Friends of the Christchurch Botanic Gardens

No 123: Autumn 2021

Newsletter

PRESIDENT'S REPORT: APRIL 2021

Excitement is building at our house as we anticipate my daughter and grandson from Switzerland being 'set free' from isolation next Monday. It has been a very strange two weeks knowing that they are just down the road, but at least we can chat within the same time zone. It will be wonderful to have them home for three months and we are hoping for some lovely Autumn weather.

Friends' activities have been very busy on many fronts.

Grow Ōtautahi Garden Festival

This coming weekend, from the 12th to the 14th of March is the Grow Ōtautahi Garden Festival at the Botanic Gardens and we have been preparing to show-case the Friends and promote our newly published brochure about Māori Medicinal Plants (Rongoā Māori) within the Gardens.

Many thanks to Trees for Canterbury who have kindly loaned us plants for our display.

We hope to recruit many new members from our presence at Grow Ōtautahi and welcome any of you who visit during this three-day event.

Figure 1: Friends display booth at Grow Ōtautahi Garden Festival.

I would like to thank Claire Mulcock, Jane Cowen-Harris and Susan Lawrence who have been working hard to help make our booth at the festival a success and the eighteen volunteers who will be on duty at the booth over the three-day event.

Veronica lavaudiana
Sun Hebe
Endemic to Banks Peninsula
Christchurch

Finally, congratulations to Sandi MacRea, and the Grow Ōtautahi Trust for the success of this wonderful event. (Sandi is the director of Grow Ōtautahi Trust).

— A tremendous effort by all —

February Talk

At our February talk, Luke Martin, Curator of the New Zealand section in the Gardens, told us of his recent experience exploring and gathering plants from the Subantarctic Islands. Luke had some wonderful slides and the large audience felt that they had definitely shared his experience.

Figure 2: Macquarie Island (Subantarctic Islands). Photo by Krudller - CC Wikimedia Commons.

Luke's trip was made possible by Alan Morgan donating his aborted trip to Luke after having suffered a bad accident while trying to reach the Islands last year. The Friends also helped to sponsor Luke's trip which has enabled him to increase his knowledge of the plants from this unique environment. A selection of plant specimens that Luke was able to bring back successfully, are now growing in the Gardens nursery. Luke also expressed thanks for the Herbarium Dryer which the Friends donated to the

Gardens, and which he used to preserve specimens from his trip.

It is great to see so many Friends and non-friends at our monthly talks. Many thanks to the committee who help make this happen, with special on-going thanks to Mary Carnegie and other Friends for the wonderful afternoon teas and hostessing at these events.

Guided Walks
The Guides are in full swing with their daily walks from the Kiosk and I know many Christchurch folk and visitors are taking these opportunities to learn more about the plants and history of the Gardens from these knowledgeable volunteers. I know the Guides have been very busy increasing their knowledge for new walks rotated daily over each week and have been seen with clipboard in hand planning the half hour walks offered at the three day Grow Ōtautahi festival. Thankyou Susan and your team for your tremendous effort to show the public our beautiful Gardens.

Gardening Volunteers
Jane Cowen-Harris and her team of volunteers, who help the section curators, have been appreciated over this period as the weeds still grow and dead-heading is constant. The curators always speak highly of the work these volunteers are doing and the difference it makes to the Gardens.

Kiosk Volunteers
Nona Milburn's team of Kiosk helpers are consistently at the Kiosk on Fridays and Sundays to greet visitors and answer any questions about the Gardens or horticultural issues. On behalf of the committee, I thank you for your dedication to this task.

Nursery Volunteers
The Growing Friends have been busy catching up on nursery maintenance and the three groups of volunteers are busy getting ready for the Autumn plant sale on April 11 which requires additional activity.

Don Bell
It is with sadness we heard of Don's sudden death on the 8th of March. Don led the propagation teams at the Friend's nursery for the past 15 years. His dedication to this work has been tireless, organizing the team, sorting out the irrigation, helping to construct benches and sourcing plants.

We will miss Don's excellent leadership. A superb teacher, he quietly acknowledged what one knew, then he would ask "What do you think?" and gently suggest any changes he would make. In his considered manner if Don said "That's very good" one knew it was high praise.

The Friends will miss Don's wisdom and knowledge, his dedication, leadership and his Friendship.

Lastly on a happier note a very big welcome to all new Friends. We hope you will enjoy the camaraderie and knowledge sharing within our society.

Jeanette Christensen.

KIOSK NEWS

A group of Friends of the Christchurch Botanic Gardens share their enthusiasm for the gardens by volunteering at the Kiosk. We share the building with Canterbury Horticultural Society and Envirohub and we cover Fridays and Sundays between 10am and 4pm (11am to 3pm in winter).

Currently we have 16 active volunteers which means they are rostered on about once a month. Volunteers answer visitor questions about the Gardens and share their expertise about gardening. If we don't know the answers, we ask an expert (staff or a Friend).

We draw attention to the several information brochures displayed including the Friend's Commemorative Trees and the newly developed one on Māori Medicinal plants (pictured below). We also take EFTPOS payments for the Friend's flourishing Plant Stand as well as managing the free wheelchair we provide.

Volunteers get together every few months to share experiences and ideas. Sometimes very little happens when we are on duty and other times very interesting visitors come in or questions are asked. Many locals share their experience of the Kiosk when it was a tearoom. Most of the feedback about the Gardens is very positive but when there is a concern, we pass it on to the appropriate person.

We always welcome new members and anyone wishing to volunteer can contact me at nona.milburn@xtra.co.nz or 021 125 8614.

Nona Milburn: Kiosk Volunteer Coordinator.

8 **Mānuka** *(Leptospermum scoparium)*
A poultice made by steeping the leaves in boiling water relieves itchy skin. An infusion of the bark can be used as a mouth wash.

9 **Kōwhai** *(Sophora microphylla)*
An infusion of bark and leaves can be used to treat sore muscles and cramp.

10 **Karaeopirita** *(Ripogonum scandens – Supplejack)*
The free-flowing sap is used to stem bleeding or the root can be pounded to produce a "cure-all" tonic for fever as well as kidney & liver complaints.

11 **Ponga** *(Cyathea dealbata)*
The common tree fern is found throughout New Zealand. The pith has antiseptic properties to treat abcesses, prevent infection of wounds and was used as a poultice for running sores or skin eruptions.

12 **Māhoe** *(Melicytus ramiflorus - whitey wood)*
The leaves were boiled to relieve the pain of rheumatism and bandaged on to surfaces affected by scabies. A plaster of steamed leaves was placed over a stomach wound. The inner bark was frayed and applied as a pack on burns.

13 **Kōhia** *(Passiflora tetrandra – NZ passion vine)*
The oil from the seeds was applied to chronic sores, hard to heal wounds and chapped nipples. It was mixed with juice of harakeke roots to cure flatulence.

14 **Tānekaha-Celery pine** *(Phyllocladus trichomanoides)*
The tannic acid in the bark was effective with dysentery and the leaves were used for scrofulous diseases. The heartwood contains inositol which has been used medicinally for cirrhosis and hepatitis. The bark was traditionally used for tanning fishing nets.

15 **Rangiora** *(Brachyglottis repanda)*
"Bushman's friend" is easily recognized by its large leaves with a soft underside. Used directly onto wounds or boiled to make a poultice for many skin complaints.

16 **Matai** *(Prumnopitys taxifolia)*
The juice of the matai was collected and used to check the advance of consumption or pulmonary tuberculosis. Matairesinol is extracted from the heartwood of the tree and used in cancer research. The outer rind of the bark was scraped, pounded and boiled, then used as a drink to treat severe stomach pain.

Friends of the Christchurch Botanic Gardens

This is a guide to help you learn to identify native healing (rongoā) plants and to provide an idea of their uses. We are not qualified to vouch for their effectiveness and are not endorsing any medicinal value. It is NOT an invitation to collect plant material from the Botanic Gardens as the plants are for all to enjoy. You may already have some of these plants in your garden or may consider introducing them. We have concentrated on the New Zealand Icon garden. The plants, which are all labeled, are listed in the order you will encounter them.

TRADITIONAL USE OF PLANTS
Māori developed rongoā-healing plants over centuries of careful examination of the plants of Aotearoa. This was passed through generations in oral traditions. The main illnesses were aches and injuries which were often treated with poultices.

Joseph Banks, on Cook's first journey, recorded his observation that Māori were so healthy that they had little need for Western medicine. Many of the viral diseases that plagued the rest of the world didn't arrive until the Europeans came in the 18th and 19th centuries. Along with Māori aid, early Europeans continued exploring the use of New Zealand plants for medicine.

Today many New Zealand plants are researched in universities for their medicinal purposes and developed commercially. Māori rongoā practitioners continue to grow and use indigenous plants.

Please contact us if you have any experiences to share. Email friends of the gardens@gmail.com

Acknowledgement:
We are indebted to the generosity of Rob Tipa in supporting this project by providing constructive feedback. His knowledge of the plants of Te Wai Pounamu and their usage has been invaluable. Thanks also to Christchurch City Council for cultural guidance.

References:
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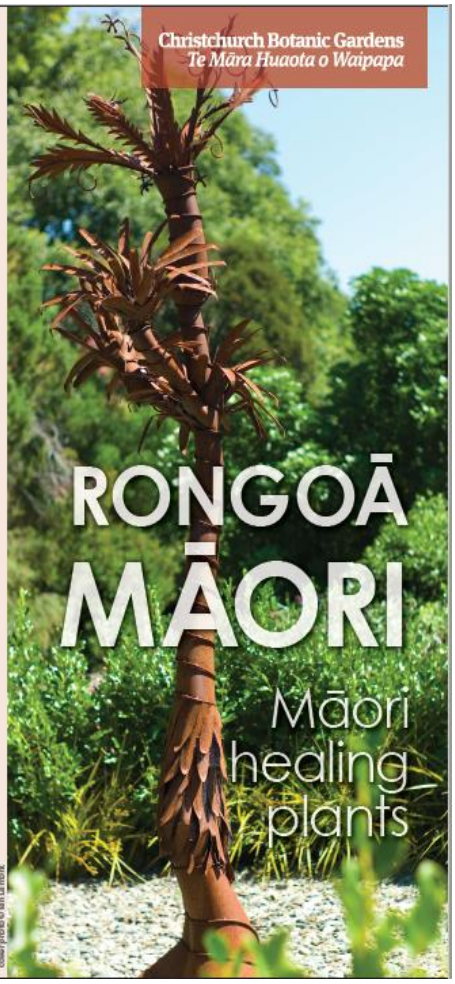
Riley, M. (2018). *Māori Healing Remedies*. Viking Seven Seas.
Tipa, R. (2018). *Treasures of Tane: Plants of Ngai Tahu*. Huia.

March 2021



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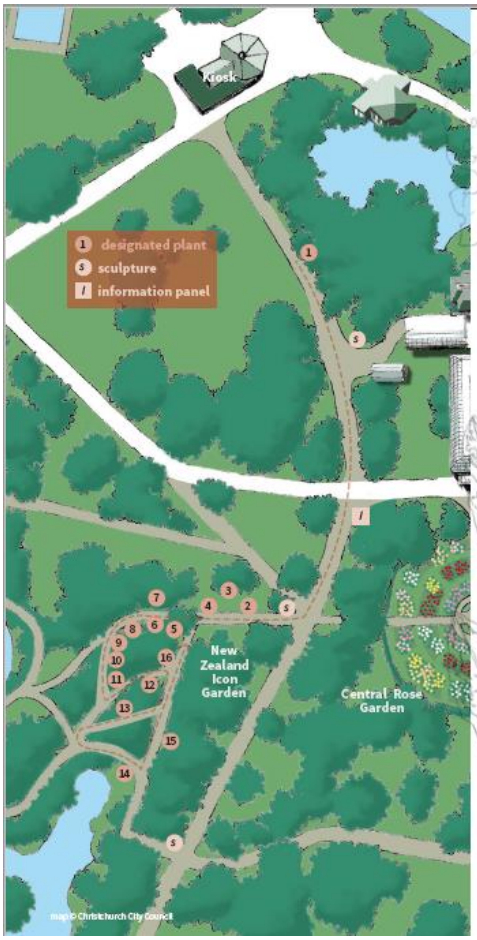


map © Christchurch City Council

RONGOĀ MĀORI

1 **Rātā** *(Metrosideros robusta)*
Leaves were used for treating asthma, bronchitis, chest colds, flu and whooping cough. Inner bark was used to treat diarrhoea and dysentery. In 1890 a recipe for a mixture of koromiko, pukatea and rātā bark or toa toa was patented. It was unrivalled in treatment of chronic illness of the stomach. External bark cut from the sunny side of the tree was used as a splint for fractured bones. A lotion made from the bark was used for aches and pains, wounds and bruises and to treat ringworm.

2 **Tī Kōuka** *(Cordyline australis - Cabbage Tree)*
Leaves were scraped to get the juice to make tea to treat diarrhoea and dysentery. Scrapings of the leaves were used as dressings for cuts, wounds, and sores. The tender inner shoots and top of the stem were boiled and nursing mothers drank the liquid to stimulate and stabilise their milk flow, and used for babies with colic. Seeds were regarded as protective for cardiovascular disease.

3 **Tarata** *(Pittosporum eugenoides – Lemonwood)*
Bathing in a hot bath made from the bark and leaves of the Tarata tree helped with acute rheumatism. The resin from the Tarata tree when mixed with the gum of the Pūhā (sow thistle) and formed into a ball was chewed and used as a breath freshener.

4 **Kawakawa** *(Piper excelsum)*
The heart-shaped leaves are a symbol of courage & fortitude. A poultice of leaves can be applied to joints to treat arthritis & skin ailments such as warts; fresh leaves are eaten after a meal to prevent indigestion & constipation; also the leaves can be burned in a camp fire to ward off mosquitoes. Fruits & seeds are said to have aphrodisiac properties!

5 **Rimu** *(Dacrydium cupressinum)*
The inner bark taken from the sunny side of the tree was used to heal ulcers, burns and scalds. The gum or bark of young trees was applied as a dressing to stop bleeding of severe wounds. A walnut sized piece of gum was boiled in water. One tablespoon given 3 times a day was used to treat stomach ailments, headaches or bleeding from the lungs or bowels.

6 **Harakeke** *(Phormium tenax – flax)*
Flax roots were boiled for 12 hours for use as a blood purifier. Roots were roasted over hot stones and beaten into a poultice to be used to treat abscesses and ulcers Juice from roots (either raw or after boiling) were applied to wounds as a disinfectant and used for rashes, ringworm, chilblains, and toothache. The gum was good for burns, scalds, old wounds and cuts and abrasions. It was a substitute for sticking plaster. The thread of the flax fibre was used to sew up wounds. Leaf strips were used as bandages and the thick base of the leaf used as a splint for broken bones.

7 **Horopito** *(Pseudowintera colorata - pepper tree)*
One of the best natural painkillers found in the bush. Modern science has confirmed Māori remedies from the antiseptic, antifungal and antibacterial properties of the leaves and bark. There is commercial production of antifungals derived from horopito. Leaves were chewed and applied as a poultice on wounds. The peppery leaves were chewed to relieve toothache and headaches.

drawings © yao.zoezhang@gmail.com

NEWSLETTER CONTENTS

EDITOR'S NOTE

Reading through the articles in this Autumn edition of the Friends Newsletter has caused me to reflect on how what has gone before, allows us to have what we have today.

Di Madgin writes of some of the perils faced by the Victorian plant hunters in bringing back plant treasures to the Western world. The difficulties that they faced were enormous and as an aside I understand the pay rather pitiful especially in the light of how lucrative new plants were for the importers.

John Clemens writes of the vision and work of the illustrious Joseph Armstrong in promoting and preserving New Zealand's own native plants and his passion to establish an educational botanical garden rather than merely a 'pretty park'.

Alan Morgan's tribute to the late Don Bell reveals Don's extensive role in horticulture and in his later years his significant contribution to The Gardens as a volunteer member of the committee.

The Friends continue to sow into the future, as in the sponsorship of Marcela to the Mount Cass field botany trip.

I found it interesting that Marcela mentioned the native yellow mistletoe *Alepis flavida* in her article. Indeed, Marcela has captured a first-class photograph of *A. flavida* flowers. In the Summer 2020 edition of the Newsletter Dean Pendrigh wrote about the native green mistletoe *Ileostylus micranthus.* Sadly, all nine of our native mistletoe's are under threat of extinction. I recently read a short National Geographic article* that highlighted the importance of biodiversity and the tragedy of the loss of any species given that all biota is interconnected.

Perhaps one of the Friends would like to write an article on New Zealand's native mistletoes and their plight?

I must admit that I am gaining a sharper appreciation of the role of Botanic Gardens and the role that organisations such as The Friends have to play as a small part of the bigger picture in education, conservation and preservation.

Annette Burnett.

*National Geographic April 2020 'Nature needs us to act — NOW' Written as an advertorial for the WYSS Foundation.

HIGHLIGHTS OF THE FRIENDS SPONSORED BOTANY FIELD TRIP. JANUARY 2021

Marcela Moreno.

Figure 3: Craigieburn Forest Park.

Originally coming from a tropical country that ranks second in the world in terms of its plant diversity, it is surprising — even to myself — that I had to come all the way to New Zealand to become interested in plants. *'You must have the most beautiful plants back home'*, I am often told. And while I am almost certain that is the case, it has been here in the land of the *Long White Cloud* that botany has become a fascination to me. Being able to join a group of like-minded people and call myself a botanist – if only for a week, was an absolute treat.

Dare to look

Plants never fail to surprise. I am a firm believer that every single plant on this planet, from the most minute orchid to the tallest forest tree has a fascinating story to tell. Personally, I enjoy looking at the minute details the most. Some of the plants I was able to look at closely were the native sundews. The leaves of these carnivorous plants are covered in sticky hairs that lure, capture and digest insects. Three species were observed, the tallest of which was approximately 10 to 15 centimeters. A definite invitation to stop and look.

Figure 4: Close up of *Drosera arcturi*: The most prevalent sundew, often found in montane to sub-alpine bogs.

Figure 5: *Drosera spatulata*: Minute leaves in the shape of a flattened spoon give this species its name.

Figure 6: *Drosera stenopetala*. The least common sundew in the area visited. Its leaves are less than 2cms tall

The ugliest plant in the world

Not my own words, I should point out. It was Pieter Pelser, one of our Lecturers and Curator of the Herbarium at the University of Canterbury who referred to *Helichrysum depressum* as 'the ugliest plant in the world'. 'Depressing' he added. Take no offense though. Pieter frequently used all manner of strategies to get us to remember the plants we were looking at. In particular he wanted us to remember those characters that could be useful for identification purposes. In the case of *Helichrysum depressum*, its specific epithet 'depressum' refers to its rather flattened growth habit. And so, we remember.

All that said, one could be forgiven for thinking that this plant is just the remaining skeleton of a once thriving plant which has long died. Make no mistake, the story of *Helichrysum depressum* is one of tenacity and success. A common plant on braided riverbeds, this plant survives in extreme conditions like high temperatures, very high light levels, as well as strong drying winds that erode its substrate and cause abrasion of its tissues.

Figure 7: *Helichrysum depressum* displaying its closely appressed leaves and seed heads.

A treacherous hike to a newly named species

When we were asked to keep our eyes open while walking to the summit of Craigieburn ski field, I first thought those instructions were a bit redundant. It was extremely difficult to take a step without causing a mini avalanche of scree. The instruction, however, was to keep our eyes open for a recently named species of alpine daisy: *Senecio matatini* spp. *discoideus.* I learned that the specific epithet 'matatini' comes from a Te Reo word with many meanings including 'complex' or 'many faces'. This was chosen, as Pieter explained, due to the taxonomic complexity of this species, as well as its considerable morphological and ecological diversity.

S. matatini has a wide distribution and is found throughout much of the South Island and the southern and central parts of the North Island. A few subspecies are known which accounts for the diversity and complexity. Previously known as *Senecio glaucophyllus* subsp*. basinudus, Senecio glaucophyllus* subsp*. discoideus, and Senecio glaucophyllus* subsp. *toa* are currently considered as subspecies of *S. matatini*.

Figure 8: Newly named species, *Senecio matatini* in Craigieburn ski field

A stunning little heath

One of the first pieces of equipment that we were handed out as we settled at the Field Station in Cass, was a hand lens. Apparently, you can only call yourself a botanist if you proudly wear your hand lens on a lanyard around your neck at all times. I must admit, a good quality hand lens is a powerful tool of observation. Specially for alpine plants which are in general low growing and its many details difficult to spot with the naked eye. *Pentachondra pumila* was one of the plants which one could inadvertently step on due to its size. However, under the hand lens, this is an absolute stunner, particularly when flowers and fruits are present.

P. pumila is a member of the Ericaceae family, commonly known as carpet heath. This plant forms dense patches as big as 0.5 meters across. The leaves are leathery, of a blue green colour, with prominent veins underneath. Small, urn-shaped, white flowers, hairy on top with a honey-like scent are produced in summer, followed by bright red berries.

Figure 9: Close up of flowers of the carpet heath, *Pentachondra pumila*

Hold your arms in the air like you just don't care

As mentioned before, students were encouraged to remember the diagnostic features of plants and plenty of help was given to achieve this. If we were trying to identify a plant which flower had two prominent stamens held up over its petals as per the photo below; we would then know that this plant belonged to the genus *Veronica* and that the flowers of plants in this genus do in fact 'hold their arms (or in this case stamens) up in the air like they just don't care'.

Figure 10: Close-up of flower of *Veronica lycopodioides* showing its two prominent stamens with purple anthers.

I also learn that what we have come to know as Hebes are currently known (to botanists at least) as Veronicas. The reader is probably aware of the fact that botanists are divided in two camps 'lumpers' who are prone to group plants together into big categories and 'splitters' who like to break big groups into smaller ones. And so it seems that at this point in time, the lumpers got it their way. hebes, heliohebes, parahebes and leonohebes have for a while now been grouped into the major genus *Veronica*. Not to worry though. It has proven very difficult for the new name to stick and you will be forgiven for calling a plant on the genus Veronica by its former name.

Freeloading plants – Mistletoe and other semi-parasites

Yes. It turns out there are also freeloaders amongst plants. During the trip around the Cass area, the theme remained centered on what botanists know as hemiparasites, that is, plants that obtain water and mineral nutrients from the host but are still able to photosynthesize.

To begin with and perhaps one of the most interesting plants in terms of its ecology was *Alepis flavida,* more commonly known as the yellow mistletoe. Although it has been recorded on other indigenous species, this is one of the most host-specific amongst the native mistletoes and so is almost always found on the outer branches of beech trees. After germination, this plant penetrates the tissues of its host via a specialized root-like structure called a haustorium. It helps the plant attach to its host as well as to obtain water and nutrients.

In the field, pollination and seed dispersal of this plant is carried out by native birds. For germination to occur, the outer covering of the seed has to be removed, a service that birds provide when the seed passes through their gut. Unfortunately, this species is currently at risk as numbers continue to decline in the wild. It is sometimes argued that the decline is the result of poor seed dispersal caused by a drop in bird numbers, which is, in turn, a likely consequence of habitat loss and predation of birds by stoats, possums, etc. On the other hand, the seed must be deposited in the younger branches of a suitable host and birds might not necessarily get it just right consistently. And so, it seems that the race for survival of this species is definitely a difficult one.

Figure: Flowers of the yellow mistletoe, *Alepis flavida*.

Other semi-parasitic plants observed were *Euphrasia* species and *Exocarpus bidwillii*, these plants are known to parasitize the roots of adjacent plants.

Figure 11: Flowers of *Euphrasia* spp. a root parasite

Figure 12: Close up of *Exocarpus bidwilli* showing its leafless twigs

This is a small sample of the learning that took place during the course, the effort of both lecturers and students was commendable for what was in my personal opinion a very intense teaching and learning experience for all. The flora of the Southern Alps did exceed my expectations by far in terms of its diversity, adaptability and resilience. I look forward to continuing to look at plants with the same inquisitive eyes as we were taught and to continue to unearth the stories that each plant has to tell.

About Marcela: Originally from Colombia, I trained in Finance and International affairs back home. Coming to Cuningham house for the first time many years ago inspired me to train in Horticulture at Lincoln University. Working at the Conservatories at the Botanic Gardens now, I feel I have truly come full circle. These days I enjoy learning and spreading the word about the many wonders of plants.

Photographs: I used an attachable Moment Macro 10x lens on a smartphone. Here is a link to their website

https://www.shopmoment.com/products/macro-lens

Articles

JOSEPH BEATTIE ARMSTRONG — BOTANIST

John Clemens and Sue Molloy

Joseph Beattie Armstrong worked for 16 years in the Christchurch Domain (today's Botanic Gardens) alongside his father, John Francis Armstrong. John had been appointed Head Gardener or Curator of the Christchurch Domain in 1867. Joseph referred to himself as Assistant Curator.

John and Joseph shaped much of the Botanic Gardens and Hagley Park we see today. Next time you walk under the overarching plane trees that run majestically from the Deans Avenue / Riccarton Road corner to Victoria Lake, think of Joseph Armstrong; he propagated those plane trees. The Domain nursery distributed a million trees and shrubs throughout the Province from plants collected from around the world.

The Armstrongs also took the bold step of establishing a renowned collection of indigenous plants. They studied New Zealand plants in the wild and in cultivation, read widely, published their botanical research findings and promoted the appreciation and educational value of the plant collections. On a shoestring, and with some of their own money, they created the beginnings of a modern botanic garden in the Domain.

The Domain, however, had been officially set aside for civic pride and health-giving promenading, for seeing others and for being seen. The Armstrongs' enlightened achievements had been attained with less than the full support of the Domain Board. For reasons not wholly explained they parted company with the Domain and their precious plant collections in August 1889.

What were the origins of this high achieving duo, and what was their legacy? They came from the neighbourhood of Whitehaven, a coastal town on the fringe of the Lake District in northwest England. Joseph's parents, John Armstrong and Annie Bowman, were married there in 1845. John

learned his horticultural and forestry skills on the job at Netherby Hall, the seat of Sir James Graham, and worked in the gardens of Washdale Hall in sight of the Lake District's highest peak, Scafell.

The family emigrated to New Zealand in 1862. Others of the extended family followed, including Annie Bowman's younger sister, the twice widowed Isabella (Joseph Armstrong's Aunt), and Isabella's three surviving children. While the Armstrongs settled in Christchurch, Aunt Isabella and family dispersed in and around Fairlie working as farmers and shepherds. Joseph Armstrong and his cousin Margaret were both born in 1850, and both were given Beattie as their middle name. We think the name honours Annie and Isabella's older sister and her husband James Beattie who do not appear to have had any children of their own.

Newly arrived in Christchurch, it was the 14-year-old Joseph Armstrong who compiled a list of native plants then growing in the still untamed Domain and Hagley Park. Most colonists saw a monotonous wasteland; Joseph saw the richness of nature. He kept this early plant list for 50 years before giving it to Elizabeth Herriott for her research at the University. Joseph never forgot the importance of documenting the plants he studied and grew. In 1897, eight years after leaving the Domain, he was able to specify how much the Domain's plant collections had declined:

"*It was always our aim to make the collection of plants as complete as possible, in order to give the garden a real educational value. On the 1st of September, 1889, after the winter's losses were struck off, the exact number of species and varieties of plants in the garden was 5349, exclusive of garden varieties, which amounted to about a thousand more. ... I attached labels to over 4000 of the 6000 species then in the gardens*."

Joseph was a regular and successful competitor in local horticultural shows, and a member of the Horticultural & Landscape Gardening Committee for the 1906-1907 New Zealand International Exhibition in Hagley Park. He was responsible for the plants in the Exhibition's very popular Fernery. He was a prolific contributor to newspapers and journals in New Zealand and England, wanting readers to appreciate the beauties of the local flora. Writing under the mysterious pseudonym "Dulcamara" he encouraged readers to botanise on Mt Torlesse, recalling his earlier exploits in the English Lake District:

"*Mount Torlesse being the nearest or, at any rate, the easiest attainable mountain to Christchurch, offers to the botanist or geologist a most interesting ground for collecting specimens. ... Although not by any means to be considered a first-class ascent in a mountainous country like New Zealand, Mount Torlesse is nevertheless 6400 ft high, or twice the height of the principal peak in England — Scawfell — which I several times ascended when a boy.*"

The widowed and childless Joseph Armstrong died unexpectedly in 1926 after failing to regain consciousness from a minor operation. He would have amassed a mountain of observations, articles, manuscripts, and correspondence. Among these he had drafted the first layperson's guide to New Zealand plants.

In his will, Joseph Beattie Armstrong "Botanist" appointed his South Canterbury farming cousin, John Shaw as his Executor. It was Shaw who donated Joseph's library and notorious herbarium to the Domain Board. No record can be found of Joseph's papers and the valuable layperson's guide to the flora. Did these accompany Joseph's books and herbarium specimens on the lorry to the Domain, only to moulder and be thrown away? Or was a lifetime's accumulation of papers burnt after Joseph's death? Perhaps John Shaw took at least some of the papers back to family members as a keepsake. Shaw and his descendants, including a son named Allan Beattie Shaw (there's that middle name again), continued to live in and around South Canterbury towns for the next 100 years.

Figure 13: Horticultural and Landscape Gardening Committee, New Zealand International Exhibition 1906-1907). Joseph B Armstrong is the tallest person standing, back left. Christchurch City Council Reference Collection

We thank the Friends of the Christchurch Botanic Gardens for supporting historical investigations and Te Rua Mahara o te Kāwangatanga - Archives New Zealand for in-person and online research facilities. A number of other online databases of ancestry organisations were also consulted by John Clemens.

Further reading

John Clemens and Sue Molloy. On the Armstrong family and herbarium. Part I. Canterbury Botanical Society Journal 2020, Volume 51: Pages 99–113.

Eric Godley 1999. Biographical notes: John Francis Armstrong (1820-1902) and Joseph

Beattie Armstrong (1850-1926). NZ Botanical Society Newsletter March 1999) Volume 55: Pages 23–29.

Further references available from Dr.John.Clemens@gmail.com

A PLANT HUNTERS LEGACY

Di Madgin.

Figure 14: Earnest Henry 'China' Wilson. Image from Wikimedia Commons.

The story of *Lilium regale*, our Christmas lily, reads like an episode from Boy's Own Annual. But I think I said that in my previous article about the search for the Dove Tree. Ernest Wilson – "China Wilson" as he became known – first went to China in 1899 for Veitch and Sons Nursery in England to collect commercially viable seed. In March 1910, on a subsequent expedition for the Arnold Arboretum in Boston, he set out to collect bulbs of the regal lily he had previously discovered in the mountainous terrain of Western China.

Figure 15: *Lilium regale.* Image by Andrey Korzun taken from Wikimedia Commons.

In May he reached Peking from Europe by way of the Trans-Siberian Railway. He then sailed up the Yangtze to Songpan Ting, a military town on the headwaters of the Min River, some 250 miles from Tibet. "There in June, by the wayside, in a rock-crevice by the torrent's edge and high up on the mountainside and precipice, this Lily in full bloom greets the weary wayfarer. Not in twos and threes —but in tens of thousands —."

Wilson had come back to China to organise a team of collectors to harvest up to seven thousand bulbs the following October. By June he had completed the task and headed for Chengdu, the capital of Sichuan Province. Seated in his sedan chair on a narrow track 300 feet above the gorge, he was hit by a rockslide. It broke his leg in two places, ripped off his toenail and badly lacerated his leg. His bearers had to crawl down the precipitous slope to retrieve his chair. In extreme pain, Wilson made splints from his camera tripod. They were about to set off when a mule train loomed into view, unable to stop on the unstable terrain. "There was only one thing to do." Wilson wrote. "I lay down [across the path]. and the mules stepped over my body.

— There were nearer forty than fifty of them. —"

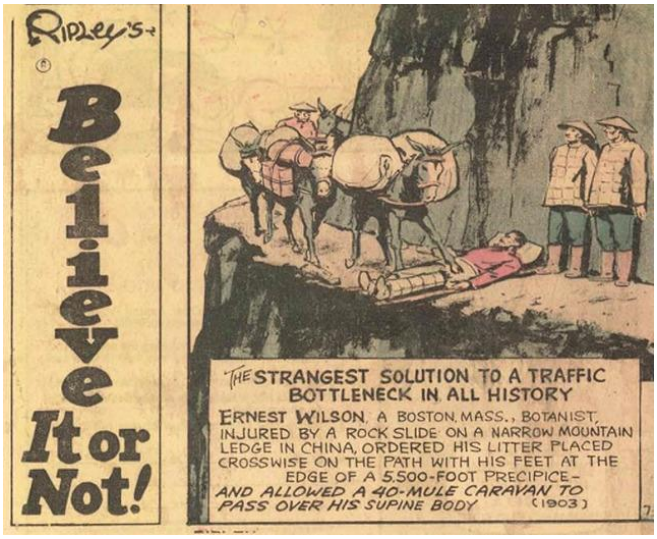


Figure 16: Undated newspaper clipping, the E.H. Wilson papers, Arnold Arboretum Horticultural Library Historical Collections. CC.

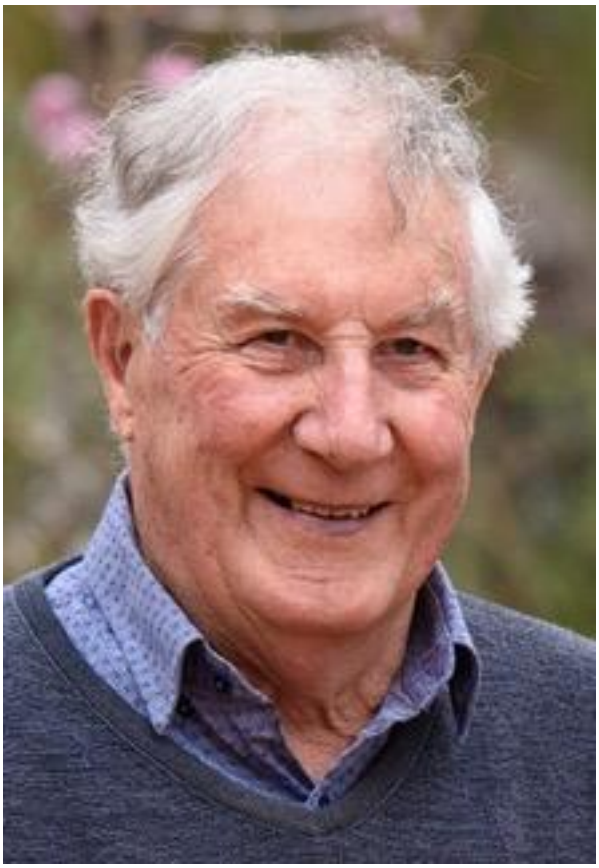
Three agonising days later, his leg lashed to the sedan pole, Wilson reached Chengdu, the capital of Sichuan province where Methodist missionaries had established a teaching hospital in the 1880's. The leg had become infected, but at the end of three months in the Mission hospital, he began his journey to Massachusetts. A year later, albeit with a "lily limp", he could walk again.

The bulbs were harvested as planned, and "encased in clay, packed in charcoal, and shipped at silk rates," they reached Boston a few months after Wilson himself got there. Planted in a garden in Roslindale, Massachusetts, the regal lily bloomed the following June.

DON BELL

16th September 1935 – 8th March 2021

A TRIBUTE BY ALAN MORGAN



Don had already been at the Gardens for a couple of years before I started my apprenticeship in 1954. In those days apprentices started at about 30% of the 'tradesman's rate'; the council took full advantage of that by employing lots – 8 or 10 at a time. This meant there was a strong competitive learning atmosphere as we all had to do the correspondence and night school courses and cope with the expectation that we would know every plant in the section we were responsible for in the six month rotation. Don was a 'go to' person in the knowledge race particularly plant ID as we all grappled with the wonderful world of botanical names.

All this was stimulated by the arrival of Lawrie Metcalf returning from several years of 'OE' in 1955 as assistant curator. He was still in his 20's and his energy and prodigious knowledge particularly of native plants was inspiration to us all. As part of the Gardens responsibility to the International Botanic Gardens seed exchange he introduced us to seed collecting expeditions to the mountains and Don was always a keen starter. This meant catching the Saturday 'Paper Train' taking *The Press* to the West Coast that left at 2.20am getting us to Arthur's Pass at around 5.30am, time to get to the top of the pass by daybreak and bacon and eggs. We would spend all day plant hunting, in the Otira Valley in the morning and crossing the highway to Temple Basin in the afternoon. 'Botanising' collecting seed, noting the ones that would require a return visit in a week or two. We were budding photographers, Lawrie leading with his Aden-bought new concept SLR camera, us with our vastly inferior, affordable models. (That was before Lawrie started writing the dozen or more native plant books). The return train left about 7.00pm and if we were lucky we could crash on the hardwood floor of the empty guard's van.

Other times we 'did' the Seaward Kaikouras, Craigieburn, the Hanmer hinterland and of course Banks Peninsula – all in our own time and cost.

Don and I were harriers (for opposing clubs) and in our lunch hour we would have training runs around Hagley Park. At one stage our pacemaker was a fellow Gardens employee, Bill Richards, national marathon champion and 1956 Olympian. We had plenty of time left for lunch after running with (or after) Bill. Sometimes we would have a half hour lunch break, I would leave my digs in Riccarton at 5.00, run to the Sign of the Takahe and be back in time for dinner at 6.00, sharp. Of late Don and I have reminisced of the things we did 'way back then' hardly believing it was possible. (We didn't know then that Don had a dodgy heart – I've only just found out that he had a heart attack at 41 and open-heart surgery in 1998)

Lawrie's tramping experience set us up for expeditions on our own. One Easter Don, another apprentice Leicester Kyle (who was considered an expert in native orchids while still in high school) and I did the Mingha-Deception crossing, camping halfway on Goat Pass. Leicester was 'out of sorts' finding the going tough but still made it up the Otira Valley on Easter Monday. Tuesday he was in an

Iron Lung in hospital with Polio. He recovered to go on to become an Anglican vicar and a published poet but still a formidable plantsman following a tradition of the plantsman/cleric like Colenso, Armand David and others. Don remained a good friend throughout and we reconnected when Leicester retired to Millerton on the Stockton plateau, his favorite botanical wonderland.

Apprenticeships over we went our separate ways. Don completed his apprenticeship with 6 months at the Invercargill Botanic gardens where he was in charge of their 'Winter Garden' growing for the first time in Southland the remarkable giant water lily, *Victoria amazonica* (syn. *V. regia*). Then he moved to Andersons Houseplant Nurseries in Napier for some commercial experience. It was at this stage he became engaged to Nuella which prompted a move back to Christchurch and their wedding at St Barnabas Church in 1958. He became the head gardener for the Waimairi County Council just as they were developing the new Jellie Park and where they got to live in the new parkkeeper's house on site. Around 1960 they moved to Lincoln University where he became nursery manager demonstrating skills to the horticultural students. During this time, he completed his National Diploma of Horticulture with a thesis on 'Some Aspects on the Propagation of Lilies' for which he was awarded the RNZIH Cockayne Gold Medal. Their children arrived while at Lincoln, Tim in 1962 and Vivienne in 1964.

In 1966 he became Deputy of Parks and Recreation in Palmerston North and in 1973 moved to Nelson as the Superintendent of Parks and Recreation. Then in 1982 he advanced to an equivalent position in Napier, retiring in 1996. In 2001 Don and Nuella moved back to Christchurch. He put his formidable knowledge to good use by writing "Trees for New Zealand town and Country" published in 2001 and somehow found time to volunteer as a budget advisor for the Salvation Army and the Federation of Family Budgeting, writing a comprehensive handbook 'Beating the Budget Blues'.

One of the great things about friendships made in your youth is that you can pick them up again even after decades of separation. 2003 was the 140th anniversary of the Gardens and Don and I thought a good idea would be to have a reunion of apprentices and trainees of the 50's and 60's, the era of the 1963 centenary. That was a great success and led me to the guiding course, Don already being an experienced guide. After the 2007 ten-year Development Plan for the Gardens came out, I took a couple of ideas to the committee that could be accomplished by the Friends. Don was the president and agreed — but coopted me on to the committee to carry them out — (and I'm still on it!)

One project from the plan was the 'Gondwana Garden' and the assigned council landscape architect was having trouble figuring out where to start with the design. The Friends offer was to organize and fund a one-day workshop with the top experts from around the country and with the theme – Gondwana – 'What's the Story; How do we tell it?' Don, as President, had a significant part to play in its success. Regrettably the Gondwana project has yet to get into the Council's budget and remains in the 'to do' list.

In addition to Don's committee work over nearly two decades he was also the leader of the Friends propagating team, which during his term would have raised well over $100,000 for the benefit of the Gardens. Don had a unique ability to 'get things done' with quiet and gentle persuasion that was hard to resist. Over the past few months, he has been documenting all the processes in the nursery, leaving a detailed blueprint for the teams. His timeline for the annual sale is really impressive.

While he had given up guiding, he was still active on the committee and running the nursery right up to his death.

He is sadly missed by us all.

WORLD PEACE BELL UPDATE

Monday 15th March was a special day. We are blessed to have the Peace Bell in the Botanic Gardens, and this week it was a meeting place to give thought to the Mosque massacres. For an increasing number of groups the Peace Bell is a good place to be if you're needing a reflection place to gather and a quiet place to speak. The backdrop of big trees and the simplicity of the belfry is a unique combination.

There were a number of important speakers reflecting on the vital messages that came from both the Koran and the Bible - both mosques were represented by their imams, the cathedral by the dean, the city council by Jimmy Chen, Chch central by the local MP, and various members of the public attended, as well as the Peace Bell Committee. Each person present rang the bell, a beautiful purveyor of prayers, support and friendship.

Diana Madgin: guide and Peace Bell member.

Figure 17: 15th of March 2020 gathering at the Peace Bell.

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