seismic Strengthening Solution

The brief required the building to be brought up to 67% National Building Standard using the designation of IL3 (i.e., the Importance Level of the building). IL3 is the highest standard and is used

where the aim is to not only safety of life, but also the building itself, limiting damage as much as practicable, so that it can still operate after a seismic event. The solution by the structural engineers EQ Struc Ltd provided for an elegant system of inserted steel elements such as plates, cleats, and tie bars, similar to those of the original steel roof structure, to provide additional bracing and prevent potential racking of the slender steel barrel vaulted roof structure in a movement event. The large reinforced, brick-clad concrete pillars that provide support for each main steel truss were assessed as being sufficiently strong enough to resist lateral forces, and therefore did not require any strengthening.

The original steelwork had to be treated for corrosion and after investigation the original paint colour uncovered was matched for the repainting. All new steelwork was painted a subtly darker colour, so that it can be identified as the new introduced seismic steelwork.

The chimney to the Tropical House, because of its height and potential for toppling, required support utilising a seismic steel frame fitted internally and connected to a new, much deeper pile foundation. The single storey boiler room and potting shed attached to the back of the Tropical House was also strengthened with added steel to the roof structures, and the buildings were re-roofed and repaired.

Replacement Glazing

Identifying suitable supplies of the specialist safety glass and designing new glazing bars appropriate for a heritage building, whilst still meeting the NZ

Building Code, was amongst the most challenging aspects of the project. The engineered aluminium glazing bars for the roof are non-standard, specifically designed with a low-profile cap to reduce the visual impact on the buildings. Availability of the special glass in obscure patterns was limited to overseas supply and fraught with problems, and so it was decided to use clear laminated glass panes to create the spectacular “faceted” curvature of the roofs. The use of clear glass, rather than the existing obscure pattern introduced during the mid-20th century, would restore the buildings closer to their original appearance. This has been one of the positive outcomes of the project. Visitors and staff can now enjoy a changing backdrop of the sky, which is fully visible, where previously it was concealed from view by the obscure glass.

There were concerns that the new clear, laminated heat-strengthened glass would have a negative impact upon the plants due to scorching through direct rather than diffused sunlight. Advice was therefore sought from a horticulturalist specialising in UV and plant growth in greenhouses. It was established that the new glass transfers less heat than the previous obscure toughened glass. So, the perception might be that the houses are hotter, because of the direct sunlight, but in fact the heat transfer through the glass would be less. The new glass reduces UV light transfer but as there was so much glazing in the houses that allows UV light through the plants should adapt without any noticeable difference in their growth.

Obscure vertical glazing in the gable walls above the height of 5 m and to the porches also had to be replaced with thicker safety

glass. All the internal and external joinery was repainted after localised repairs had been completed. Whilst glass and glazing bars to both roofs have been fully replaced, these elements of the building were not original, having been replaced in 2004. In heritage terms, the decision to replace in full to meet the brief for safety did not conflict with the heritage values of the buildings.

Repairs to Masonry and Plasterwork

The whole of the interior brickwork of the Temperate House, and a large proportion of the Tropical House, had to be repointed with a lime mortar owing to the extensive plant growth from brick joints and cracked cement mortar pointing, which was trapping moisture and was starting to destroy the bricks. The decorative scrolls that adorn the top of each buttress

externally consist of plaster over brick cores and were in terrible condition, owing to water penetration and roots from plant growth embedded in the cores. The brick bases were rebuilt, and the plaster replaced and then a beautiful lime-based fines coat was applied to all plaster elements. This required some of the most skilled trades employed on the whole project and greatly enhanced the appearance of the buildings.

Rainwater Disposal and Drainage

The original spouting and downpipes were completely inadequate for the volume of rainwater from the roofs and were poorly arranged for efficient drainage and maintenance. The main spouting discharged onto the small porch roofs through one small copper pipe, which regularly blocked with leaves.



This meant that every time it rained all spouting would overflow down the walls not only externally, but internally as well, and this was the primary cause of the rotten timber windowsills throughout the buildings. Good maintenance is key to keeping the fabric of the buildings dry and to prevent deterioration and so the highest priority was to improve the rainwater system for the long-term benefit of the buildings.

We obtained resource consent for a change to the external appearance of the buildings and complete renewal of the system, which included replacing all the spouting with new larger/deeper cast iron spouting and adding 12 new cast iron downpipes to each building to increase the capacity of the system and to quickly take the water to ground level. This was an extremely important investment by Council and the benefits that cast iron provides include a long-life expectancy compared to other metals, being not vulnerable to damage or theft and being traditional and therefore blending with the original architectural style and fabric of the buildings. In fact, now that the guttering and spouting are in place, it is difficult to even detect that they are a new introduction.

A new permeable drainage margin has been laid around the buildings to prevent the walls from the effects of unwanted plant growth and dampness and new underground drainage and gulleys have been installed to each pipe to replace the previously blocked drains, which now means the buildings will remain drier and the garden display beds will no longer flood in wet weather.

New Display Shelving, Lighting and Further Enhancements

Working closely with the gardening staff on site we designed new shelving for both houses which will be much more durable and function better in the long term. In the Temperate House, the shelving has been manufactured out of lightweight glass fibre reinforced concrete with an upstand at the back to prevent soil spilling onto the timber windowsills and brickwork. It is supported on a new timber frame and posts that match the original design and is painted in a traditional green. In the Tropical House, new cast iron grates have been produced as copies of the original floor grilles and these are fitted within the low block walls creating a flat shelving above the heating pipe ducts.

During the project there were a few surprises. In the Temperate House, two original watering ponds were discovered to the north and south gable walls under mounds of scoria rocks. These have been waterproofed and incorporated within the new shelving to display various bog plants.

The lighting of the houses needed improvement as each house had only four halogen task lights, well past their use-by date. Salmond Reed and the main contractor worked together to produce a subtle lighting scheme for both houses and the courtyard. Firstly, by the introduction of a hidden, dimmable LED striplight on top of the concrete ring beam at eaves level to provide low lighting of the newly glazed roofs and then externally spotlights were fitted within the paving to light the brick piers

and highlight the decorative elements. The aim was to provide lighting so that the glasshouses would be reminiscent of a glowing lantern, and it is very satisfying to see that the plan has worked. In the courtyard, new robust brass eyebrow LED spot downlights are fitted to a select number of the brick piers, with all wiring concealed – these fittings are so discrete during the day, but at night, the light they bring to the courtyard is magical and romantic. Whilst not generally open in the evenings, the buildings now have much more presence in the Domain and the lighting is an added attraction for evening hire.

For years the staff have had to struggle with a home-made contraption for hanging a grow lamp over the pond to ensure the rare water lilies have enough light all year round. A new circular frame hanging on stainless steel wires from the roof has been installed with a new timer-controlled grow lamp, that can be raised up and down on a mechanical winch making life easier for the staff.

Many of the expensive rare plants on display in the houses were regularly stolen in the past, and the security system was inadequate. New 360 security cameras have been installed and new secure display cabinets are being built in the Tropical House, so that rare specimens can still be put on display for the public to enjoy.

Construction Process

There were over 20 trades employed during the project, many of them highly specialist. There were huge challenges during the two-year period, such as Covid-related labour shortages, material cost increases, major weather events, and materials delays, but despite all of this, the project has reached a happy conclusion and finished within the overall budget.

The project took two to three years in the planning and two years on site and was undertaken with the intention of always keeping one house open to the public, but owing to Covid-19 pandemic restrictions, this was not possible. Through flexible planning and immense cooperation from the main contractor, the programme was changed to a three-month overlap of the works in the houses, and both houses were closed enabling the contractor to stay within the original overall programme completion date of exactly two years from commencement and in the year of the Temperate House's centenary.

The Winter Gardens are again open to visitors and are vibrant with displays that are constantly being enhanced and will provide changing interest for the future and, provided the buildings are maintained, the buildings and plants are secure for the next 100 years.



Jack's update

The formal reopening of the Tropical House by the Deputy Mayor Desley Simpson on Wednesday 15 March was a fitting celebration of a major upgrade of the Winter Gardens. This includes seismic strengthening and replacement of much of the glass and infrastructure. I have been most impressed with the quality of the research and attention to detail that has resulted in two superbly appointed conservatories that will continue to provide much pleasure and botanical inspiration to visitors. The lead architect, Tracey Hartley of Salmond Reed Architects, deserves much of the credit for this successful renovation and writes about it elsewhere in this Newsletter.

The Domain team have done a great job of keeping the Tropical House plants in such fine condition during the Winter Gardens closure despite having to cram them into old and somewhat decrepit glasshouses. The Tropical House display already looks great and will only improve over time as the plants mature.

In early May a contingent from the Friends braved the wild weather to visit the Domain. We were expertly hosted at the Museum Herbarium, and moved to the Winter Gardens where Jonathan Corvisy briefly outlined the history of the Domain and the recent renewal project. Nick Lloyd then guided the group around the Domain nursery. The chrysanthemums in the Temperate House were at their peak, and the floral colour was uplifting on an otherwise wet and dreary day.

Eye on Nature was held at the Botanic Gardens on 13 to 15 March after being disrupted by COVID in recent years. More than 1,000 children attended from 35 schools in the South Auckland area over 3 days. The event is organised by the Beautification Trust and the Botanic Gardens assist with the organisation and provide the location and staff support. Other partners include Auckland Zoo, Auckland Museum, the Learning Through Experience team and private companies with an environmental focus. This year's theme was "Waste", with a focus on waste minimisation, composting and the impacts of waste, and received very positive feedback from the participating schools.

Recently several staff from Botanic Gardens and the Domain attended the NZ Gardens Trust (NZGT) conference in Wellington, and a couple of our staff also attended the New Zealand Tree Crops Association conference. Without the Friends assistance we would not be able to participate in these important networking and learning opportunities, and we are all extremely grateful for the support.

I was honoured to be asked to open the International Plant Propagators' Society (IPPS) conference held in Parnell on Friday 21 April. I was even more delighted when Terry Hatch and I both received awards at the conference. Terry received the John Follett award for outstanding service to the IPPS New Zealand region.

I was lost for words when I received the Award of Merit, the IPPS New Zealand Region's highest award that is given for meritorious service to the IPPS New Zealand Region and to New Zealand horticulture. Terry has previously received this award twice, in 1996 and 2011. It was especially meaningful to be presented with this in front of many of our most outstanding horticulturists, and for the two of us to receive our awards on the same evening made it even more special. Terry and I also presented papers at the conference. Terry spoke about propagation, and I talked about plant breeding at the Gardens. More details on the conference will appear in the next Newsletter.

Jack Hobbs



Easter engagement activities

It has been a busy few months in the Education and Partnerships area here at the Botanic Gardens. In March we hosted the Beautification Trust's "Eye on Nature" schools' event where we welcomed hundreds of school children and a wide range of partnering environmental organizations to the Gardens. The children participated in a series of educational activities relating to the sustainability topic of "waste". The Gardens team delivered sessions in the Potter Children's Garden that looked at growing your own food and also a sustainable water session that showcased water-sensitive design featured in the Gardens. We had a number of field staff assisting with guiding alongside some volunteers and of course members of the Visitor Centre

team. These events are a great way to raise awareness of the Gardens and to promote us as a destination to come back to again and again with family and friends.

In March and April we ran Drop and Learn sessions in both the Gondwana Arboretum (with Mere Brewer) and the Herb Garden (with Paula Lollback). These are free drop-in-sessions that last an hour and provide visitors (and volunteers, Friends and other staff) with the opportunity to meet the relevant Garden Curator and learn a little more about the garden and collections. We are steadily building these events up and are starting to see some regular return visitors attending which demonstrates the appetite that many people have for engaging with our specialist gardens and

gardeners. On 26 April we held a “Fungi in the Garden” tour with mycologist Chris Smith (aka the Mushroom Smith, a local mycologist and educator) where he talked about the range of fungi found in the Gardens and the relationship between fungi, plants and the soil.

It was our pleasure to host a Friends “Famil” in April where Curators Pippa Lucas and Jeff Jones took 26 Friends around the Native Plant Ideas and Mānuka Gardens and shared their plans and passion with an eager and receptive audience. We all know how large the Gardens are and many members admitted that they had not visited some of these areas for a number of years and were pleased to be offered the opportunity to hear directly from Jeff and Pippa.

During the Easter School holidays we ran a series of family-friendly activities ranging from loose parts nature play to fungal exploration with Mushroom Smith. By creating engaging and educational fun experiences for our younger visitors we help them to appreciate just how amazing the world around them is and we also help to create positive “memory making” experiences here at the Gardens so that they will hopefully continue to visit and enjoy the Gardens and become life-long supporters of our work.

It has been great fun working alongside

one of our regular “Education” volunteers, Deirdre Barry, during both Eye on Nature and the recent school holiday activities. If you think that you would like to get involved in more activities linked to our younger visitors please don’t hesitate to get in touch with me.

Many of our Friends are also active volunteers here at the Gardens which is fantastic to see. Recently when I have been talking with Friends attending the Drop and Learn sessions a few have mentioned that they would like to become volunteers too so if that sounds like something you would like to pursue then it would be great to hear from you. We realise that not everyone can commit to a regular weekly volunteer day so we restarted our Thursday roving volunteer program on 11 May - focusing on weeding and bush regeneration work. The great thing about the Roving team is that you don’t have to attend every week – you can just attend when you can make it. Contact me if interested. We also held a Wiri Rambler recruitment discovery afternoon on 18 May in the Friends Building where anyone who was thinking about joining the crew as either a guide or a driver could meet with current members of the team and take a ride on the Wiri Rambler to find out more about how it operates. Contact Kate Moodie or myself if you are interested in joining the Rambler team.

Paul Swift



From the President

The monthly Friends Get-togethers are proving popular with members.

We began in February with an address by Ross Ferguson "Plants that Changed History". In March we were treated to a tour around Kathrina Muller's exotic garden. April saw Paul Swift organise a famil for members and volunteers on "The Development of the Mānuka Garden" where we saw the garden through the curators' eyes - how they came up with the design (based on a mānuka seed pod), why they grouped the plants as they have and how they are gradually changing the surrounding gardens over time.

Jeff Jones has applied a Japanese style of cloud pruning called niwaki to a *Podocarpus totara* 'Matapouri Blue' tree in the area adjoining the new garden. The technique is similar to that used for bonsai. With trimming having started in

2019, the tree is now looking a picture of fluffy blue clouds. Shaping will continue over the next few years until the vision is complete.

By the time you read this newsletter we will have visited the Herbarium at the Auckland Museum and have toured the refurbished Winter Gardens at the Domain. Having originally opened in 1921 and 1928 the glasshouses needed to be brought up to current earthquake building standards so the frames were strengthened and all the glass was replaced with that which would shatter like auto glass rather than splinter if broken. The work took two years and the tropical house, being the last to be finished, re-opened in March.

On 1 June at 1.00 p.m. in the Friends Building, we will have a talk by Dan Tipping, Senior Urban Forest Specialist



from the Auckland Council on urban forest initiatives and benefits. Dan has extensive knowledge on species, climate-ready selection and canopy cover outcomes for urban tree planting and planning.

We are planning a talk by two staff members about the Tree Crops conference they attended, a trip to Terry & Pam Hatch's Joy Plants Nursery and their amazing garden and also a Spring bus trip - details to be announced.

Huge thanks to Vice President Cleone Campbell and to Deidre Barry (who made the delicious cake for the 40th) for their organisation of these events.

The 40th Anniversary celebratory evening held in March was a very happy occasion with friends from over the years meeting up again. We were treated to a "conversation" between Jack Hobbs and Terry Hatch as they rocked in their chairs, reminiscing about old times and the development of the Gardens over 40 years.

Our heartfelt thanks to Zealandia for donating 80 *Ficus* plants so that everyone took home an appreciation for their individual contribution to the Gardens. Also thanks to Mitre 10 Pukekohe for a wonderful gift of gardening products which a lucky member won in a draw.

When I was elected President last year Liz Powell lent me a book about the Friends of Auckland Botanic Gardens documenting from the start of the organisation through to a few years ago when the book was written. Liz was one of the co-authors.

I found it tremendously inspirational when I read about all the work, and the

partying, that has been carried out over the years.

The Friends' major involvement was the building of Huakaiwaka, the Visitor Centre. And probably the bravest venture was establishing the Sculpture in the Gardens Exhibition in 2007 which has continued biennially until being delayed this year until 2024. At each of the exhibitions a piece is purchased by the Friends if it is considered a suitable addition to the collection and now the Gardens boasts a trail of 25 wonderful sculptures, permanently on display. The art attracts a section of society who may not otherwise choose to visit the Gardens.

I did like reading about the entertainment over the years too - which may explain the punchbowl with little glass cups hanging off it, which I discovered in the back of a cupboard in the Friends Building. The 13th Anniversary celebration was a "witch" themed party - presumably a Friday the 13th reference.

Friends used to hold a Rose Day with a stroll around the rose gardens followed by lunch. We still have the stack of flowered tablecloths, all lovingly embroidered with the Friends name. The tradition of Soup Day is one that has survived, with the next date being 23 July.

Times have changed and entertainment that appealed to people then may no longer be enjoyed now. I think that the monthly get-togethers are a start to providing more events for our members, and ideas and suggestions are warmly welcomed.

Viv Canham

Art Group news

We are now well into Autumn – my favourite time of the year for painting! I love all those autumnal colours – you’d be amazed at how many fascinating shades of oranges and browns there are.

Our annual exhibition, “Hidden Secrets” was a great success with many people stopping by to see the wide variety of work in the gallery. It’s always lovely to hear what people say about the work and it’s always fascinating to see which ones are their particular favourite.

Talking about hidden secrets, in January I went to the Chatham Islands – Rēkohu/Wharekauri are the Mori/Māori names, – what an amazing place! I’ll be honest, before my trip, I didn’t know much about the Chatham Islands. I had always heard that they were a remote and mysterious place, but little did I know how much they had to offer in terms of biodiversity and natural beauty. From the central volcanic landscape of grasses and *Olearia traversii*, the Chatham Island akeake, bent double in the wind to the stunningly beautiful bays on Pitt Island, the Chathams provide an abundance of subject matter to delight any artist.

We went with Birds NZ as my husband is a keen birdwatcher and had been wanting to go on their annual trip there for ages. I took along my painting gear along with his birding scope and binoculars with the idea that I would be able to spend time sketching.

Our guide was “multi-ologist” Lloyd Esler, son of the late Alan Esler, the well-

known forensic botanist. What a mine of information he is; Lloyd was able to identify virtually anything and always had an amusing anecdote to tell whether it was plant, bird, insect, fossil or rock we were interested in! It made for a very enjoyable and educational trip.

The highlights for me were the spectacular yellow-flowering Chatham Island Christmas Tree – *Brachyglottis huntii* as well as the Chatham Island aster – *Olearia semidentata* and the Chatham Island tree daisy – *Olearia chathamica* (recently renamed *Macrolearia chathamica*), both of which are now considered to be closely related to the subantarctic megaherb *Pleurophyllum speciosum*. I was looking forward to painting the Chatham Island Forget-me-not – *Myosotidium hortensia* but the only ones we saw were along the front of the aptly named “Forget-me-not Suites” in central Waitangi and were past their best with only one plant having a few jaded flowers on it.

Another “hidden secret”, a veritable oasis in the middle of the windswept landscape were the “Admiral Gardens”. This two-acre pocket of vibrant colour, a haven for birds, bees and butterflies has been lovingly attended to for 45 years by owners Val and Lois Croon. Lois has created a masterpiece with magnificent large dahlias, cannas, lilies, a wildflower meadow, amazingly large vegetables (Mega-veges perhaps?), even a fishpond and art studio!

Other highlights on the trip were having three albatrosses following our boat over to Pitt Island – such a privilege to be able

to see these magnificent birds in flight so close, and going to Waihere Bay to see the "Mars" outlook with its 65-million-year-old Red Bluff Tuff formations and the basalt columns at Ohira Bay on the main island which have been given UNESCO World Heritage Site status.

So much to see and paint – even though attempting watercolour "en plein air" in the misty rain is not very successful – the way the paint kept running off the page when the wind got up gave interesting results but I have much stronger memories of time and place than if I had just taken photos.

I definitely intend to go back, a week was definitely not long enough – perhaps with a group of artists next time? Anyone want to come along?

Watch this space!

Back in Auckland, our meetings are always well attended; in April we had a room full of members cutting, gluing and folding

paper to make their own concertina style sketchbooks, quite different from our usual meetings where we are painting or drawing. This came about as a result of showing my handmade sketchbook which I took to the Chatham Islands.

Lastly, we have some dates for your diaries:

June 24 – Wilma Blom will be demonstrating her use of gouache, an opaque watercolour, on black backgrounds.

August 26 - Cathy Brickhill will be demonstrating her machine embroidery skills and showing us her 3D botanical artworks.

We would love to see you there.

If you would like to know more about our group, email me, lesley.alexander.smith@gmail.com, or call me on 021 161 7070.

Lesley Alexander

Friends membership subscriptions

Membership subscriptions for the Friends 2023/24 financial year are now due. For those members who hold individual, partner, student or affiliate memberships a renewal form is included in this Newsletter. Members who joined within the last two months will have their subscription carried over into the new financial year.

Subscriptions can be paid either by eftpos or cash at the Visitor Centre or by direct deposit ASB 123011 0757619 00. Please put your name on the bank transfer and indicate that this is a membership renewal.

Artist in residence

Neal Palmer on his residency at Auckland Botanic Gardens, Summer 2023

Neal Palmer was Artist in Residence last summer. This account of his time at the Botanic Gardens work is summarized with permission from his website, <https://nealpalmer.co.nz>. Clearly he found his time with us rewarding.

My time as Artist in Residence at the Auckland Botanic Gardens started in December 2022. I wanted to be as open about the process of creating art as possible, and the open studio provided a rare chance for visitors to see an artist at work. My aim was to build a “portrait” of details of the Gardens and more specifically a portrait of a path that I had chosen through the Gardens.

My journey began in the Pā Harakeke area, through the Native Trees section to the Huakaiwaka Visitors Centre, then onto the Conifers, the Cactus Rock Garden, Potter Children’s Garden, the Roses and then the Palms. The process involved walking and soaking up the visual feast of the Gardens, taking photographs of the forms and patterns that gave a sense of place specific to each area. During my residency I took around 2500 photographs.

I reviewed the images and selected those that jumped out as potentially useful in the project, then printed them and manually cropped images further to distill the forms, colour and patterns so that they became representative but not necessarily obvious. I had decided to

create a series of works on A2 paper that would hang together in a grid following the geographical line of my journey.

I arranged the paper works gradually, as each was finished, adding them from right to left along a large wall in the Visitors Centre foyer, an area slightly separated from my workspace. As I was working, I would invite the people who stopped to chat with me to take a look at the project as it progressed and let me know their thoughts.

The work inspired many and varied conversations about art and botany. I liked it when people recognised the details from plants they’d seen in the gardens and how they would often say it made them see the plants in a different way. For example, my rose works, “Why did you paint just the stems?” was a common question usually followed by how interesting and varied they realised the thorns actually are. The visitors represent a diverse cross-section of society and my interaction with them was one of the most enjoyable and important elements of my time there.

I felt equally positive about my interactions with the Gardens staff, who were encouraging and supportive of my residency. Working alongside the large team there was a stark difference to working alone in my art studio at home. I was energised by their enthusiasm.

The resulting work, a combination of 60 individual A2 pieces, was a direct reaction to the Gardens. It is a reflection

of the Gardens' own diversity, an eclectic selection of botanical specimens gathered into various curated areas. The work contains a greater variety of images than I have grouped together before, varied and interesting in their combinations.

My time at the Gardens opened up new

avenues of exploration for me which is what I had hoped the residency would do. I will continue to visit, to gather reference and inspiration from the Gardens, and would highly recommend the residency to any artists working in the field of botanical art.



Harakeke 'Matawai Taniwha'. *Phormium tenax*, Xanthorrhoeaceae.
Charcoal on paper. © Neal Palmer.

Photographic Competition

Photographic Competition 2022-23

The judge of the Friends of the Auckland Botanic Gardens Photographic Competition was Mr Doug Scott, a professional judge of photographs.

Mr Scott selected the following award winners:

Adult Section

1. Corinne Kiernan - \$500 and as the Overall Best Photograph – the Rod Bieleski Cup and miniature to keep. The Rod Bieleski Cup will remain in the Visitors Centre on display with the winning photograph.
2. Pamela Suen - \$200
3. Janice Thomson - \$100

Youth Section – Under 18 Years

1. Amber Whoolery - \$250 plus a trophy to keep.
2. Mercedes Basevi - \$100
3. Madisyn Brown - \$50

People's Choice Awards

Youth – Isabelle Dmello - \$100

Adult – Alan Stoker - \$100

Congratulations to all the winners and all those who participated.

All finalists needed to include in their photograph a structure indicating that the photograph was taken in the Gardens. Unfortunately, there were photographs of very high calibre that did not meet that necessary criterion and so did not qualify for judging.

Growing Friends

We are working along as a happy team and the nursery is looking very healthy. We are getting plants donated from nursery surpluses and have some excellent-value large grade camellias in stock.

We over-produced for the Ayrilies sale so have some *Salvia leucantha* and *Cuphea* hybrid 'Starfire Pink' available: these both flower all year round and both are great bee food, almost must-haves for a floral garden.

Sunday sales stop for the winter months so our next Sunday will be 3 September. However, we are still open every Thursday from 8.30 to 12 noon with a constantly increasing range of plants.

Our pot supply is low and we welcome donations of recycled washed pots, just drop them in on a Thursday.

Bronwen Rowse

Friends Midwinter Soup Day

Beat the winter wet and chill by joining the Friends for Midwinter Soup Day, enjoy a delicious lunch and hear an illustrated talk by Pippa Lucas and Mark Fielder who, earlier this year, attended the New Zealand Gardens Trust conference in Wellington and the Wairarapa.

Numbers are limited so get your booking slip to the Friends early to be sure of a ticket. Friends members only, please.

So, join us for great food, good company and a fascinating talk.

To Book

Please complete and post the enclosed booking slip to:
Friends of Auckland Botanic Gardens, 102 Hill Rd, Manurewa, 2105

Any questions, phone Liz Powell, 6301 259

When: Sunday, 23 July
12 noon

Where: Friends Building,
Auckland Botanic
Gardens.

Cost: \$15 per person.

Book by: Wednesday, 5 July

Payment options:

- by cash or eftpos at the Visitor Centre. Please either post or leave your booking slip with the staff;
- or, by direct deposit to ASB 12 3011 0757619 00. Please ensure your name and "Soup Day" are on the bank transfer and the booking slip is posted.

Wiri Rambler

The weather has not been kind to us this summer. With the wet and windy weather we often have been unable to operate.

Owing to health reasons, John Yelavich has had to retire after ten years in which each week he kept the Rambler mechanically checked and clean. This includes arranging any repairs and required procedures to obtain our

WorkSafe and Council permits to operate. As Coordinator I could always bank on John's reliability and support making my job easier.

We are grateful to Lester Notley who, although busy volunteering in the Gardens' workshop, has taken on the role John had.

Kate Moodie.

Edible flowers

Recently I strolled through the edible garden with my informative and decidedly enthusiastic culinary guide, Angela Anstis. Many edible flowers have featured over summer in the edible gardens Angela curates, and I was keen to do a taste test.

Angela warned that it's important to be careful as to which flowers are eaten as some may be toxic. She also advised that some people may have an allergic reaction to eating pollen so best to eat just the petals.

First up we sampled a begonia petal that provided an effervescent tang with a hint of citrus, remembering to eat just the petals. Apparently, all begonia flower colours are edible and they add a splash of colour and interest to salads.

The flowers of *Zinnia elegans* are somewhat bitter but can be steeped in hot water to make a tea. Also suitable for making tea is *Gomphrena* which is attributed with providing health benefits. The beautiful 'Strawberry Fields' strain gives a pinkish tinge when steeped in hot water.

The flowers of lemon verbena (*Aloysia citrodora*) are as strongly flavoured as the aromatic foliage and can be used for making tea or cordial.

Dianthus caryophyllus flowers have a distinctive but subtle clove flavour which is no doubt why they are called clove pinks. They are used in salads, in sushi and for decorating the likes of cupcakes.

The infused flowers of pineapple sage (*Salvia elegans*) apparently give cakes an amazing flavour. Pour over a cooked plain loaf to infuse the flavour and also use the infusion in a botanical cocktail.

There is as much flavour in the flowers of thyme as there is in the leaves, and they can be used in similar ways. Similarly, the flowers of rosemary are as flavoursome as the foliage, and they add something special when sprinkled through a salad. Basil and chive flowers also have as much scent and flavour as the foliage.

Sunflowers are not just a joyous summer presence, their petals can be used when baking or sprinkled through a salad; the flavour is best described as nutty and they add lovely colour to a dish. Violas have little flavour but look beautiful in sushi and baking and in ice cubes.

Mauranthemum paludosum 'Snowland', marketed as *Chrysanthemum* 'Snowland', is another ornamental daisy with edible flowers that looks great in the garden.

I particularly enjoyed the sweet aniseed flavour of fennel flowers. Angela says these are great with a salad or served with fish, used in savoury scones and as a botanical infusion in gin.

Angela found out about making rösti from dahlia tubers from reading James Wong. He recommended yellow dahlia tubers as having the best flavour and refers to the flavour being like apple or carrots.

All parts of hollyhocks can be used. Angela steeps the petals in hot water for a few minutes then uses the water for a face wash which “leaves your skin feeling really amazing”. Use hollyhock petals as garnish and the tender younger leaves in a salad.

Rugosa-type roses are best for making rosehip syrup. The brightly coloured hips make a lovely colourful syrup. Damask roses are the best to use for rose petal jam.

Angela enthuses about the merits of flowering plants in an edible garden. They look lovely and provide lots of scent; many can be picked for cut flowers; they can be used in cooking and drinks and much more. All the seasonal edible flowers in the Edible Garden have a signage board

with useful information. Take a look next time you stroll through the garden.

How to make floral ice cubes

- Wash your flowers.
- Viola, dianthus, borage and violets are nice options.
- Half fill the ice tray with cool boiled water and place flowers in each cube.
- Pour a few drops of water on top of each flower to hold them in place.
- Put into the freezer, then later when the top is frozen pull out and top up with more cooled boiled water and refreeze.
- This ensures your flowers are in the middle of the ice cubes and using the cooled boiled water makes a clear ice cube. Tap water is OK but then you get a cloudy ice cube.

Angela Anstis and Jack Hobbs

New Zealand Gardens Trust Conference

With support from the Friends six staff attended the NZ Gardens Trust Conference in Wellington and the Wairarapa. Entitled “Intimate Landscapes”, the conference ran from Thursday 30 March – Sunday 2 April 2023.

Attendees were, Mark Fielder, Pippa Lucas, Jodie McDonnell and Shelley Small from the Gardens, and Tracey Finlayson and Peter Te Tana from the Domain. We would like to thank the Friends of the Gardens for their ongoing support in enabling the staff to attend conferences and workshops such as the NZGT to further our professional development. Each of us enjoyed the

NZGT Conference and we learnt a lot.

.....

Visit to Wellington Botanic Gardens

Clare Shearman took delegates on a behind-the-scenes tour of the Wellington Botanic Gardens. Our final destination was the Begonia House where we attended the Royal New Zealand Institute of Horticulture (RNZIH) awards and Banks Lecture.

When Tracey Finlayson (Team Leader Domain Nursery) looked at the Begonia House display she could see that the failure of the giant waterlily, *Victoria*

amazonica, that the Domain had donated to the Wellington Botanic Gardens, was due to a lack of light. This highlighted the need for supplementary artificial lighting for the plants in the newly renovated Winter Gardens Tropical House.

.....

The 2023 Banks Lecture - Associate Professor James Beattie

The Banks Lecture was entitled “An Empire of Plants? Chinese plants, Asian/European trade and Aotearoa NZ 1790s – 1880s”.

It covered a large expanse of time and geography ranging from the reign of King George III and Emperor Qianlong to the reign of Queen Victoria.

One point that still resonates today was the example of plant rarity and what people were willing to pay for a very rare specimen. In 1854, 5 guineas (\$10.50) were paid for one *Mahonia japonica*. This is reminiscent of the ridiculous prices paid for houseplants over the last few years including \$25,000 for a variegated *Monstera*.

The second part of the talk looked at the opening of China as a result of the Opium Wars and access to formerly restricted areas within northern and south-western China and the botanical treasure boxes “discovered”.

There was a New Zealand connection with Thomas McDonnell, a wealthy opium trader, becoming a “respectable” landowner, plant hunter and horticulturalist in the Hokianga. Gardening represented status. New Zealand flora and fauna were exchanged,

much of it through Sydney Botanical Gardens, although McDonnell would have also had direct Chinese connections from his opium trading days.

This Sydney trade was how the Auckland Domain acquired many of its specimen plants (and animals) as this was the route used by the Acclimatisation Society based in the Auckland Domain. It is also reflected in the story of the “Ellerslie” historic glass house situated in the Domain Nursery which arrived via a similar route as the traded plants that emanated from England and arrived in New Zealand via Singapore and Sydney.

Part three outlined the arrival of Chinese people, including highlighting their horticultural significance to New Zealand. This started to become apparent after the gold rushes when Chinese expanded from smaller produce gardens in the gold fields to larger market gardens of the post gold rush era. As a result many Chinese varieties of vegetables and ornamental plants were introduced into New Zealand.

It would be interesting to find out if the female *Ginkgo biloba* and *Macadamia* at the Auckland Domain originated from the adjacent market garden leased to Ah Chee. The more ornamentally desirable male *Ginkgo* is located within what were the Acclimatisation Society gardens. Either way – the trade loops of Sydney and China are displayed in various ways within the Auckland Domain and are a part of our living history.

The Banks Lecture will be published in the Institute’s journal.

Tracey Finlayson

Garden visits

Gillies Garden

Gillies Garden is nestled in native bush and surrounding a James Chapman-Taylor designed Arts and Crafts home in Upper Hutt. The Garden is owned by Peter and Nellie Gillies who moved to the property in the 1970s and are just the second owners since the 1930s.

The house was built from rimu milled onsite as an escape for a photographer in case Wellington was bombed in the war. Although it has had several renovations since, the character of the house remains. In the 45 years that the Gillies have lived here they have created a tranquil hideaway, transforming the property into the 5-star garden that it is today.

Jodie McDonnell

Thyne Garden, Greytown

If you are into contemporary gardens with clean lines and hard materials, then James Thyne's garden is for you.

James has totally transformed the garden style from cottage garden to what it is today, including transplanting 40 large trees from the front of the section to the rear. A beautifully restored 1920s bungalow sits cosily within the landscape. Two large "container door"- style Corten steel gates greet you on arrival which, when opened, reveal a row of designer-made square steel arches.

James Thyne has a passion for sculpture. Two large sentinels guard the doorway into the house, and tucked away nearby

in the trees is a beautiful outdoor Corten steel room with lacey viewing windows. A gravel pathway leads to a beautiful park like setting with a manicured lawn featuring a sculpture of a man with birds. A very realistic dog sculpture also captured everyone's attention.

The simple yet effective plantings included a row of *Cotinus coggygria* underplanted with trimmed *Buxus* balls, a row of selected *Cornus* underplanted with *Buxus*, with a backdrop of neatly clipped *Griselinia littoralis*.

Mark Fielder

Richmond Garden, Carterton

My first impression of Richmond Gardens was "Wow, this is a very formal look."

The 4-hectare gardens are owned by Tim Clarke and Tessa O'Rorke. Hamish, the owners' landscape architect, welcomed us on their behalf.

The original house was built in 1887 and the previous owners, John and Melanie Greenwood, extensively renovated and made it into the beautiful home it is today. They began planting about 30 years ago after regularly visiting Europe and being inspired by the Italian Renaissance gardens of Florence, Italy. It was designed as a pleasure garden with amazing views from all rooms in the house so the symmetry could be appreciated. It is maintained by a team of fulltime gardeners mowing lawns, garden, hedge, and topiary maintenance. One of the secrets to the harmony and sense of tranquillity is the use of evergreens and only a handful of deciduous European trees.

Simply put, it's a great example of garden design as an art form with balance, order and harmony.

Peter Te Tana

.....

Rototawai, Kahutara

The current owner is Anna Bidwell who grew up in the house. Her family sold Rototawai in 1979 and the property has had three owners since then. It sits on 9 ha of land. William Bidwell (who built the house) planted many trees that are still standing today.

The original home was made from wood in 1893 and burnt down in 1928. It was re-built in concrete in July 1929. In World War II the house was made available to the Sir Truby King Karitane Hospital of Wellington. Anna purchased Rototawai with the eventual plan to exhibit art in the house and open the gardens to the public.

Ross Palmer has taken the garden restoration on as a project. He is creating a "Notable Tree Walk" around the property. There are several ancient Holm Oak trees planted around the house and many exotic forest trees are planted throughout the grounds. On the property there is a fallen macrocarpa which came down in the same storm that wrecked the Wahine. Instead of being removed, the tree has been allowed to regenerate and is quite amazing, lying on its side with leaves and branches growing out at all angles. There is another large specimen further through the property which is also regenerating, and several old redwood trees also make a statement in this area of the garden. A

large established olive orchard close to the house has been severely pruned back. The trees have plenty of new growth and are rejuvenating nicely.

Shelley Small

.....

Government House, Wellington

We were very lucky in that we were treated to a tour of Government House, the residence of the Governor-General and therefore not usually open on weekends. The House had been restored and inside was full of plush carpets, wood detailing, beautiful furniture and a ballroom with crystal chandeliers.

The entrance contained about 80% New Zealand native plants, and anyone who was a visitor to the property, either international or domestic, would know that they were in New Zealand. The gardens are managed by Bark who are contractors specialising in garden and grounds care. They have returned the garden which had become quite eclectic back to its core vision, and the garden presented well from both indoors and out in the garden.

A surprise was seeing a World of Wearable Arts (WOW) garment made by Chris Davis, a previous apprentice at the Gardens. He was the sustainability winner of WOW in 2022. The garment was made of pumice stones threaded together with twine, each stone containing a seed of a native plant. The idea is that the garment can be returned to the earth and will regrow.

Pippa Lucas

.....

Ōtari Bush Native Botanic Garden

After Government House we went on to the Ōtari Native Botanic Garden. Ōtari-Wilton's Bush is designated a six-star Garden of International Significance by the New Zealand's Gardens Trust of the Royal New Zealand Institute of Horticulture. This is one of New Zealand's premier native plant collections and is the only botanic garden dedicated to just native plants. It comprises 100 ha of managed native bush (Wilton's Bush) and 5 ha of plant collections.

We had a quick tour of the plant collections and the research and propagation areas of the garden. Ōtari does seed banking for many of our native species and, in particular, threatened species. Seeds are stored in liquid nitrogen and removed periodically to check for viability.

The plant collections' purposes include teaching people about New Zealand plants, cultivating a range of plants and advocating for the use of native plants in horticulture including home gardens.

Pippa Lucas

.....

Ross Palmer's Garden

Our last garden visit of the day was Ross Palmer's home garden. Ross is a garden designer, but most of all he is a plant nut! We were all very excited to explore his steep Melrose hillside property. Being a home garden meant that there are few "rules" at play and it is a very experimental garden.

Considering it is situated on a steep and very windy Wellington hillside the garden

is very lush. For people like me who love plants it was like being in a candy store. Plants filled every part of the garden and were layered expertly including many plants we had never seen before. There was much use of African bulbs and aloes to cope with the soil conditions mixed with native and other curious exotics. Ross also loves to add epiphytic plants to many of the trees around the property.

The house felt as if it was an extension of the garden, rather than the garden being built around the house as in many home gardens. I think we all loved this garden, and it was a good representation of how maximalism in a garden is not always a bad thing.

Pippa Lucas

.....

Conference presentations

Keynote speaker: Andy Hamilton

During our dinner landscape designer Andy Hamilton took us through some of the projects he has been working on recently. The first was a private property in Clevedon where he had created an English parkland, largely a perennial garden. He talked about the struggles of creating the popular naturalistic style of perennial garden in an Auckland climate but he had managed to design a truly beautiful example with a load of *Miscanthus* grass!

His second garden was a low-budget garden where the house was to blend in with the stark landscape around it. He had used a beautiful mix of natives and African plants like restios to create a very textural and green landscape with low maintenance.

Finally he described making a garden around a newly built eco lodge in Zanzibar. The brief was to create a verdant edible landscape on a coral reef. No plants were brought in for the project as a nursery was set up on site. Plants that were growing well in the extremely harsh conditions were propagated for use in the garden. The spring flush of weeds was cut and composted to help make a more substantial substrate to plant in. It sounded like a very tough project, especially organising from New Zealand via zoom meetings and not being able to do site visits, but it was amazing to see what can be done with very few resources.

Pippa Lucas

Ross Palmer: Gardening in the age of Anthropocene, my journey gardening at Mokopirirakau.

Ross defines Anthropocene as the time during which humans have had a substantial impact on our planet. He outlined in his talk his consideration of this impact along with context, view shafts, the environment, aesthetics, and constraints when designing Mokopirirakau.

One of the main physical constraints Ross faced in the creation of this garden was the difficulty of accessing it. Its steepness meant it was difficult to bring topsoil onto the site and green waste could not be easily removed. To navigate this problem Ross used the cut and drop method for controlling weeds: this is allowing the green waste to compost where it lies to create a topsoil layer. Larger trees and shrubs were also left on site with branches and trunks being used to create retention

on slopes so that topsoil and leaf litter are held in place. This is achieved simply by wedging the branches between the trunks of other trees and only occasionally requires staking.

Ross also talked about creating an environment and habitat for fauna by utilising plants that provide food and shelter to many native birds, insects, and the native gecko, *Mokopirirakau*, that the garden is named for. *Arthropodium*, *Phormium*, *Muehlenbeckia* and bromeliads all provide food and water for fauna while kawakawa, *Muehlenbeckia* and flax also provide shelter and habitats. The flax planted around Ross's deck and living space also has the added bonus of attracting the tuis in close where he can watch them.

While initially setting up Moropirirakau Ross considered view shafts and aesthetics. He started creating themed gardens such as a bulb garden and soon realised it was detrimental to try so rigidly to control the space. He found weeding and creating bare earth would allow for soil run off, and because of this he began to embrace "messiness as an aesthetic", which involves relinquishing some control over what plants grow where and allowing plants to take back control of spaces. This led to many plants self-seeding and thick layering occurring making weeding mostly unnecessary. Although this natural approach was embraced, creating view shafts was still important both for making the most of the amazing views of the Wellington harbour and for framing plants and garden areas.

Jodie McDonnell

Philip Smith: Ethics in gardening.

Nature, Ethics and Gardens.

- Maximum economy
- Maximum design
- Maximum sustainability

O2 Landscapes is a landscape design firm with a strong focus on the environment and research. Conservation plays an important role in their work. One of their primary interests is integrating exotic flowering species into NZ native plantings.

Aesthetics is not enough anymore. Gardens can serve as lightning rods or antennae for social and environmental awareness (and action). The aim is to make people care about plants through biodiversity, interconnectedness, forums for social exchange and discussions about values and potential.

Gillies Garden

There is the potential of gardens to be able to tell people about important things.

Shelley Small

.....

Clare Shearman: Garden journey through the eyes of a visitor and a gardener.

Clare spoke about how to create an experience for our visitors and to improve visitor experience. She stressed that we need to make them feel welcome on their journey through the gardens, that we need to engage our visitors and make sure they know where to go.

Features should include focal points that capture visitors' attention. Visitors should pick up information along the way using educational signage with sayings or quotes and a focus on seasonal interest.

Mark Fielder



Climate warming and plants

Climate change can affect plants, especially those coming from temperate or cooler regions. An increase in temperature can result in spring growth after winter dormancy coming earlier and earlier. The growing season may also be extended, although surprisingly not in some plants in which leaf fall is also earlier. Not all growth responses are accelerated to the same extent. Thus, studies have shown that in some temperate trees leaf formation and flowering are being brought forward but at different rates. This could affect the partitioning of nutrient reserves between growth and reproduction. Changes in flowering time could affect interactions with pollinators, also affecting tree reproduction.

Different plants respond differently. In North America, warmer spring conditions accelerate leaf formation in trees but not to the same extent in some plants on the forest floor. This can reduce the light available to these forest floor plants and hence their total photosynthesis by up to 25%. This places them at a serious competitive disadvantage.

Plants also react to different environmental factors. If they respond to both temperature and daylength, their growth may be affected if the two prompts get “out of phase”.

Plants cannot move but they can be moved. An article in *The Guardian* (4 January 2023) described how the Royal Horticultural Society is planning on eventually shifting much of its rhododendron collection from Wisley in

Surrey to Harlow Carr in Yorkshire. They believe that Wisley is becoming too warm and too dry for many rhododendrons. For similar reasons the RHS has shifted its national collections of rhubarb and gooseberries to the Bridgewater garden in Salford, near Manchester.

Many fruit trees require a period of winter chilling for full flower production in spring. If they don't get sufficient winter chilling because winters are warmer, then flowering can be irregular and extended with fewer flowers being formed. This is particularly important in kiwifruit where the amount of winter chilling for the traditional green-fleshed 'Hayward' kiwifruit is already marginal. Kiwifruit crops are largely determined by the number of flowers that are produced in spring because essentially every flower sets a fruit. A long flowering period means that fruit are potentially more variable when harvested.

In kiwifruit, a lack of winter chilling can be partially compensated by application of agents, such as hydrogen cyanamide (Hi-Cane®), that break dormancy. Unfortunately, hydrogen cyanamide is also toxic and its continued use is under discussion. The obvious solution is to develop cultivars that require less winter chilling. This is not so easy: producing a plant requiring less winter chilling but producing fruit that have all the attributes required can take decades.

It is not only crop plants that could be affected. There is an interesting report for the Department of Conservation by

Matt McGlone and Susan Walker on the potential effects of climate change on native biodiversity in New Zealand. This

is available at <https://www.doc.govt.nz/documents/science-and-technical/sfc312entire.pdf>.

Ross Ferguson

Melbourne Flower Show

In late March I escorted a large group of keen gardeners to visit the Melbourne Flower Show and other garden attractions in that magnificent city. The flower show is held in Carlton Gardens, a 15-minute walk from our hotel and an excellent location with lots of trees and pathways, and most importantly the aptly named Great Exhibition Hall.

A highlight of the show was the “Atlantis” exhibition garden which was the centerpiece in the Great Exhibition Hall. Put together by Collectors Corner, a Melbourne-based nursery, it exquisitely depicted an underwater scene using a combination of plants, shells, gemstones and fossils. The display featured lots of succulents, bromeliads, orchids and bonsai that were all of outstanding quality. The underwater scene was so compelling that the crowd moved at a snail’s pace around the exhibit which suited me and my fellow plant lovers just fine.

There were also many outstanding outdoor exhibition gardens, including a section showcasing “Achievable gardens” that showed how beautiful and effective gardens can be created at modest cost. I was interested to note lots of native Australian plants being used effectively in the various outdoor gardens.

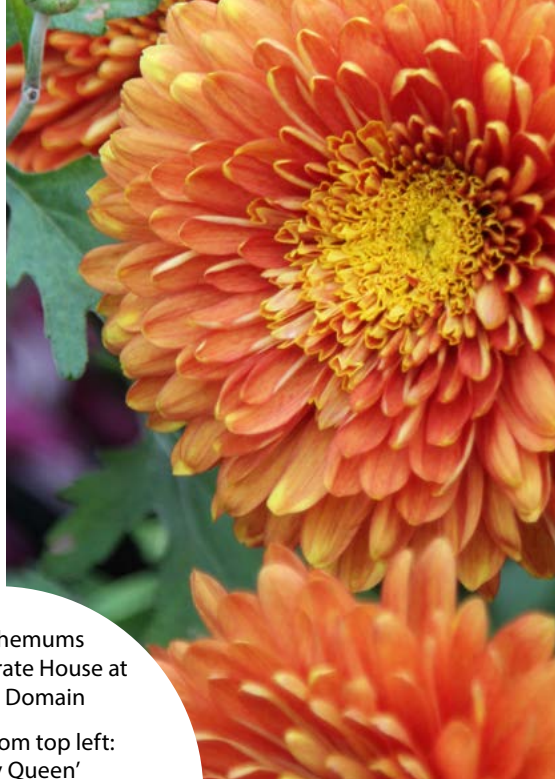
Many enticing plants were for sale but being unable to bring any home was incredibly frustrating. Succulents were in abundant supply, including lots of *Echeveria* cultivars and bundles of five bare-rooted aloes at a reasonable \$40. Also on sale were lots of South African plants in the Protea family such as *Leucadendron*, *Mimetes* and *Serruria* cultivars. Masses of tulips and hyacinths flowering out of season were also in hot demand.

Lovers of floral art were well catered for in the Great Exhibition Hall, as were botanical art enthusiasts.

We returned to the flower show on the Friday evening to experience the much vaunted “Gardens by Twilight”. The lighting was a little underwhelming, but gardens certainly have a completely different ambience after dusk.

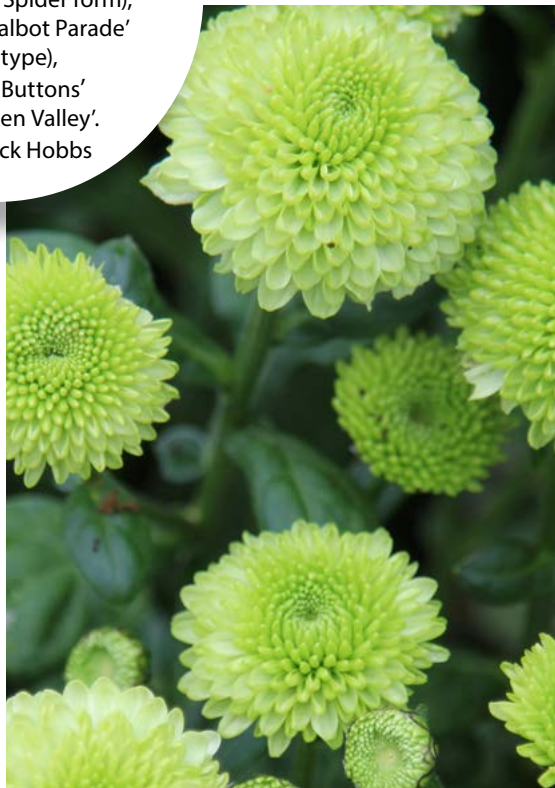
Not having a comparable flower show in Auckland is such a lost opportunity. Many careers were launched at Ellerslie Flower Show, new plants were showcased, and it brought garden lovers together. In the meantime, Melbourne Flower Show is not too far away and well worth a visit.

Jack Hobbs



Chrysanthemums
in the Temperate House at
Auckland Domain

Clockwise from top left:
C. 'Dusky Queen'
(Fantasy type, Spider form),
C. 'Chestnut Talbot Parade'
(Spray type),
C. 'Green Buttons'
and C. 'Green Valley'.
Photos: Jack Hobbs





Chrysanthemum 'Elizabeth Shoemith' in the Temperate House at Auckland Domain



Auckland Botanic Gardens: botanic.gardens@aucklandcouncil.govt.nz

Friends: friendsofabg@gmail.com