



President's Report: June 2020.

Welcome to our winter Newsletter. Emerging from strange times through the country's lockdown and now out the other side, almost, the most positive effect on everyone must surely be the beautiful sunny days through autumn. As I write this report I am thinking about the strongest influences on my feelings as the whole country rallied to fight Covid 19.

First it was the realisation that I am in the older, most vulnerable age group which the country's leaders and the media have not allowed me to ignore even though I have tried hard to do so. Following this has come a realisation that this status brings with it an element of privilege; being retired, not having any employment worries, and having a lovely outdoor space to spend time in the garden, has brought a feeling of peace.



1: Black Morph Fantail.

Many birds have joined me in the garden including the lovely fantails that have been frequent visitors. Most mornings they are waiting for me to open my compost bin for a feast of fruit flies. I was very excited one morning to see a South Island black morph fantail, pīwakawaka (*Rhipidura fuliginosa*) sitting on the edge of my compost bin. Unfortunately, it didn't wait for me to get my camera.

This rare species makeup only 5% of the South Island fantail population. I have included a photo from the NZ Birds website.

As much as I enjoyed being at home during the lockdown it is wonderful to get back to work for the Botanic Gardens in a practical way. Teams of volunteers are busy

back in the Gardens propagating plants for sale and helping the curators. While the guides are having a break from guiding, they continue to update their knowledge through research and shared information.

The nursery was well looked after by Garden staff during the lockdown and our plants are looking very good. Instead of our usual Autumn plant sale we have organised a 'click and collect' sale of trees and shrubs to take place on the 24th and 31st of May. Many of you may have taken advantage of this service. The plant stand in the Gardens is open once again and needs to be restocked frequently. Many thanks to Vicki Steven, Jeannie Gulyas and the Park Rangers, Hannah and Susan for continuing to stock and manage the stand.

The Kiosk will not reopen to the public until covid alert level two is reviewed and we will let you know when our talks can resume and the Kiosk is open to the public.

Since the last Newsletter we have had only one of our planned speakers. In March, Distinguished Professor Philip Hulme FRSNZ from the Bio-Protection Research Centre, Lincoln University, gave a very interesting illustrated talk about the invasion of New Zealand by non-native plants. This was very well attended by Friends and visitors and we all came away much more knowledgeable. It is reassuring that Philip and his department are doing what they can to understand and put forward ideas to control this escalating situation.

David Barwick's April talk was cancelled and we would like to thank David for adapting his talk for us all to read in this newsletter.



Veronica lauvaudiana
Sun Hebe
Endemic to Banks Peninsula
Christchurch

Your committee have kept the Friend's business ticking over through virtual meetings and this year we have voted to fund three new initiatives.

Sub-committees are currently working on the following projects in conjunction with the Visitors Experience Team, Garden Managers and a Ngai Tāhu representative where needed.

1. An information panel and new signage to enhance the area around the Peace bell.
2. An information brochure about Māori medicinal plants within the Gardens.
3. A new information brochure for Mona Vale.

We will keep you informed as these projects unfold.

Annual General Meeting.

We are waiting on a Government announcement outlining the size of large groups, to set the date for our next AGM. At this stage it is likely to be in August.



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Editors Note.

After reading Di Madgins article on plant hunter E. H. Wilson I came across the following quote by him and was struck by just how true it is:

Lastly thank you to all the committee, volunteers and your support through subscriptions and attendance at our gatherings and talks.

I extend a very warm welcome to all new members. Please spread the word as we would like to grow our membership and the number of volunteers working in the Gardens.

Jeanette Christensen.

Editors Note: A friend of mine had a black morph fantail visiting her garden in Halswell, and I myself had one land on my clothesline yesterday. I managed a photo, but sadly not a very good one, as it flew away too soon. I wonder if it is the same one that Jeanette saw?

“How much the making of a garden, no matter how small, adds to the joy of living, only those who practice the arts and the science can know”

This edition of the Friends Newsletter, shows the important role that botanical gardens play in developing new ideas and trialling new plants, as in the articles on the Crevice Garden and the Ground Cover Gardens respectively.

Several articles cover from different angles some of the trees that we love so much, which combined with Lachlan Hunters comment on Botanical Gardens not being the “Elysian Fields” put me in mind of Joni Mitchell's Iconic 1970's song with the line:

“They took all the trees, and put them in a tree museum, then they charged the people a dollar and a half just to see ‘em.”

How fortunate we are to have the Christchurch Botanic Gardens!

Annette Burnett.



Form and Elegance.

New Zealand's first Crevice Garden.

Introduction:

Today's modern way of life, where space and time are at a premium, has necessitated we look carefully at our gardens and how we present them, achieving scale and impact with low maintenance requirements. Traditionally our alpine gardens were created using rocks and soil with a shingle or sand cover, to replicate the environments the plant collections were gathered from. These forms take space and a great deal of time and skilful management to keep them looking at their best.

With this in mind the Christchurch Botanic Gardens have adopted a form of garden that has been perfected initially in the Czech Republic as part of its rock garden improvement project. We have introduced the first "Crevice Garden" into a New Zealand public garden. This was done as part of a joint venture project with the members of the New Zealand Alpine Garden Society.

As part of the collaborative approach we were able to attract the services of an internationally renowned exponent of Crevice Garden construction; Mr Kenton Seth, a native of Boulder, Colorado USA. Kenton has been responsible for constructing over 40 large scale crevice gardens, throughout the world. His experience really gave us a tremendous amount of clarity with our site preparation; and developing the form and building mediums. He also taught us to look carefully at the surrounding gardens and mould the Crevice Garden into the existing layout and not to create too much conflict.

There are a number of advantages with adopting a crevice garden rather than a traditional rock garden approach. It is possible to create something aesthetically very attractive and practical in a small or large space. The choice of building material is only limited by imagination.

Our crevices were constructed of sand and rock which is very sterile and makes it easy to maintain a contamination free growing medium and it is an easy garden to maintain and manage. For the true alpine plant enthusiast the crevice garden offers a great deal of opportunity to experiment with plants that are not suitable for a traditional

rock garden. As the crevice garden offers a range of micro environments that are difficult to replicate in a conventional rock garden and the vertical planting layout also increases the number of plants that can be placed and display per square meter.

Site selection and gathering the stone:

The site selection doesn't have to be overly specific as any layout and environmental issues can be addressed with the selection of plants and building mediums. Special care needs to be taken with ground preparation; and it is important to ensure the soil that will be the foundation of the garden is fertile and very clean of weed and unwanted species that could corrupt the rock formation. Specific attention must be paid to weed control so that a very clean growing medium is created. Time and planning allow the site to fallow and woody and rhizomatous weeds to be eradicated so they will not infest the garden, because, if they are able to establish they will be difficult or impossible to manage.

We put a great deal of effort into the gathering of the rocks for the Crevice Garden, the paths around the garden are made of Halswell Quarry Stone and we were able to secure additional stone to construct the garden and marry the new garden into the existing layout with a lot more ease. We did find it important to have a good supply of rock of differing sizes, but most importantly it was critical to have a good supply of larger flat stone for developing the foundation and strengthening the build when infilling the form and locking in place.

Creating the form and foundation:

One take home message we got from Kenton was the need to marry the form into your existing aesthetic. If care is not taken, you can create too much conflict and a feeling of being miss-placed. We also looked at the beds around the crevice garden and stitch plants from around the garden and bought them into the form of the garden. Initially we marked an outline for the perimeter of the garden; then dug a trench around the edge. We then selected a number of large slabs of stone that we placed and secured strategically throughout the garden as these created the foundation and the form of the design and layout. At this point we continued to build the outer perimeter as we fine tuned the final form. We used a darker coloured builders sand as this

would offer the introduced plants a little nutrient to assist with successful establishment. Once the perimeter was finished we in-filled with sand then worked it into the lower crevices, we then began to place slabs to infill the centre maintaining our lines and form which we had put in place with the foundation stones.



2: Laying Out the Form of the Crevice Garden.

Once the form was finalised we then worked sand into the open spaces between the rocks to ensure that all of the air pockets were filled and the sand

was well packed. This also showed where the weak points were and where we needed to bridge the gaps to ensure the sand was able to pack in behind. This was done using small slithers of stone and coarse pebbles, the application of water also assisted with stabilising the garden. This process needs to happen over a period of time to allow time for the garden to really settle and stabilise.

Summary:

The new garden has definitely stimulated a lot of public interest and comments on the beauty that this garden has added to the Botanic Gardens. We are now in the process of looking at our planting plan, which will begin in late autumn this year and be finalised by early spring. We are also looking at increasing the size of the Crevice Garden to take up the small triangular garden across the gravel path and next to the pond.



3: The Crevice Garden, Ready to Plant.

Grant Matheson: Maintenance Officer for the Rock Garden.

Groundcover Border Makeover.

A Showcase for Southern Hemisphere Plants.

The Groundcover Border is a large, deep amenity border on a prominent bend of the main driveway that lies between the Archery Lawn and the Iris Border, but is often overlooked as one hurries to the next major attraction or destination. The border has had a refresh over the last eighteen months or so, with new plantings accelerating over the latter part of 2019. A talk describing these developments was proposed for April 2020,

but was cancelled due to recent events – hopefully this article will encourage members to go and see for themselves when the COVID-19 Lockdown is over.

For many years the Groundcover Border had become tired, with some plants becoming overgrown, while others died out in successive droughts. The huge *Sequoiadendron Gigantea* dominating the centre of the border exerts enormous root competition, not to mention the dense shade and sandy soils beneath, making cultivation of many plants difficult. Dense colonies of *Dianella tasmanica* and *Athropodium cirratum*, however, do very well here and have been left to

their own devices in the central portion of the border. Recent emphasis on Southern Hemisphere species around the nearby Museum and McDougal Gallery provided a new sense of direction for the Groundcover Border and over the winter of 2018, the old material was removed and the bed heavily mulched. The agapanthus seed trials were planted in late 2018 on the southwestern fringe and new ground-covering/low statured shrubs were planted out over November 2019, with hand-weeding of brown oxalis and hydrocotyle through the summer.

Beginning at the eastern corner (opposite the Toilet Block) the dripline of the large old *Philadelphus* 'Virginal' has been planted with the pretty *Parahebe lyallii* with its large white flowers, and an *Azara microphylla* has been under-planted with *Astelia* 'Westland Red' which should brighten this drab, shaded corner, especially in Winter.

Heading southwest (clockwise) a hot dry, sandy patch has *Correa* 'Lemon Twist' (sulphur yellow form), *Muehlenbeckia axillaris*, *Grevillea* 'Mount Tamboritha' and *Carex trifida* (variegated form) with a *Lomatia ferruginea* behind. These plantings all have soft pink, bronzey or yellow colouration, particularly in autumn/winter. A large formidable shrub of *Colletia hystrix*, retained from the original border has been under-planted with the soft leaved *Aciphylla dieffenbachii* and to the side, a white flowered form of *Dierama pulcherrimum*. Beyond the existing clumps of *Iris douglasiana*, three *Coprosma* 'Hawera' will dominate. At the rear, a small grove of *Dicksonia fibrosa* and a *Podocarpus henkii* enjoy the shade of the existing *Syzygium australe*.



4: *Correa* 'Lemon Twist'



5: *Parahebe lyallii*

The curve of the Groundcover Border opposite the pond on the Archery Lawn is deeply shaded by the redwood tree and open to winds from all quarters, for most of the year, yet still droughty in summer — a challenging spot. The glaucous blue *Veronica* (synonym *Hebe*) *albicans* and *V. topiaria* dominate the front edge, with dark green *Prostanthera cuneata* and the pale, silvery *Brachyglottis greyii* filling in the gaps behind. A trio of *Eucalyptus pauciflora* subsp. *niphophila* (snow gum) with their bluish leaves and waxy white twigs have been planted for their sculptural form and reflective bark, adding light and interest to an otherwise gloomy bend.



6: South Side of the Groundcover Border.

Continuing northwards along the border, are several agapanthus cultivars and species being trialled on behalf of Manaaki Whenua – Landcare Research, for potential weediness; the data collected from this trial should hopefully reveal whether any of these plants is truly sterile or — a major environmental weed.

Adjacent to the agapanthus, is a small drift of reddish coloured *Pseudowintera colorata* 'Red Leopard' and a *Dierama pulcherrimum* forma 'pale pink' with its wand-like seed-heads echoing the form of the Regrets fountain in the pond. A very large *Veronica* (synonym Hebe) 'Inspiration' that I planted in 2010 has had a stay of execution – its violet purple display in both summer and autumn is too good to ignore and I couldn't remove it after seeing the monarch butterflies and bumble bees feeding on it in droves. The *Phormium* 'Black Rage' is also staying put, after an unsuccessful attempt to dig it out wrecked one of my spades, and the flower-heads attract the Bellbirds!

to fascinate visitors, especially those from cold continental climes.



8: *Cordyline australis* 'Albertii'.



7: North-West Corner of the Groundcover Border.



9: *Scleranthus biflorus*.

The north-western corner of the Groundcover Border facing the driveway, experiences the warmest microclimate, routinely baking in the summer sun, sheltered from the easterly, and with a sandy subsoil to boot, increasing the variety of plant material used. The purple flowered *Hardenbergia* 'Regent' with its dark leathery leaves, does not climb like its wild relative, but prefers to mound up slowly instead. Next door is an unusual white flowered bottlebrush *Callistemon* 'White Anzac' and a purple flowered *Polygala* with its large pea-like blooms, offset by three yellow *Cordyline australis* 'Albertii'. The driveway corner has *Melicactus alpinus* with its curious spiky twigs, with a rug of prickly *Grevillea rosmarinifolia* 'Sulphurea' in behind. Bright green plates of *Scleranthus biflorus* fill the front slope below the showy scarlet flowering heath, *Erica cerinthoides*. On the last stretch, is a cheerful swathe of creeping grevilleas retained from an earlier planting in 2004, all of them have performed well through heat and dryness and their reddish toothbrush shaped flowers continue

The replanting of the Groundcover Border is mostly complete, although small areas await extra planting when the agapanthus trials are disestablished, and excessive clumps of arthropodium are thinned out in spring. As the plantings establish over the next 3 – 4 years, this previously forgotten border should reassert itself, maximizing the site conditions and showcasing more of the Southern Hemisphere flora in a colourful and interesting way.

By David Barwick: Collection Curator.



Botanical Gardens.

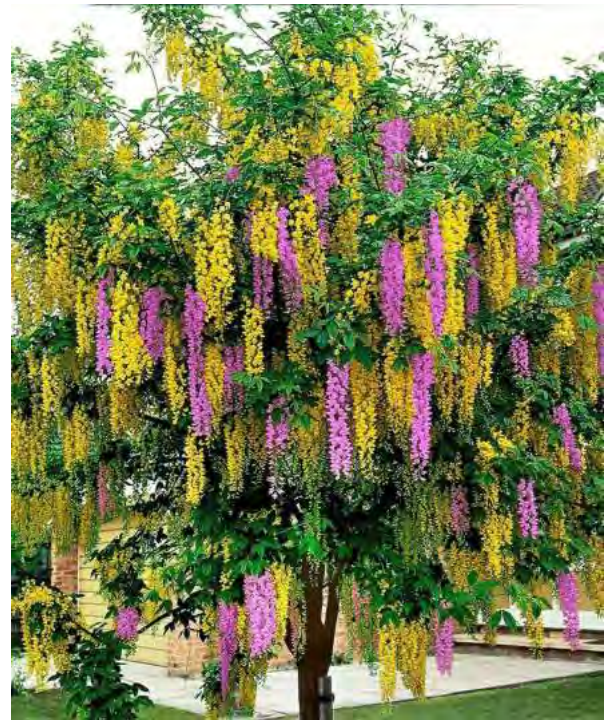
A Personal Reminiscence by Lachlan Hunter.



10: Oxford Botanic Garden.

Founded in 1621, Oxford in England was my first acquaintance with a Botanic Garden, several decades ago when I was a student there. A pharmacist's son, childhood memories of pestles grinding in mortars and close sighting of the meniscus as liquids were carefully mixed, made it easy to understand how the first botanic gardens were herbal in nature, and the professors of medicine at the university housing the garden were naturally expected to be experts on botany as well, and serve as directors of these gardens.

At Oxford there was also a nearby Genetic Garden under the supervision of a Nobel Prize-winning Professor of Botany; the Keeper of the Botanic Gardens for nearly twenty years who unfortunately retired, just before my arrival. This Genetic Garden furnished fascinating examples of plant hybrids and some chimeras (weird combining of plants without hybridisation, like +*Laburnocytisus* 'Adamii' — a graft chimera of both broom, (*Cytisus purpureus*) and laburnum, (*Laburnum anagyroides*).



11: Graft Chimera: + *Laburnocytisus* 'Adamii'

The taste for Botanical Gardens grew apace. Oxford was not the first; there were already five in Europe before the end of the previous century; probably the Italian cities of Pisa (1543) and Padua (Padova - 1545) were first; Jean Gesner, a Swiss physician and botanist, believed there were 1600 Botanic Gardens in Europe by 1800. Botany as a science would multiply this by orders of ten. Nor did cooler latitudes deter Scotland from joining with the Edinburgh Botanic Gardens after the Civil War, in 1667. Indeed, the giant Dutch bulb industry of today may trace its origins to the collection of flowering bulbs, assembled in the botanic garden at Leiden, South Holland by Charles de L'Escluse (Carolus Clusius, 1526 - 1609), who had already been instrumental in developing the tulip, potato, and Spanish chestnut while Director of the Holy Roman Emperor's garden in Vienna.

Set beside the River Cherwell in a similar marginal setting to Christchurch (Dead Man's Walk, a mediaeval funeral cortège route, lay near there) I would occasionally seek solace there from the "pressure cooker" atmosphere of trying to earn a degree.

This experience gave me insight into important aspects of all botanic gardens; firstly, reading for a degree in a biological subject, the plants were like a text book, but lovelier. As someone,

possibly Churchill, more probably a lot of people, put it: "I am always willing to learn, but not always willing to be taught." This optional feature of knowledge is a universally attractive feature of Botanic Gardens. Secondly, global trends in urbanization make the Botanic Garden the only opportunity to bathe in nature for many.



12: River Cherwell: Oxford Botanic Garden.

An important corollary is that access must be free. Oxford was not, and is not. Feedback by contemporary tourists show that some regard the admission charge as fair, others excessive.

Only a few years later, we lived in Kyoto, Japan, and by that time I knew I would have to frequent Botanic Gardens, wherever fate, or rather work, might take me. Founded only in 1924, and 24 hectares in extent, the Kyoto Botanical Gardens are still the oldest in Japan. Accessible now by subway (which did not exist during our stay), the Gardens are again beside a river, the Kamo River, and we were not far away, in the same quarter, at a lower river junction, with an island where I used to take my son to fly a kite. The Kamo River is heavily engineered along its length, and the huge conservatory, shaped like the background Kitayama mountains, also highlights these Japanese skills in glass as well as steel.



13: Kyoto Botanic Gardens, Giant Conservatory.

Derelict at the close of the Second World War (Kyoto escaped worse after being the first proposed target for the atomic bomb), the Gardens were rejuvenated and re-opened to the public in 1961. Kyoto receives a vast number of tourists each year, a large proportion of whom are schoolchildren from other parts of the country, and it is said one may easily visit a different temple every day of the year. Nevertheless, the Kyoto Botanic Gardens still offer traditional seasonal blossoms; hundreds of cherry varieties, now found on the streets of world cities, are a symbol of life's brevity, but the gardens also have bamboo groves, iris collections, a plum grove, and, of course, natives, both local and national.

Becoming interested in the practice of urban forestry, I submitted a paper to a conference in Toronto on the subject without being able to travel to Canada, conducting a prior postal survey of New Zealand's City Councils to collect the information. In the interval I lost the paper and all the data collected but I remember some surprises from respondents, and generally a much higher level of interest and activity in smaller towns than I had supposed. Later I was able to visit some of the locations recorded, and later still, I paid my first visit to Invercargill, en route to starting the Hump Back Track, an experience which persuaded me that I really should join a tramping club. The 81 hectare Queens Park in Invercargill is not called a Botanical Garden, and indeed the inclusion of a golf course, a cricket club, tennis courts, croquet and bowls lawns, and a fitness track make it more akin to Hagley Park but the arrival of the first (boring) trees, a *Pinus. radiata* and a *Cupressus. macrocarpa* from Wellington in the 1870s dates it to the same vintage as Christchurch and beautification starting in earnest after the Coronation of King George V in 1910 is another common marker. Again, the desire for Winter Gardens, no passing fad in cool climates, has led to expensively heated moist tropical conservatories overlooked by the tall banana, the woodless "tree" impervious to the snow outside. Summer it was in Southland, but I still enjoyed the museum films of New Zealand's brutally cold and windy southern islands, with living specimens in the Sub-Antarctica Garden of Queens Park.

Botanic Gardens multiplied simultaneously with the "dark, satanic mills" associated with the early Industrial Revolution. So what of the great world cities? My boss sent me to New York on some mission, related to banks, not *Banksia*, yet I found a free afternoon to travel to the Bronx to see the great Gardens, at 101 hectares the largest of any U.S.A city, closed now as the whole State, which stretches up to Canada, wrestles wretchedly with

a great pandemic. Inspired by the gold standard of Kew Gardens; seen in 1888 by Nathaniel and Elizabeth Britton, who propelled the founding of the New York Gardens by the Bronx River in 1891; including some old-growth forest contributing two century old trees to the tens of thousands now present.



14: New York Botanic Gardens.

Everything here is writ grand, including the colossal conservatory, huge herbarium, massive horticultural library and the linked hundred Ph.D. and post-doctoral scientists at work. My hopelessly short visit was cut even shorter by an electric vehicle whose crew brusquely told me closing time was near; as one person appeared to be armed, I briskly walked to the nearest exit.

Not every large city can boast such Gardens. My son and his family are in Birmingham, U.K. and I was dismayed to find an entrance fee for only some 7 - 8 hectares of land, albeit four glasshouses have been built to display wet tropical and arid zone plants.



15: Birmingham Botanic Garden.

The design is still largely that of the Scottish garden planner John.C. Loudon in 1830, using land that had been leased from a large estate; however the owners, the Birmingham Botanical and Horticultural Society, founded in 1829, still rejected the designer's plan for a very large circular glasshouse, and the Gardens initially opened only to Society members, not the public, in 1832.

A centre of the "First" (Iron-and-Coal-based) Industrial Revolution, Birmingham is still the second-largest U.K. city, and prides itself on being Europe's youngest city; indeed, I almost felt I should hail as friends rare passing strangers of the same vintage as I.

Walking around the suburbs neighboring the Botanic Gardens afterwards, I observed another paradoxical feature in the very large houses on quiet streets: botanic gardens, by definition a public place, improve the environment in their location, causing the capital value of private land surrounding them to rise, startling if the gardens themselves are small.

Someone, somewhere, sometime, has to start a Botanic Garden. Notwithstanding their convergent evolution now amplified by electronic linkages between older and younger gardens, the initial raw materials of site fertility, topography, and accessibility combined with available funding (owner support) and labour quantity and skill are apt to differ sharply. As they say of "saving" — 'It is a wonderful thing, especially if your parents have done it for you already'.

Last year I had the opportunity to visit the National Botanic Garden of Wales. Modern Wales is small, less than half the size of Canterbury, but no mean distance and time separated my daughter and sister in the north-east corner from the gardens in the south-west. Both days there were rainy. However, it revealed the nature of a Botanic Garden opened only in 2000, although it has much earlier roots, certainly in an estate lasting several centuries, and cultivation practices of millennia. 379 years after Oxford, it was the first new one in Britain for 200 years. One unique feature is the Great Glasshouse, evidently the largest single-span structure of this kind in the world, which maintains a Mediterranean-style climate, therefore including South African plants.



16: National Botanic Garden of Wales.

However, it is the arboretum which shows the patience required to grow a new Botanic Garden (and gives Kew an edge over everywhere else!). Planting trees is an un-forgivingly urgent action;

twenty years of not planting them can easily slip by unnoticed. Their maturity is mistakenly thought to be a long-term issue.

So in order not to have this degenerate into a "Famous People I Have Known" type of article, I must conclude, not by rambling through more Botanic Garden visits, but by stating in a few words the essential components of my ideal Botanic Garden, not being the Elysian Fields: Free entry, a river, big trees, paths, winter gardens, science, research (herbaria, libraries, laboratories), education, ultra-regional and world plants besides natives, a playground, Friends, seats, toilets, adult and kids' food: In Christchurch we are fortunate.

Finding Davidia.

A Tale of The intrepid 'China Wilson'.



17: *Davidia involucrata*. Flowers and leaves.(Google image.)

From the late 1600's and early 1700's men began to bring back new seeds and cuttings from the temperate zones of newly discovered parts of the world, material that might be grown on by the head gardeners in wealthy estates owned by royalty or the aristocracy in England and Europe.

In the early 1700's following the establishment of British colonies in middle America, interest began to escalate around the range of fabulous trees being found in the New World, flowering trees, coniferous trees, trees with broad colour range in their foliage, especially in the fall.

The rapid expansion of the British Empire saw plants that were to become the foundation of mega commerce in the West; stolen from their

Lachlan Hunter.

Lachlan spent his career as a forester, the last two decades being chiefly overseas, and largely in the tropics. He took the opportunity to visit botanic gardens in whatever country he was working and considers that we are very lucky to have the Christchurch Botanic Gardens.

Photo's from Google images.

countries of origin and given new homes within the expanding Empire; plants such as cotton, coffee, tea and rubber.

The East India Company trading with China from the 1700's, aroused insatiable demand for tea in England and eventually plans to steal tea plants from the secreted plantations in China, and transport those seedlings to their new home in India's foothills of the Himalaya, which England now purported to own.

Over the next 150 years, growing numbers of plant hunters were dispatched to China. Following England's 1843 victory in the first of 2 wars against the Chinese, the English demanded that China approve its trade in opium, grown in India to pay for tea from China.

Britain and her allies asserted that China reward their victories by opening treaty ports along the East Coast of China, and thereby opening up the hinterland. The British immediately sent plant hunter Robert Fortune, a skilled gardener with the Royal Horticultural Society, to hunt for the hitherto mystery tea plants. In the 1840s the French sent Jesuit missionary-botanists to China, educated men and skilled naturalists. The race was on to both explore and exploit the ancient land of mystery and seclusion.

Gradually a group of men emerged from Europe and America with extraordinary skills of endurance and a learned eye for new plants to send back to their homeland. One such plant hunter, was Mr. Earnest Henry Wilson, dubbed "China" Wilson, for his China-acquired pigtail.



18: Ernest Henry ('China') Wilson. (Google image.)

In 1899 Ernest Henry Wilson was working for the nursery company of James Veitch and Son, who were among the early family businesses to grasp that there was a great future for hardy plants in the escalating development of British garden culture.

By the end of the 1800's Sir John Henry Veitch was greatly impressed by a specimen of *Davidia involucrata* sent to Kew Gardens by Dr. Augustine Henry [1857-1930], a brilliant amateur botanist, who developed his trade whilst filling in endless bored hours as medical and customs officer for the British Customs Bureau at Ichang on the Yangtse River.

In the surrounding forested mountains, Augustine Henry had found a unique tree with blooms like none seen before; beautiful white bracts earned it the description of ghost or handkerchief tree. The director of Kew Gardens, W.T. Thistleton-Dyer recommended the youthful Wilson do the tree search for Sir Henry Veitch. Wilson had recently won the Queen's prize for Botany, as a step up to the Diploma course at Kew. He had never travelled but was described as hard working and well organised, had a good eye for a garden plant, was a natural diplomat, and wise enough to take advice when offered.

From England, Wilson crossed the Atlantic, sailed across the USA and set out for China from San Francisco. He was heading straight for the small

outpost of Sze Mao (now called Simao) in remote South-West Yunnan, near the border with Burma. Augustine Henry was stationed there temporarily and about to return home to Ireland. Wilson arrived in Hong Kong to find it locked down in an outbreak of bubonic plague so that no Chinese was permitted to leave the colony.

Wilson moved quickly to travel South via Hanoi in French Indochina (North Vietnam) but there was no time to employ an interpreter. Travelling up the Red River to Lao Cai was very risky with ferocious heat, the constant threat of malaria, and pirates.

One thousand miles up the river and across south Yunnan, the last of it on foot, Wilson met up with Augustine Henry and stayed 5 days with him during which time he learned a great deal about Chinese ways, as well as Chinese plants. Henry drew a rough map "of such small scale that it covered an area of 1,000 square miles, an x marking the spot of the *Davidia*."

At the French military post of Lao Cai the Chinese were aggressively fighting the French. The destruction and the fever-haunted settlement were described by Wilson as the worst period he had suffered during his entire 11 years of plant-hunting.

Henry's wise words helped Wilson on an easier journey back to the coast and North to the mouth of the Yangtse River. His ignorance of Chinese language helped allay the fears he would have suffered had he known about the aggression felt by the Chinese towards foreigners at that time of the Boxer rebellion. Wilson arrived at Ichang in February 1900. He was to stay there two years giving time for him to organise his search for *Davidia*. The area covered on Henry's tiny map was as big as New York State. The site was inland and further upstream on the Yangtse's terrifying rapids; twice Wilson saw a boat swallowed up by the wild whirlpools in the river and his own boat was damaged by rocks.

Once on land there were 2 days of travel before the homeland of *Davidia* was within reach. His party met rioting local Chinese again, but Henry's advice kept him calm and friendly and he reached the house site where Henry had stopped exactly 12 years before. But to his great dismay Wilson saw only a large tree stump, and a newly built house — the remains of the *Davidia*! He had travelled 13,000 miles for nothing, he thought, and in his diary wrote, "I did not sleep during the night of April 25th, 1900."

To his relief and joy, however, Wilson came across a magnificent 'handkerchief' tree in full flower in the nearby hills. He wrote, "To my mind

Davidia involucrata is at once the most interesting and beautiful of all trees of the North-temperate flora. The flowers and their attendant bracts are pendulous on fairly long stalks and when stirred by the slightest breeze they resemble huge butterflies hovering amongst the trees.

"*Davidia* is named for the great French naturalist Père David, a frail and modest man with voluminous knowledge of China's flora and fauna. The species name '*involucrata*' means a ring of bracts surrounding the flowers. "China Wilson" as he became known, found many more *Davidia* locally and gathered quantities of the nutmeg-shaped seeds for Veitch. When he returned to England and saw his seedlings, he learned that some years previously the French missionary Lafarges had sent seed home to Maurice de Vilmorin, who disappointingly for Wilson had successfully raised them.

Veitch's firm raised many thousands of trees from Wilson's seed. Seeds collected by Wilson on subsequent expeditions never germinated.

Davidia involucrata can be seen in the Christchurch Botanic Gardens on the outside of the North hedge surrounding the modern rose garden. It is also in Woodham Park in Woodham Road (adjacent to where the aviaries used to be).

Di Madgin.

Di has been up and down the Yangtze Gorges many times, escorting garden tours around China with her husband Bill Willmott. Bill was born and raised in Chengdu, Sichuan where the *Davidia* was discovered. Plant hunters and pandas, all rested in the homes of Western missionaries. They had nowhere else to stay!

Big Trees of the Gardens.

Giant Redwood — *Sequoiadendron giganteum*.

Growing up to 100m in height with a diameter of 7m or more, this tree has the distinction of being the largest organism in the world.

The giant redwood with its low sweeping branches has deeply furrowed spongy bark which can be up to 60cm thick, this being very effective in protecting the trees from forest fires.

The tree was likely named in honour of Cherokee Chief Sequoyah.

The first scientific naming of the species was by John Lindley in December 1853, who named it *Wellingtonia gigantea*, without realising this was an invalid name under the botanical code as the name *Wellingtonia* had already been used earlier for another unrelated plant. The name "Wellingtonia" has persisted in England as a common name.

After a series of similarly invalid names American botanist J. Buchholz coined the name *Sequoiadendron giganteum* in 1939.

You will find a row of six of these majestic trees, which were grown from seed, on the North side of the Archery lawn and there are other scattered specimens in the gardens.



19: Four of the Row of Six Giant Redwoods, On the North Side of the Archery Lawn.

Kauri — *Agathis australis*

The Kauri was discovered by the French expedition of Marion du Fresne in 1772, and by the early 19th century a considerable export trade in Kauri timber had been established.

By 1830 it was generally recognised that few timbers on a worldwide scale equalled it. However, because the wood was so highly valued, it has been over-exploited and now only exists in small 'pockets', mainly in the North Island.



20: Kauri Tree on the Archery Lawn.

In the forest, the Kauri grows into a large tree, sometimes reaching 50m in height with the columnar trunk growing up to 7m in diameter. Although peculiar to the warmer areas of New Zealand, the Kauri has proved hardy in many parts of the South Island.

There is a specimen at the east end of the Archery Lawn by the Dark Water Feature that was planted in 1920 by HRH the Prince of Wales.

Maritime Cluster Pine — *Pinus pinaster*



21: The Pine Mound with its Maritime Cluster Pines.

As early as 1789 vast areas of sand dunes in the South of France were being reclaimed by the use of Maritime Pines". These pines grow quickly and in young plantations the crowns of the trees soon form a wind-resistant barrier.

The most striking feature is the thick orange-red bark, deeply fissured into plates. In older trees a long bare pole ascends to widely spaced branches in the open crown, up to 35m high.



22: Bark of the Maritime Cluster Pine.

The mound on which this circle of Pine stand is one of the original sand hills that existed when the Gardens were formed, and can be found between the Armstrong and Archery lawns.

**Dawn Redwood —
*Metasequoia glyptostroboides***



23: *Metasequoia glyptostroboides* by the Townend Glasshouse.

Long thought to be extinct this fine tree was located in south-eastern China as recently

as 1941, since when its hardiness, the ease with which it propagates and its growth rate which can average a metre per annum made it a popular ornamental.

Although shortest of the redwoods, it can grow to 35m in height.

Its botanical name indicates affinities with the genus *Sequoia* and the rare deciduous Chinese swamp cypress *Glyptostrobus lineatus* (syn *G pensilis*) It is closer to the Chinese swamp cypress, whose similar foliage is also deciduous. The leaves and lateral shoots of Dawn Redwood, however are longer and opposite. It is unique in carrying its side-buds below its shoots and not in their axils.

There is a good specimen of *Metasequoia* outside the Townend glasshouse, you can see it well from the Ilex cafe.

Phil Skilton.

I did not know about beauty and beautiful things as a young man but was amazed at the great flowering rhododendrons, camelias, and purple and white large bell shaped magnolias in our gardens, when I was propagating as a Volunteer with Don Bell, Neil O'Brien and Bede Nottingham. I first came to a Friends meeting after deciding one morning not to go to the Friends of the Museum meeting, but to go to a Friends of the Gardens meeting in the Information Centre. It was from here that my interest in living things and search for beauty started, after only knowing an engineering environment, nature and love of Plants fulfilled this.

A Reflection and a Poem.

A friend sent Amama Thornley this poem from the USA written by Bruce Guernsey, a distinguished professor emeritus at Eastern Illinois University.

"Naming the Trees"

At the national cemetery in Gettysburg
all the trees have names,
both family and genus
on small brass plaques at the base of each
to let the visitor know
the kind of oak,
whether red, white or black,
and is this rock or silver maple
looking once like any other
burlapped ball of roots
when it was lowered to earth
those decades after the war.

Colorful names like Tulip Poplar,
Weeping Beech, Buckeye,
Sweet Gum and Ginkgo —
sounding like nicknames almost, these trees
from every region and state
with broad leaves or skinny,
shiny, dull, or no leaves at all
like the Eastern Hemlock,
but all, all with names every one,
no matter the size and shape
amidst the many anonymous
mute stones in their shade.

Bruce Guernsey.



Friends News



24: National Cemetery in Gettysburg USA.

For non-American readers, Gettysburg is the single bloodiest battle of the American Civil War, it lasted three days, and the total dead is roughly 40,000, mostly on the side of the Union. My family had people fighting on both sides of the Civil War. One of my ancestors was shot as a Union spy down in South Carolina.

Perhaps our cemeteries should have trees named. I am always sad that great trees in front of my house by the Heathcote River have no names. Hundreds of children and people walk past them and don't know what kind of trees they are that provide them with beauty and colour in all seasons.

Amama Thornley.

Photo from Google images.

WORLD PEACE BELL UPDATE.

The United Nations World Bicycle Day was commemorated on Saturday the 6th of June. The UN declares the bicycle, being transportation used equally by people of differing cultures and economies, to be a peaceful activity. The actual day is the 3rd of June, but Saturday suits most people better. Hiroshima day is commemorated on the 6th of August. The Guardian newspaper reports 73 billion dollars was spent on nuclear weapons in 2019 with 35 billion of that being spent by the United States of America. Who are now contemplating resuming nuclear testing.

Roy Sinclair and Diana Madgin: World Peace Bell Association.



Contact Numbers

Committee

President	Jeanette Christensen	355 5007
Secretary	Graham Chick	385 9264
Treasurer	Pamela Niskanen	
Plant propagation	Don Bell	343 6699
Membership database	Claire Mulcock	027 4415605

Penny Martin, Alan Morgan, Mary Carnegie, Vicki Steven,
Jane Cowan-Harris, Nona Milburn.

Other Contacts

Guides Co-ordinator	Faye Fleming	351 7798
Group guided walks:	Pat Whitman	384 3475
Webmaster	Murray Dawson	321 9645
Newsletter editor	Annette Burnett	dananbur@outlook.com

Enquiries About Membership.

Phone: Claire Mulcock: 027 4415605

Email: friendsofthegardens@gmail.com

Post: PO Box 73036
Orchard Road
Christchurch 8154
New Zealand

Gardens enquiries: Information Centre 941-6840 ext 7590

Website: <http://www.friendschchbotanicgardens.org.nz/>