

Newsletter

*For Friends of the Christchurch Botanic Gardens Inc
To Promote, Protect & Preserve*

No 111, Autumn 2018

President's Report

With the summer days still in full swing the bees are very busy in my garden and like the bees the Friends are off to a very busy start to 2018.

Before I tell you what has been happening since the last Newsletter, my sad but most important task is to thank John Clemens, (Curator, Manager Conservation & Sustainable Development, Christchurch Botanic Gardens) for all his support and great work with the Friends.

John has been an Ex-officio member of our Committee and a great liaison person for the Friends and the Botanic Gardens. He has steered us in the formulation of our Memorandum of Understanding with the Christchurch City Council, kept us up to date with what is happening and given us sound advice when dealing with different aspects of our volunteer roles.

John was also instrumental in securing us a more permanent home in the Old Information Centre, has been there to help us with our meetings, give talks and has been very supportive of Faye and her wonderful Guides.

John we will miss you, along with your expertise and wisdom. We wish you great things in the next stage of your life and we are very happy that you have joined our ranks as a Friend.

The month of February began with Michelle Hickman, an international garden designer (formerly of Christchurch), who gave a lively and interesting talk on the restoration of the early 20th century garden at Kelmars Hall. Mike Bowie, a Lincoln University ecologist specializing in insects and invertebrates, will give our second talk in February on "Bringing back the Diversity to your Garden". It is wonderful to see so many people attending these meetings, including many section curators from the Gardens.

In December the Committee once again hosted a very successful Friends' Christmas party and for the first time hosted a Christmas morning tea for garden staff, Guides and Propagating Friends. The purpose of this morning tea was to bring these groups, all working for the Botanic Gardens in either a volunteer or official capacity, together to say thank you.

I would like to thank the 24 Friends and Canterbury Horticultural Society volunteers who are manning the Horticultural and Conservation Information Hub on a Wednesday and Sunday afternoon between 1-4pm at the Old Information Centre. This is a great effort. They would love you to bring your botanical or gardening questions/problems for them to solve. This is a large and important undertaking that we are offering to the public so please help us advertise this service by telling your friends.

During March and April the hours will be from 1-3pm and the crew will provide some short demonstrations with an autumn theme to encourage visitors. We will also be setting up our information service in the marque at the Horticultural Society Autumn Show on 20, 21 & 22 April, so please come and visit.

This will be a big weekend for the Friends with a plant sale under the Palm tree on Saturday 21 April and David Barwick, section curator, will take a walk /talk on the Asiatic Border on Sunday 22 at 4.00pm. We do hope to see many of you supporting one or all of these events.

These spectacular native hibiscus *Hibiscus diversifolius subsp. diversifolius* flowers are making a colourful display in the Cockayne Garden at the moment. The growing Friends have some of these for sale in the plant stand by the Old Information Centre.



NZ hibiscus *Hibiscus diversifolius subsp. diversifolius*

It is always nice to be able to report how we have supported the garden staff. I am pleased to tell you that we have again donated \$1200 to the BG library, sponsored the Reading in the Wild programme to the tune of \$1300 and donated \$1000 to replace the felt wall in the Visitors Centre with more a more durable magnetic interactive display for children.

As well as these projects we are currently sponsoring a bio-diversity survey of the gardens to the sum of \$6,350, being carried out by Brian Patrick of Wildlands Consultants. Brian is recording and making a collection of all the diverse insects and other fauna that he finds in the gardens. This is a first for a Botanic Gardens.

During April and August we invite all garden staff to apply for a study/financial grant for the betterment of themselves and the Botanic Gardens. This is a formal and contestable process and we hope several will take up the offer.

Welcome to all our new Friends and thank you to all our volunteers.

Jeanette Christensen

Articles

Australasian Botanic Gardens Volunteer Guides Conference, Canberra, October 2017. Informed Guiding

I attended the Conference as the delegate of the Friends of Christchurch Botanic Gardens and very much appreciated the generous financial support of the Friends in paying for the conference registration. The lectures and talks were of an extremely high calibre, befitting Canberra's pivotal role as the home of major institutions such as Australian National University (ANU), Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian National Botanic Gardens (ANBG).

Session 1: Monday 16 October

Dr Judy West, Executive Director, ANBG – *Safeguarding Australia's Plants*

The Australian National Botanic Gardens (ANBG) holds 6,300 species of Australian native plants, roughly a quarter of known native plant species. Construction of a conservatory to house tropical plants will enable the Gardens to expand their collection.

As part of a global strategy formulated by Botanic Gardens Conservation International the aim is to prioritise 30 threatened plants. The ANBG holds 75% of Australia's threatened plants either in ex situ collections or in the seed bank.

One example is *Zieria citriodora*, whose explosive seeds are very hard to collect and there are only a few isolated populations in New South Wales and Victoria. The ANBG now has 30 genotypes in its living collection.

Worldwide 30% of known plant species are found in Botanic Gardens. Guides have a duty to remind visitors of the role of Botanic Gardens in the conservation of threatened species. Redundancy of collections plays an important role in conservation.

Session 2: Monday 16 October

Dr Helen Cleugh, Director, Climate Science Centre, CSIRO

The IPCC Report on climate change in 2013 led to the Paris Accord of 2015;

ACCESS is a combined climate change model forecasting rainfall and bushfire risk, etc.

www.climatechangeinaustralia.gov.au

www.csiro.gov.au/state-of-the-climate - biennial report 2016

Session 3: Monday 16 October (Panel Discussion)

Dr Richard Stirzaker, CSIRO Soils & Food Security scientist and author of *Out of the Scientist's Garden*.

Guides have a role in introducing grass roots solutions to climate change problems. Dr Judy West suggested we do not bedazzle our visitors with science but give memorable examples of climate change – in the ANBG they used to have to cover the flowers of the Gynea lily to protect them from frost and now they don't.

Phenology is the collection of data relating to plant flowering times. This ties in with "citizen science" volunteers who maintain flowering records for many years.

Session 4: Monday 16 October

Dr Ben Walcott – "Gardens that have influenced us" Ben compared the extremely formal style of French garden with miles of clipped box hedging as seen at Chateau Villandry in the Loire Valley with Vita Sackville-West's cottage garden and the evolution of his own up-state NY and Canberra gardens.

Session 5: Tour of the seed bank: Monday 16 October

Botanists aim to collect 1,000 seeds of every acquisition. The plant specimen goes to the herbarium where it receives an acquisition number and this accompanies the plant to the nursery for sowing and into the seed bank where germination/viability tests are carried out before the seeds are freeze dried and sealed for storage.

Session 1: Tuesday 17 October

Ms Sabrina Sonnetag, Digital media and tourism marketing manager, ANBG – Beyond the Garden Gates – extending the visitor experience through digital engagement.

Sabrina asserted that we have a mission to connect people with plants. She believes that social media allows people to connect with the Gardens. Sharing of photos via Instagram is the most popular platform (perhaps win something?)

ANBG's Facebook audience is 40% local; 30% rest of Australia and 30% worldwide! Facebook can promote seasonal change, flowerings, bird sightings, etc. Encourage visitors to share their photos and tag the BG.

Scientists can share research – instant communication.

What can guides do? - Share stories and photos; encourage visitors to post and share. (She suggested requesting our Gardens staff to give us a "how to" workshop.)

Dr Rod Lamberts – Science Communication at ANU.

Rod asked guides to consider four questions:

- What are the goals for a guide?
- What is a tour for? – history, conservation, love of plants?
- What do your visitors want from you? – Ask them?
- What makes a good tour? – How do you know? Share this info; what was difficult?

It is OK to be wrong!

It is OK to say "I don't know"!

Think of your audience – and but therefore.

And – becomes boring

But – twists the story and attracts attention

Therefore – conclusion

Think about why you care – things that make us laugh, cry or go WOW!

Session 2: Tuesday 17 October – Lessons to be learned

Gerard Pratt, Manager, Visitor Services Australian National War Museum (ANWM)

The ANWM has 200 full time staff and 180 volunteers! They operate 16 tours per day. Their volunteers must undertake a 5 months National Certificate (level 4) via Library Training Services. This includes guiding techniques; managing cultural

and ethnic sensitivities; social attitudes to war and managing groups. They also undergo professional development and performance reviews.

Brian Ledbetter, Volunteer & Visitor Experience Coordinator, Museum of Australian Democracy (MAD).

The MAD has 65 volunteers who do 45 minute tours but are on duty for 3 hours.

Brian's training motto is "Hook, line and sinker":

Hook – Ask a question; tease the visitor; get them interested.

Line – Engage the visitor.

Sinker – Provide a conclusion; takeaway message.

Sharren Kelly, Volunteers Coordinator, Questacon (National Science Museum – a bit like Science Alive used to be.)

Most of Questacon's volunteers are called "Volunteer Explainers". These are often students as it looks good on their CV. Key points from her talk:

- Offer a chance to ask questions
- It is OK to say "I don't know."
- Think of yourself as not a teacher/lecturer but a guide.
- Encourage two way communication.

Mirah Lambert, Programmes Manager, National Gallery of Australia (NGA)

Mirah stressed the importance of volunteers keeping current due to changing nature of exhibitions. The NGA has monthly training talks plus peer learning (given by curators of collections).

Rebecca Watson, Volunteers Coordinator, National Library of Australia (NLA).

The NLA has 70 volunteers, including front of house, behind the scenes, "treasures" and special programmes. Volunteers tell stories and bring objects to life.

Tour 1 – The ANBG Seed Bank

ANBG staff go on plant hunting trips across Australia. They aim to collect a minimum of 1,000 seeds and a full specimen of each plant. The specimen goes to the Herbarium who assign an accession number, which accompanies every plant produced from this collection. 100 seeds are tested for the best method of germination; another 100 are sent to the nursery to produce plants for the Gardens; the remainder are freeze dried and stored.

Tour 2 – The National library

There are two exhibition galleries. First we viewed the Drombrovkis Gallery, which contains a collection of stunning photographs mainly of Tasmanian landscapes, some of which were instrumental in saving the Franklin River from a dam in the 1980s. Next the Treasures Gallery which contains Captain Cook's Journal from his first voyage to NZ and Australia, as well as the journal of a French woman who accompanied her husband on an early circumnavigation of Australia.

In both Galleries the guide explained the principal elements of interest in the gallery and left us to explore. In the Treasures Gallery a smaller group stayed with the guide as the numbers were too large to group around individual items.

Tour 3 – Questacon

Here most of the volunteers are "explainers" – stationed at individual activities rather than moving groups around. Our guide was not good at dealing with such a large group and in my opinion did too much talking, instead of allowing the explainers to do their job. The museum was noisy with school groups and not particularly easy to navigate.

Tour 4

Part A – Birds in the ANBG

Guides from the ANBG took six groups of ten around the gardens early in the morning. My guide was very knowledgeable, but again in my opinion did too much talking and was too loud when we were trying to listen to small birds. The most frequently seen birds were wattle birds and honey-eaters, feeding on waratahs and grevilleas.

the particular species of bird that pollinates them. At least ten different species of bird were seen in a 90 minute walk: currawang, red wattle bird, gang-gang, tawny frogmouth, satin bower bird, New Holland honey-eater, etc. Guides had spent days beforehand finding nests and popular plants where certain species were likely to be found. Binoculars were provided for all participants.



Gymea lily (*Doryanthes excels*) in the ANBG



Waratah in the ANBG



Example of the detail provided on the plant labels - especially showing distribution

We were shown how some plants are adapted to

Part B. After morning tea at the ANBG 57 people boarded a bus for a tour of three rural gardens in the Monaro region of NSW. The first garden was *Wanna-Wanna*, a well-established, traditional country garden with a large number of flowering lilacs, wisteria and a few less common species of tree.



Wisteria at Wanna Wanna homestead

The Queensland visitors were amazed at the cool climate trees. Packed lunches were provided and eaten at the next garden, which was a relatively new “work-in-progress”. Here Australian natives were more in evidence, with large beds of grevilleas. This garden clearly demonstrates the trials of gardening in NSW in a dry climate with competition from kangaroos and a resident wombat. A mob of wild kangaroos were easily sighted in a near-by paddock.



Kangaroos on the Monaro Plains

The third garden was Tuckniss, a very new ambitious project to turn 10 hectares of dusty paddock into a garden with a dry stream bed, large clumps of iris, and scattered sculptures. All plants are chosen for their ability to survive without additional water.



Irises at Tuckniss

Tour 5 – “Time Travel”

My personal favourite walking tour was the mysteriously named “Time Travel”. Beginning with a jar of algae fished from a pond, and moving on to lichens, liverworts, ferns, right through to pines & flowering plants we were shown how plants evolved from living in water to living on land.

Personal Reflections:

The conference was extremely well run, and a real tribute to the hard work of dozens of enthusiastic volunteers from the ANBG. Talks and walks were appropriate and relevant to the topic of “Informed Guiding”. It was very interesting to meet guides from many different Gardens and hear how their guiding programmes operate. Some guides are recruited, trained and coordinated by the gardens’ management and are totally separate from the “Friends”. Most have some sort of training and peer education programmes. Frequency of tours ranged from once a month to four per day. Some of the bigger city gardens offer themed walks at different times of the year.

*Future Conferences to note on your calendars:
16-20 September 2019: Kings Gardens Perth – “Of beauty rich & rare”*

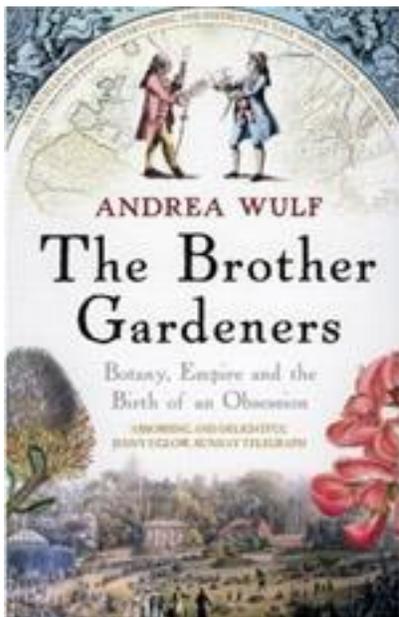
11-15 October 2021: RBGV, Melbourne & Cranbourne – “Share the Wonder”

Vicki Steven, Volunteer Guide, Christchurch Botanic Garden.

Book review: *The Brothers Gardeners*
by Andrea Wulf.

(Franklin House Literary Prize 2008.
Long listed for the Johnson Prize for Non-Fiction 2008.)

Towards the end of last year I read this fascinating and intriguing book by the German author Andrea Wulf. I wish to bring this book to your attention especially if you are a keen plants person, amateur botanist or just have a general interest in plants and the history of how they were introduced into cultivation.



The following comments are copied from the back cover of this book.

“One January morning in 1734, cloth merchant Peter Collinson hurried down to the docks at London’s Custom House to collect cargo just arrived from John Bartram in the American colonies. But it was not bales of cotton that awaited him, but plants and seed.

Over forty years, Bartram would send hundreds of American species to England, where Collinson was one of a handful of men who would foster a national obsession and change the gardens of Britain for

ever: Phillip Miller, the author of the best-selling *Gardeners Dictionary*; the Swede Carl Linnaeus, whose standardized botanical nomenclature popularized botany; and the botanist/adventurer Joseph Banks and his colleague Daniel Solander, who both explored the strange flora of Tahiti and Australia on Captain Cook’s *Endeavour*.

This is the story of these men - friends, rivals, enemies, united by a passion for plants. Set against the backdrop of the emerging empire and the uncharted world beyond, *The Brother Gardeners* tells the story of how Britain became a nation of gardeners.”

The glossary of this book is also most useful and informative giving the botanical name, and common name, when the plant or tree was introduced plus some very interesting information about each individual plants that has been listed.

I found the story of this book incredibly interesting and it was very hard to put down despite it covering 356 pages of wonderful information and history.

Don Bell

A seasonal flowering tree: *Albizia julibrissin*
‘Rosea’ common name: Silk tree or Pink siris

From year to year most of the four seasons we encounter are generally always different and this summer is no exception. In fact, I understand our January temperatures in Canterbury have been much hotter than normal which has promoted the abundant flowering of one of my favourite flowering summer trees, the silk tree -

This tree is a native to the orient and found wild or cultivated in some areas of China.

It has fine, delicate, ferny, dark green foliage and small, pink, feathery flowers during mid-summer. The spreading, umbrella-like branching system makes an excellent shade tree for the average-sized garden.

Soil and site requirements

Silk trees require a well-drained soil type and are tolerant of alkaline conditions. Plant in full sun as



Albizia julibrissin

they thrive in districts with hot, dry summers and once established will withstand drought.

Main use and situation

Albizias like a sunny situation and are ideal lawn and specimen trees. They are useful for parks, golf courses and school ground for beautification and shade purposes.

Propagation

Seed: Pre-soak in tepid water for 12 hours before sowing during spring, germinate in a glasshouse.

Cuttings:

Propagate by root cuttings in spring or semi-hardwood material in autumn. Place on bottom heat within a glasshouse.

Don Bell.

Weather notes for summer 2017/2018 – December to February to date.

What a growing season 2017-18 has been.

The average annual rainfall for my site and Christchurch had occurred by the end of August. In September another 90 mm had fallen, way above average, and October had brought an additional 50.2 mm. Then the tap was turned off and we had the longest rain free period on record. But still the annual rainfall was well above average; at this site 892.6 mm (av.739.3 mm), airport 803 mm (av. 630 mm). On 4 January the taps turned on again and by 12 January we had already had the 4th wettest January on my 38 years record with 105.8 mm, and

at the airport even more with 114.4 mm. But then uncharacteristically the tap turned off again and that beautiful fine hot summer spell developed until more rains eventuated in February.

Only the farmers and gardeners really noted the rainfall because it was brief and set uncharacteristically against those amazing temperatures experienced throughout December and January. The warming started well before then however. A nearly non-existent winter enabled my tamarillo tree down here on the flat to produce 13 excellent quality fruit into the spring. Then on into a really warm summer has meant that there is now triple the crop that could be ripe before winter sets in. Bring on climate change some say? It will be avocados next?

The warmth was particularly impressive in December. At this site the mean maximum of 23.7 C (av. 20.9 C) was easily a record; the previous highest was 22.9 C in both 1988 and 1990. In fact the first 11 days had a mean maximum of 27.1 C while Christmas Eve and Day meaned out at 26.7 C with Christmas Day reaching 30.1 C. There have been 16 years on the record with December temperatures reaching or exceeding 30 C but this December, like 1988, was the only one with 4 days. In 1988 it peaked at 33.5 C but this year we only managed 32.0 C on the 8th. Of note is that this was also the day of the lowest minimum temperature of the month at just 5.3 C, probably a slight ground frost in susceptible areas? Despite the minimum temperatures not being record highs they were still warm at 12.5 C (av. 10.9 C) but exceeded as recently as 2005 at 13.6 C, 12.7 C in 2012 and 12.8 C in 1985. But taken together the mean temperature of the month was a record 18.1 C; only 2010 and 1988 came close at 17.7 C and 17.6 C respectively.

If December was impressive then January 2018 was unique. Temperatures like December once again broke records with the mean for the month 19.6 C (av.17.0 C) easily exceeding previous Januaries of 18.9 C in 1986, 18.7 C 1987 and 18.5 C in 1989. Unlike December however it was not the mean maximum temperatures that set a new record but the amazing mean minimum temperature at 15.8 C (av. 12.3 C). The nearest rival is as recent as 2015 with 14.2 C. The mean maximum was 23.5 C (av.21.8 C) still exceptional but well beaten by 1986 with 24.2 C, 1987 23.9 C and 23.7 C 1989. It was in fact beaten by

December 2017 which was in fact 23.7 C although the mean value of January at 19.6 C did well exceed that of December at 18.1 C.

But the profile of January was unique. Looking back at comparative years it appears the golden 80's feature quite a bit but with one significant difference they all occurred in years with at or below summer rainfalls. Even looking back in the Lincoln University record, with which I am more familiar, it is hard to find a warm wet January; usually warm summers are dry and cool summers are wet? To have the warmest January on record with the 4th wettest January is unique. This would also be borne out by the prevalence of humid conditions with much early and late stratus off the warm Pacific leading to the exceptional warm nights. It created very humid hot days as the early cloud burned off which in turn created a greater frequency of thunder along the foothills on some afternoons? Sunshine values also reflected this; in December during the dry, sunshine values were above average 265.3 hrs (av.221 hrs). By January, following the rains, despite the high mean temperatures sunshine values slumped to somewhat below average with 220.8 hrs (av. 230 hrs). It is also significant that only two days exceeded 30 C and the extreme of 31.3 C was well below this site extreme of 36 C.

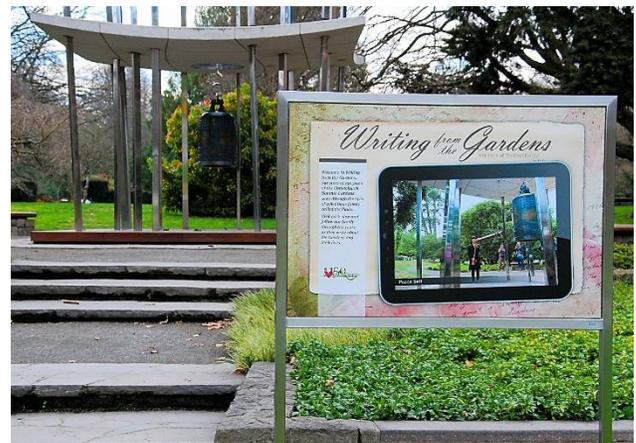
So we plunge on into February with little change in the general scenario; temperatures remain high and at mid-month the average rainfall has already been reached. We appear to be in new territory as the issue of climate change takes on a new meaning. When will we ever learn I wonder?

The unique nature of January has followed through into February with Cyclone Gita bringing another month with well over 100 mm rain, total now stands at 106.8 mm. Temperatures have remained well above average with the mean maximum for the first 19 days of the month being 23.6 C which is a good 2.5 C above the average. This may well be reduced by months end but in general it is unique in Canterbury to have such a warm wet summer.

Note: this site is located at the foot of the Port Hills. Inland sites and basins will have different but related experiences.

Bob Crowder

Ceremony at the World Peace Bell in the Gardens



Three survivors from Hiroshima (Michimasa Hirata, Nobuo Miyake and Nobuko Sugino) arrived in Christchurch on the Peace Boat on Monday morning 12 February. They came to ring the World Peace Bell in the Botanic Gardens at round 2.15 pm to commemorate the Peace Boat's first visit to Christchurch.

They work to support the abolition of nuclear weapons. Before coming to Christchurch they had been speaking in the major cities around Australia in support of the recent UN Treaty on the Prohibition of Nuclear Weapons. Mr. Hirata had

previously visited Christchurch in 2012 when he joined the commemoration on Hiroshima Day and spoke at a school.

Diana Madgin

Charles Plumier – plant hunter

Charles Plumier was a Frenchman born in April 1646. At age 16 he entered the order of Minims and studied maths, physics, made tools and became a good draughtsman and painter. He was sent to the monastery of Trinata dei Monti in Rome, where he studied botany. He went on excursions round Provence and the Alps to study plants.

In 1689 the government sent him and another scientist, Surian, to the French colonies of Martinique and Haiti in the West Indies, to study particularly medicinal herbs and the bark of the cinchona tree for obtaining quinine. Surian did the medicinal studies and Plumier did the botanical drawings and observations. In 1693 he was appointed Royal Botanist by Louis XIV and went on two more journeys to the West Indies and Central America. He found and named begonias after M. Begon, superintendent of the port of Marseilles, and fuchsias after a German botanist Leonhard Fuchs. Just before the fourth planned trip he got pleurisy and died at the age of 58. All his useful work was done in the space of 15 years.

He published several books with wonderful plates showing plants, especially ferns. At his death Plumier left thirty-one manuscript volumes containing descriptions, and about 6,000 drawings, 4,000 of which were of plants, while the remainder reproduced American animals of nearly all classes, especially birds and fish, probably a larger number of drawings than were executed by any other artist. They are in the Library of Paris and in that of the Jardin des Plantes.

By his observations in Martinique, Plumier proved that cochineal belongs to the animal kingdom and should be classed among the insects.

18th century botanists all admired Charles Plumier as the most industrious botanist of the age.

Linnaeus named the plant genus *Plumeria* in his honour. We know it as frangipani.



Frangipani

A legend about Plumier's career.

Plumier decided he would like to travel the world and get rich. A fortune teller told him: "Search for a tree that grows near churches and graveyards; its blossoms are the colour of the new moon; its fragrance will overpower your soul; if you uproot it, the leaves and flowers continue to grow. When you find it you shall be rich."

Plumier travelled far and wide until at last he reached the West Indies. He went to an old woman known for her wisdom and described the tree that the fortune-teller had told him about. "Do you know where such a tree is found?" he asked the wise woman. The old woman told him that she did indeed know of such a tree.

You must go to the church near here, at midnight, on a full-moon night. There you will see a tree spreading its branches along the wall. Shake the branches and you will soon see riches beyond imagining. Plumier did as he was told. He found a small, lovely tree and shook it. Blossoms fell all around him, glistening like golden coins. The fragrance did overcome his soul, and he suddenly realized what real riches were: the calm beauty of the night, and the sweet scent of the flowers, the peace of the churchyard. He stopped looking for material wealth and instead continued to look for wealth in nature, discovering many plants. The family of the tree that he found was named "Plumeria" after him.

From *Hidden Stories in Plants* by Anne Pellowski,

Pat Whitman

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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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