



President's Report

I hope you have all been enjoying the balmy still days leading up to winter as much as I have. I have particularly appreciated the Gardens in its autumn cloak this year as I have made frequent visits to the Kiosk.

Having a new home in the Gardens along with the Canterbury Horticultural Society is proving to be an exciting development. Currently Friends' volunteers are manning the Kiosk on Fridays and Sundays. I think it is fair to say that the eighteen volunteers feel that it is a lovely place to be.

Happenings in the Kiosk are gradually becoming more inter-active and visitors more frequent. Our combined volunteers are proving to be great ambassadors for the Gardens. Do come and visit.



Veronica laudiana

Banks Peninsula
Sun Hebe

Endemic to
Banks Peninsula,
Christchurch.



The Kiosk - our new home

The second half of our summer series of talks were held in the function room at the Visitors Centre. In February Nick Head, senior ecologist with the Parks Department., talked to us about the values and challenges of working for D.O.C. in Canterbury. At our March meeting Susan Saunders, long-standing curator of the rose garden, took a large group on a very informative walk to the rose garden. Susan has since been appointed as a Parks' Ranger and we wish her well in her new position. In April Janet Cubey entertained us with a beautifully illustrated talk of her work with the Royal Horticultural Society before she moved to Christchurch with Wolfgang.

The first speaker of our winter series of talks which have moved from Sunday afternoon to Friday morning and are now held in The Kiosk, was Kerry Swanson, geologist, photographer and author. Kerry talked to us about his work with electron microscopes and showed unique 3D photos of the relationship

between plants, fungi, bacteria and geology. We had fun watching these special highly magnified photos come to life through 3D glasses. It was great to see many of the garden's staff at this talk.

While the Garden Guides are having a break from their daily walks over the winter months Faye and Neil will be holding a refresher/ training course for guides during August. Three new guides have joined this group of specialised volunteers and they are very welcome.

Our Growing Friends had a very successful plant sale at the beginning of May. This sale has become highly popular and we have increased our sales at least twofold with additional advertising and through having eftpos available. We need to say a big thank you to Wendy Drew CBG Visitors Centre, and Alana and Lance from the CBG Operations Team for their fantastic help with the plant sale once again.

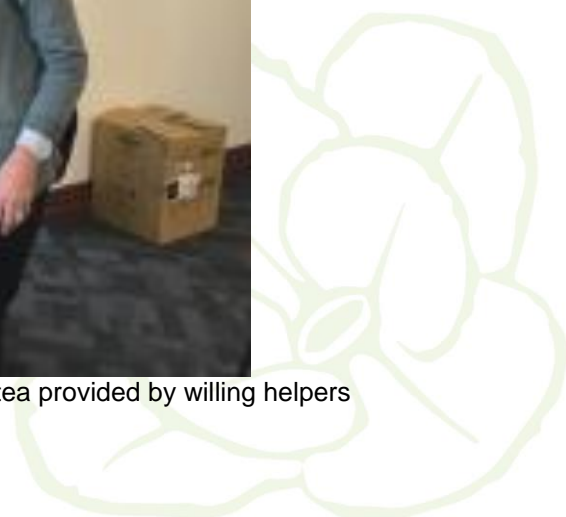


Another successful plant sale from our Growing Friends

I would once again like to thank the guides and growing Friends for all their hard work for the benefit of the Gardens. Thank you also to all our other volunteers who give their time so effortlessly. Some of you work regularly with the Curators in the Gardens, a large team man the Horticultural Hub at the Kiosk and some of you provide morning or afternoon teas to support our Committee at talks or provide sustenance on days such as the plant sale. We are truly grateful to you all.



The Growing Friends were happy to have morning and afternoon tea provided by willing helpers



Lastly I would like to welcome the 26 new members who have joined the Friends this year. We hope you enjoy being part of a large and growing group who love to support the Botanic Gardens.

Jeanette Christensen



Gardens News

From Director of Botanic Gardens and Garden Parks

Dear Friends of the Christchurch Botanic Gardens

Thank you so much for the wonderful welcome you have extended to both my wife and myself to Christchurch, New Zealand and of course this wonderful Botanic Garden. We really appreciate it. My sincere apology that you did not hear from me in the previous newsletter.

Experiencing the season in New Zealand for the first time is really exciting. The autumn colours are beginning to fade around the Gardens, although there are still some wonderful pockets to see. The fine Ginkgo collection is a particular favourite of mine; with its butter yellow foliage they are beacons in the landscape. As most of the trees in the Gardens are seedlings rather than cuttings, it shows the variation in the species at the moment, some are beginning to drop their autumn foliage, others are still fully yellow and yet the tree by the Peacock Fountain is only just beginning to turn its foliage.

With winter fast approaching I am looking

forward to seeing what the Garden and the city offer in that season. We are blessed with being able to grow such a great range of plants and I never tire of looking over the garden fences across the city.

Thank you all for your tremendous support of the Botanic Gardens by being a Friend. It is an important contribution each of you is making and I would like to encourage you to promote the Friends scheme to your friends and family. The more Friends we have the wider we can reach and of course it also makes an even greater contribution to the Gardens. Some of you were asking how else you can help. A number of you already volunteer at the Gardens and I am very keen to grow the volunteer numbers. If you are interested in helping us in the Gardens with some of the plant and garden maintenance please get in contact. With your help we can achieve even more.

Thank you for your help and enjoy the forthcoming early winter.

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Articles

Acorus the sister of all Monocots

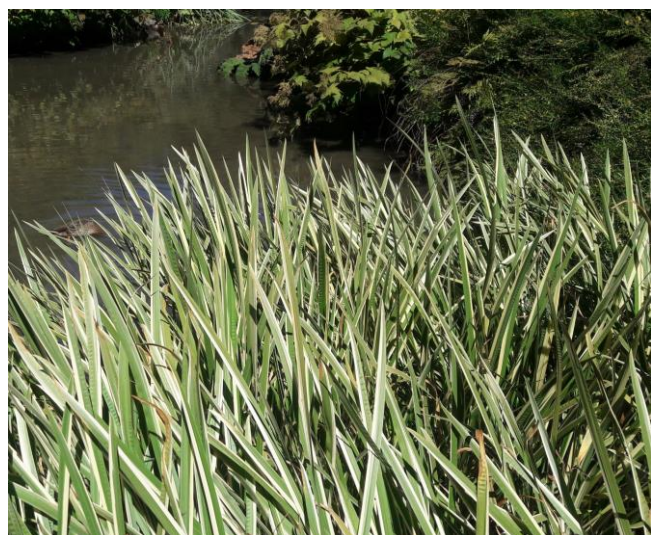
The genus *Acorus* is a small genus of rhizomatous perennial marsh plants consisting of 2-4 species (depending on the authority cited) native to North America and Asia. Flora Malesiana lists two species for the genus *A calamus* and *A gramineus* native to the temperate zone of the northern hemisphere and into tropical Asia and Malesia. *A calamus* is distributed throughout the range of the genus

and *A gramineus* is restricted to East and Southeast Asia. They also note that *A calamus* has 3 cytotypes (different chromosome counts) diploid, triploid and tetraploid with distinct distributions. These have been given separate species names or variety names at various times in the past eg: var *calamus* or var *vulgaris* for the triploids $2n = 36$, var *americanus* for the diploids and var *angustifolius* for the tetraploids. They treat *A calamus* as a variable species, not

recognising the varieties as distinct. On the other hand the Flora of North America lists *Acorus americanus* as distinct based on the diploid populations and *A. calamus* which is thought to be an early introduction into North America.

Acorus have the common name sweetflag, referring to its resemblance to flag iris, with sweet referring to the spicy aroma of the roots. The inflorescence is terminal and borne on a leaf-like peduncle and subtended by a long linear spathe which resembles an arum. *Acorus* in the past was placed in the arum family *Araceae*, but was removed from *Araceae*, into the family *Acoraceae* and order of its own the *Acorales*, based on morphology and DNA sequence data. They differ from *Araceae* by having ensiform, unifacial leaves, aromatic (ethereal oil) cells and lack raphide crystals. The most interesting fact is that the *Acorales* are the most basal member of the monocotyledons being sister to the rest of the monocots.

In the Christchurch Botanic Gardens *A. calamus* 'Variegatus', *A. gramineus* 'Ogon' and *A. gramineus* var *minor* are all represented and are located in the water garden. The name of *A. gramineus* var *minor* appears to be erroneous but is still labelled under this name, it is most likely *A. gramineus* 'Variegatus'.



Acorus calamus 'Variegatus'

Acorus are tough plants grown for their foliage. They are most suited to moist water-logged soils and full sun but as experienced in the Botanic Gardens can also tolerate considerable dryness and shade from trees in adjacent borders. In time they grow into large clumps which can easily be divided. *A. calamus* 'Variegatus' is a plant up to 1.5 m tall but here tends to be no taller than 1m. It has a white variegated leaf which dies back in winter making the plant look

rather messy but at other times of the year the fresh foliage makes a wonderful addition to the water garden. *A. gramineus* 'Variegatus' also has a white variegation and *A. gramineus* 'Ogon' has a yellowish white variegated leaf; both of these cultivars are of short stature reaching about 30 cm tall and are evergreen staying neat and tidy all year round. They all make excellent marginal plants and are quite happy growing into shallow water.

The first documented pollinator of *Acorus* was discovered in China in February 2011. A gall midge was observed depositing eggs into an inflorescence of *Acorus gramineus* and in the process removed pollen from the flower, which is then deposited on the stigma of another flower when laying the next egg. Seeds are a fleshy berry spread by water movement. Plants in the Botanic Gardens readily produce flowers but never produce seeds in the absence of their native pollinators, only increasing by vegetative spread.

Acorus calamus has been used medicinally for its β -asarone content but has been found to be toxic and a known carcinogen.

Ref:

Bognor, J. (2011) *Acoraceae*. *Flora Malesiana*, 1,20: 1-13

Thompson, S.A. 2000 *Acoraceae* In: *Flora of North America* Editorial Committee, eds. 1993+. *Flora of North America North of Mexico*. 20+ vols New York and Oxford. Vol 22, pp 124- 127.

Dean Pendrigh

The Weeping Willow *Salix babylonica*, Chi Liu, Pendulous Willow

If you don't know the weeping willow pictured in Chinese paintings or porcelain, you will certainly remember the weeping willows on willow pattern plates. *S. babylonica* was introduced to the West from the Levant which is why Linnaeus coined its name. It is most likely, however, that it came down the Silk Road from China. Peter Valder, in *The Garden Plants of China*, remarked that the weeping willow may have been a mutant form. One of many, agrees Stirling Macoboy, who cites more than 250 species, mainly in the cooler northern hemisphere, "...it's a great survivor. Just stick a twig or branch, or even lay it in a pool of water and you've a new tree in a matter of weeks. That, we believe, is how they spread it about the world, from willow whips discarded by camel drivers, woven willow baskets left along the way.

Species from almost any part of the world hybridise indiscriminately.” Willows are deciduous; they bear catkins, usually with male and female flowers on separate trees. The wood is whitish in colour, tough and brittle, and in places grown commercially as a timber crop.

When I was on the Silk Road among the great sand mountains of the Gobi Desert nearly 20 years ago, thickets of willows were growing along the vales, seeming incongruous in such searing heat. In China, willows are a symbol of spring, light and vitality. Guanyin, the Goddess of Mercy, is often depicted holding a willow wand. Paradoxically, traditional thinking also held that the dancing image of a swaying weeping willow branch was a symbol of prostitution. Prostitutes were said to work in “willow lanes”. It is of course a ubiquitous feature in the Chinese traditional garden, the willow bending over the pond, or along the lake’s edge in the emperor’s vast estates. In the famous West Lake in Hangzhou, there is a half-mile causeway of weeping willows and peach trees, a spectacular pairing in the spring.

Plant historians differ as to when the tree first reached Britain. Some believe that to be in the early eighteenth century, brought by a trader from Aleppo in Syria, but certainly William Cavendish, fourth Earl of Devonshire at Chatsworth had knowledge of it earlier. Maybe it was described to him by his French gardener, Monsieur Grille, who was a pupil of Le Notre, the brilliant designer of the palace garden at Versailles in Paris. Grille could well have seen the tree on its arrival in France and described it to his English master. Whatever, Lord Cavendish commissioned a life-size model of the weeping willow as a novelty, with water “weeping” in a spray from leaves and buds on startled garden visitors.



Weeping willow tree, Papamoa

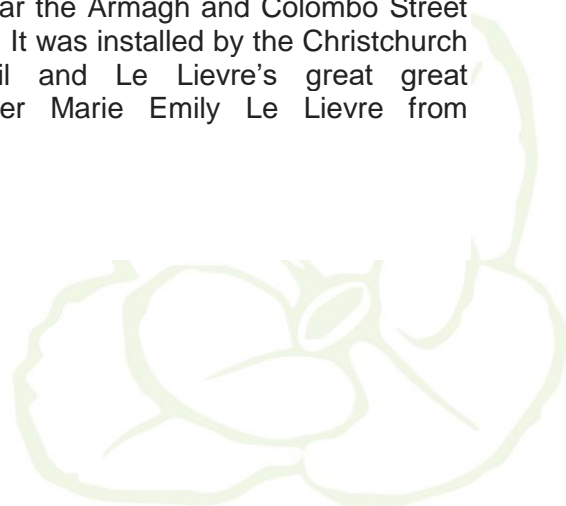
Recently my high school friend Claire sent me a charming picture of a willow weeping over a pretty bridge and stream in a park in Papamoa, Tauranga, where she lives. It accompanied an interesting little article in the local newspaper with an illustration of Napoleon Bonaparte on a wooden seat beneath two weeping willows. It was purported to be his special place for tranquillity and reflection. Napoleon was banished to St Helena Island in the South Atlantic when he lost the Battle of Waterloo in 1815. The willow at Papamoa is thought to be a direct descendant of Napoleon’s willow. How credible is that?



Napoleon seated beneath his willow tree

Robyn Kilty lives in East Christchurch’s Hanmer Street heritage precinct, a stone’s throw from Engelfield Lodge on Fitzgerald Avenue. She told me that from her research, Engelfield’s big garden built in 1852, ran down to the Avon River beside the Fitzgerald Avenue bridge and that the earliest weeping willows in New Zealand were planted on the river bank there. Engelfield, owned by William Guise Brittan, was the first farm outside the new city’s boundary.

However, it seems the first willow cuttings were brought to Christchurch by one of Napoleon’s great fans, Francois Le Lievre, who came to Akaroa via St Helena Island on the whaling ship *Le Nil* in 1838. There’s a plaque to commemorate the first willow planting on the riverbank near the Armagh and Colombo Street intersection. It was installed by the Christchurch City Council and Le Lievre’s great great granddaughter Marie Emily Le Lievre from Akaroa.





Plaque in Victoria Square

It seems likely therefore that William Guise Brittan acquired cuttings for the Engelfield weeping willows from Le Lievre's young tree, and eventually we find one of its many descendants in Papamoa.

Diana Madgin

Look at that plant - *Fascicularia bicolor*

An area of the gardens that attracts interest all the year round is the Yucca Border; it is in the western part of the Gardens between the Water Garden and the path beside the Avon. It actually contains more than yuccas - there is an extensive collection of different spiky and succulent plants.

One fascinating and rather peculiar plant to be found there is the *Fascicularia bicolor*. Its plant grows as a congested cluster of rosettes of slender, spiny-toothed, rigid, mid to dark-green evergreen leaves up to 50cm long.

When summer comes the plants turn on a dramatic performance. In the centre of a mature rosette appears a dense central cluster of pale sky-blue flowers and at the same time the innermost leaves of the rosette turn scarlet red. Then later, when the flower dies, these red leaves turn back to their original green.



Flower of *Fascicularia bicolor*. Photo by David Short of Windsor of a plant in the Savill Garden

Fascicularia is a bromeliad, a genus of the pineapple family *Bromeliaceae*. Its relationship to the pineapple becomes apparent when it comes into flower. It is reputedly the hardest of all the bromeliads and is indigenous to Chile, coming from the high Andes.



Fascicularia bicolor – red leaves around flower. Photo taken on 15 April 2019 in Yucca Border.

The genus name is from the Latin “fasciculus” (meaning bundle) and “arius” (pertaining to).

Bill Whitmore

Weather Notes – Autumn Reflections

The second warmest March on my record, April close to average and May looking to be above average. Yet somehow it did not seem to be a typical autumn although May did start to bring some mists and mellow fruitfulness in the latter part of the month and sunshine levels were close to average and even a little above average. As for rainfall only April brought some prospect of a mushroom season with average to above average rainfall but despite above average night time temperatures the rainfall did not wet the soils sufficiently to stimulate any great profusion. Not even the first autumn storm of 28-29th April with its widespread 20-30 mm rain and storm force winds had much effect although there was a flush of the large horse mushrooms down on the farm which were well received.

I am always interested in observing the successful flowering or otherwise, of the tree dahlia as an indication of what autumn has been like. It produces the flower spikes very late but always about the same time regardless of the season. It appears to be very much related to day length rather than the type of season. The

big gamble very related to the weather and season is whether those buds will be able to bloom before an autumn frost cuts them down. At this site it is unusual for this to happen and flowering most seasons lasts into early June. This year it was the vicious southerly gale on April 29th that left many stems snapped and the budding stems ravaged but those buds that remained on the tattered plants went on to bloom from mid May to the end of the month.

An even more interesting example of how climate warming might be of some positive value is the amazing harvest of tamarillos just about to commence. Last season the tamarillo was able to hold its fruit through the mildness of last winter to produce a useful crop in the spring. This year because the frost damage to the tamarillo was minimal the tree got off to a strong start, flowered during the heat of summer and is now healthy still and bearing a substantial crop of ripening fruit, two of which have already been harvested and consumed.

Out on the farm an even better crop is about ready while my keen neighbour has a heavy crop which should also make it to harvest before any meaningful frost arrives. What with a bountiful harvest of figs safely gathered and the kiwifruit harvest safely gathered perhaps it will be avocados next?

Bob Crowder



Friends News

An enlarged *Coming Events Programme*

As Jeanette has told us the Friends are now sharing the Kiosk space with the Canterbury Horticultural Society (CHS).

There will be cooperation in other ways. The *Coming Events Programme* accompanying each of our Newsletters will from now also include events organised by the CHS. We hope you enjoy learning of this wider range of events.





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Friends' website

Have you visited the Friends' website? The address is <http://www.friendschchbotanicgardens.org.nz/>

Distribution of Newsletter

We distribute the Newsletter by email to those members who have given us their email addresses and who have not requested otherwise. If you would prefer to receive the Newsletter by mail, rather than electronically, please contact Penny Martin – phone 332 6866 or email graememartin1@xtra.co.nz

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