Newsletter

For Friends of the Christchurch Botanic Gardens Inc *No 91, Autumn 2013*
To Promote, Protect, & Preserve

President's Report

What a three months this has been for the Botanic Gardens. You may have noticed in the media that the official go-ahead was given for the new multi-purpose visitor centre. I think that the building designed by leading architects Patterson Associates will be a great asset for the gardens. There will be space for interactive displays and exhibitions, a café, a multi-function seminar and education room, improved library and archival facilities, and a herbarium. Staff facilities and the new nursery area will also be incorporated into the building.

Leighs Construction has the contract for building the facilities and they have already started on the deconstruction of the old nursery and associated buildings. Staff members are awaiting building consent for their temporary work areas adjacent to the building site. The new complex is still planned to be finished by the end of this year. It will however be too late to use for the Australasian Conference for Volunteer Guides of Botanic Gardens that we are hosting this year.

Another great event that has featured as part of the 150th anniversary of the Gardens has been the launching of the Gondwana Garden and the planting of one of the world's rarest and most ancient trees, the Wollemi pine. The Friends were pleased to sponsor this event. The Gondwana Garden was the brainchild of Gardens Curator the late David Given. David had worked hard to bring a Wollemi pine to the city. His widow, Karina Given, and family took part in the planting of the tree. The tree is protected by a cage to prevent damage from vandalism. The Wollemi pine is a distant relative of the kauri, and Norfolk Island pine. Fossils of this tree have been dated back to the Jurassic period. If you are walking through the Gardens, take a look at the tree, which is located close to the children's play area.

There is good news on the Cuningham and Townend houses. Engineers are currently preparing reports for bringing them up to an acceptable earthquake standard. It is hoped that the conservatories will be available for public access by the end of the year.

The Friends filed a submission against the proposed International Cricket Oval in Hagley Park by Canterbury Cricket. We are not against club cricket being played in Hagley Park, but we oppose the effects that commercial sports operations hosting cricket would have on the landscape. We are also concerned about the lack of public access for a considerable number of days throughout the year. If the proposal were approved, it would also set a precedent for other sporting bodies to build on a similar scale. We have heard of one such sporting body that is waiting in the wings for the outcome of Canterbury Cricket's application. If you would like to read the submission we made, please let me know, and I will email it or send a hard copy.

Our guiding team has been busy organising guided walks for the Australasian Conference for Volunteer Guides in Botanic Gardens that we are hosting later in the year. The themes for the walks have been sorted out, and they are being trialed to make sure they meet time requirements.

The guides have also volunteered their time for four walks during the Festival of Flowers. This Newsletter may not be out in time to remind you of these walks, but I hope that you will have seen them in the Festival of Flowers calendar of events, and taken the opportunity to get along to some of them.

The daily walks that the guides provide are still proving to be slow in recovering since the earthquakes. However, I have been assured that we have a happy and conscientious bunch of guides.

The propagation groups are enjoying their new home, and the warm weather. Sadly a few members of these groups have moved away from Christchurch due to the earthquakes. This has presented an opportunity for

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New Friends' website

Have you visited the new 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 Philippa Graham – phone 348 5896 or email philippa.graham@gmail.com

Enquiries about membership should be made to Philippa Graham (phone number above)

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other members of the Friends to join these friendly and knowledgeable groups of people. They have a lot of fun, and at the same time produce many plants that in turn provide a considerable income to the Friends to support projects within the gardens. If you would like to join one of the propagation groups phone Don Bell 343 6699 for more information.

Charles Graham

Gardens' News

From Curator John Clemens

Has it really been 150 years?

We have been anticipating our 150th birthday year of 2013 for some time, yet now that it is here, it still comes as a surprise to be reminded that these beautiful Christchurch Botanic Gardens have reached such a significant milestone.

I was being interviewed by Jo Kane at the CTV base on Wairakei Road. I had prepared and knew the key points I wanted to get across, but I was still taken aback when Jo held me with her eye and opened with words (to the effect) "So you're having a birthday!"

How can such an established and noble botanic garden be only 150 years old? Certainly visitors from overseas marvel, as well we might, at the size and continuing vigour of many of our largest trees. To look at their stature, our older trees might be at least twice the age of the 100 or so years that they have stood. And yet, it is true; we are indeed 150 years old.

Along with some members of the Friends, I recently attended the launch of the Festival of Flowers in the Botanic Gardens outside the Canterbury Museum. Director, Anthony Wright, reminded us that the Museum was founded in 1870. Canterbury University College, across the road in what we now know as the Arts Centre, was established soon after (in 1873). And the first stone building of Christ's College is reported to have been erected in 1863.

Imagine the dedication, vision and sheer determination of those people who gathered together with Government Gardener, Enoch Barker, on 9 July 1863 to plant the Albert Edward oak. Our Botanic Gardens was officially founded in what must have been a very open space by the Avon River, and from that small but significant beginning, we have continued on the same site ever since.

Enoch Barker was followed by John Armstrong, who over the following 20 years helped shape the layout and older plantings that we appreciate today. Into the 20th Century, and succeeding curators, directors, assistant curators and skilled staff made further additions, such as the conservatories and rock and rose gardens.

These people have given us the exotic feature gardens, specimen trees, lawns and flower borders, as well as – and not without some dispute – the basis of a fine collection of New Zealand plants. It is through these plant collections that we have been able to delight and entertain, educate and edify, as well as contributing to the study and conservation of plants.

And still the Christchurch Botanic Gardens continues to be enhanced thanks to the commitment of our Mayor and Councillors to this wonderful free, public resource. Bob Parker announced a start to the contract to construct our new Botanic Gardens Visitor Centre in December 2012. He was with us again in January to help launch our 150th with the first planting in New Zealand of the Wollemi pine (*Wollemia nobilis*).

The Wollemi pine planting also marks the start of work on the Gondwana Garden, a major new development that will contain several core collections, including our relocated Australian Collection. Where did our flora (and all its animals) come from? And are we really related (botanically) to those Australians?

Meanwhile, progress was being made to clear the site for the new Visitor Centre. For readers who have not visited the Botanic Gardens recently, I should tell you that a very high, steel perimeter fence has been erected around the construction site. Staff facilities and offices will also be temporarily housed inside the perimeter (but separate from the building work).

Mayor Bob Parker and Greg Kitson from Ambrosia Nurseries (right) with members of the former Botanic Gardens Curator Dr David Given's family - Karina Given and her grandson - after they helped plant the Botanic Gardens' new Wollemi pine.

So, we can look forward not only to an exciting year in 2013, but also to the century ahead. Existing collections will be enhanced, new collections will come to maturity, and generations of visitors will continue to appreciate this special place.

Remember to follow the events calendar for the year. Entries are open for the Photographic Competition until 15 May. Winners in the various categories and age groups will be announced in July, when we will also have our official birthday party. There are many other events planned throughout the year, not the least of which will be reaching milestones towards the opening of the new Botanic Gardens Visitor Centre.

View across the Avon towards the site of the new Botanic Gardens Visitor Centre part way through demolition of the old nursery buildings.

Articles

How Does Water Get to the Top of Trees?

Soon after I became a guide in the Christchurch Botanic Gardens, I was told that a visitor might ask "how does water get to the top of trees?" - a question easily stimulated by the sight of the tall trees in the Archery Lawn. Some time later, I was showing a group round the gardens when the question was asked, and I gave what I hoped was an informative answer. Unbeknown to me, one of the group was Dean of Forestry at a very prominent American university; I was relieved when she told me that my answer was credible.

The flow of water to the tops of trees, especially tall ones, is intriguing because, like many processes in biology, it seems to happen much more elegantly and unobtrusively than our technology would achieve such an end - no pumps, scaffolding or power supply. In all trees, water travels from the ground to the uppermost leaves; minute after minute, hour after hour, year after year. There will be times when the flow stops eg at night when stomata (the pores in the leaves through which the water escapes) close, but if under severe conditions like drought, the flow stops for any length of time or cannot be re-started the trees will die.

This article will assume water has reached the base of the trunks; it won't deal with how water gets into the roots

Water

The ability of water to move upwards against gravity in an uninterrupted stream arises from its molecular structure (an oxygen atom with two hydrogen atoms). Each oxygen atom has a small negative charge on it, and each hydrogen atom (two per molecule) has a small positive charge. The attractions between the negative and positive charges on neighbouring water molecules knit the molecules together into a loose lattice - in other words, the molecules stick to one another in a process called "hydrogen bonding". Hydrogen bonding gives the water cohesion and tensile strength. It means that water is a liquid at everyday temperature and pressures rather than a gas - just as well really, as our existence depends on this property! - and that if a water molecule moves in one direction, others will be pulled along with it.

The bonds among water molecules are not infinitely strong, so in the absence of a pump, the height that a group of water molecules can raise themselves to against gravity is not very much. The theoretical height of a drop of water before it gets flattened by gravity is 2.7 mm. The surface of water in a saucer will appear flat and if you dip a spoon into the water and then remove it, the water will form drops on the spoon but certainly not form itself into strands between the spoon and dish. If a tube is placed in the saucer, attraction between the wall of the tube and water molecules (adhesive forces) helps resist gravity, enabling the water to move at least a little way up the tube. If the tube is a narrow capillary, water will rise to a noticeable height in the tube , for example, a tube of diameter 0.4 mm can support a column of water 70 mm high.

Xylem

Compared to a tree, 70 mm is not very high. For columns of water the height of a tree, we need much narrower tubes. These are found in the xylem tissue forming the bulk of tree trunks. Channels in the xylem of a specimen of Norway spruce (*Pinus sylvestris* - a gymnosperm) were estimated to have diameters of some 15 - 35 µm (1 µm is a millionth of a metre). The diameter of channels in some eucalyptus trees (angiosperms) ranged from 60 - 250 µm. At these diameters the distances over which the forces among the molecules are operating are sufficiently small that the forces can resist the downward pull of gravity and a column of water the height of the tree can exist. It's all a matter of scale.

Transpiration

What causes the column of water in the xylem to move? Heat from the sun causes water to evaporate from the leaf tissues, and its tensile strength (arising from the hydrogen bonding among the molecules) enables water lost from the leaves to be replaced by water moving from the xylem into the photosynthetic cells of the leaf. The process of water movement from the soil to the roots into the xylem and out of the leaves is called transpiration. Tree growth is tightly linked to transpiration; if transpiration stops for any length of time, then the photosynthetic tissues become dehydrated and growth stops.

Limits to growth

There are limits to the ability of transpiration to move water to the tops of trees. If the rate of evaporation is very high or, as in times of drought, the supply of water from the roots declines or stops altogether, then the link between water evaporating at the leaf surface and that in the leaf cells and xylem may be

broken. If an air bubble (an embolism) forms at the point where the column is broken and blocks the movement of water, then the column may not be restored when conditions improve. Permanent damage to the tree will occur if other channels in the xylem cannot compensate for the blockages.

The flow of water is also controlled by pores of variable aperture in the leaf surface - the stomata. These help to prevent embolism, but cannot prevent catastrophic failure of the water columns if conditions remain harsh.

As the height of trees increases, the resistance to water flow increases - even in a simple pipe, the longer the pipe, the more energy is required to move water through it. The downward force of gravity also becomes more significant with increases in height. Higher and higher negative pressures develop in the xylem as water is "pulled" out through the leaves but they may become so large that, again, air bubbles form blocking the flow of water. Trees can't grow much higher without this becoming an insuperable problem. The theoretical height limit to Californian redwoods (*Sequoia sempervirens)* - there is one of these in the Archery Lawn - has been calculated to be some 122 - 130 metres. The tallest known tree in the world, again a Californian redwood, has a height of about 113 metres. (The height of a tree 122m tall is about equivalent to that of a 25 story building).

Californian redwood in Archery Lawn

Conclusion

Next time you pass a tree, spare a thought for the water moving ever upwards from soil to tree to atmosphere. Spare a thought also for the consequence of high temperatures and drought. No water, no trees.

Alan Hart

Plant hunter – William Lobb (1809-1864)

William Lobb and his brother, Thomas, were the first collectors to be sent out by the Veitch Nursery in Exeter, Cornwell with the primary commercial aim of obtaining new species and large quantities of seed. William introduced to England an amazing number of trees, garden shrubs and greenhouse plants from North and South America. Many of these became hugely popular and commercially successful and are still grown today.

His father, John Lobb, was the estate carpenter at Pencarrow in Cornwall where a notable garden had been developed by Sir William Molesworth. The father developed a love of gardening and, after losing his place at Pencarrow, he took up employment at Carclew House, near Falmouth, the home of Sir Charles Lemon.

William, along with his younger brother Thomas, worked in the stove-houses at Carclew where Sir Charles encouraged the Lobb boys in their study of horticulture and botany. The young William worked in different horticultural positions. He gained a reputation as a keen amateur botanist and assembled a fine collection of dried specimens of British plants but had an increasing desire to travel abroad and to discover unknown "vegetation".

By the late 1830s, James Veitch had established his plant nursery at Exeter and was looking for ways to extend the range of plants on offer and improve the profitability of the business. After correspondence with the eminent botanist Sir William Hooker about

the most suitable destination, Veitch decided to employ his own plant hunter to gather exotic plants from South America exclusively for his nursery. William's brother Thomas had been employed by Veitch since 1830 and recommended William to Veitch. Veitch was impressed by William's keen manner and horticultural knowledge; according to the account in Hortus Veitchii, the history of the Veitch family, William "was quick of observation, ready in resources, and practical in their application; he had devoted much of his leisure to the study of botany, in which considerable proficiency had been acquired".

Veitch decided that William, despite not being a trained botanist, would prove a steady, industrious and dependable collector. He therefore booked him a passage on HM Packet *Seagull*, which was to set sail from Falmouth on 7 November 1840, bound for Rio de Janeiro. Lobb thus became the first of a long line of plant collectors to be sent out by the Veitch family to all corners of the world. James Veitch was anxious to ensure that Lobb should not be "cramped for funds" and arranged for an annual allowance of £400 to be made available to draw on in the large cities along his planned itinerary.

Before his departure, Lobb visited Kew Gardens where he was taught how to make herbarium specimens by placing plant material between special papers.

Lobb took with him seeds of the early rhododendron hybrid "Cornish Early Red" as a gift from Veitch to the new emperor of Brazil, Pedro II. The seeds were planted in the gardens of the Imperial Palace at Petrópolis where they are still growing today.

Following his arrival at Rio de Janeiro, Lobb spent 1841 exploring the Serra dos Órgãos (Organ Mountains) where he discovered several orchids including the swan orchid, *Cycnoches pentadactylon*, as well as *Begonia coccinea* and *Passiflora actinia*. His first shipment of discoveries also included a new species of alstroemeria, *Oncidium curtum* (with yellow flowers and cinnamon-brown markings), and a new red *salvia*. There were also several species of the beautiful pink-flowered climber *Mandevilla* which would become highly sought after for cultivation in England, and the small shrub *Hindsia violacea*, with its clusters of ultramarine flowers, which quickly became popular in Victorian greenhouses.

Later in 1841, Lobb travelled by boat to Argentina, where he spent the winter exploring the area around Buenos Aires. He sent back five cases of plants, seeds and dried specimens.

Lobb then made a gruelling journey through the Andes to Chile. He travelled through snow that he described as "five feet deep, frozen so hard that the mules made no impression and the cold was intense" causing him to collapse ill with fever on several occasions.

James Veitch's instructions to Lobb included a request to locate and bring back seeds of the "Chile pine", more popularly known as the monkey-puzzle tree *Araucaria araucana*, which had originally been introduced to Britain by Archibald Menzies in 1795. Veitch had seen a young specimen at Kew Gardens grown from seed brought back by the Horticultural Society's collector James McRae in 1826, and was convinced that this tree would be hugely popular as an ornamental plant.

Once Lobb had recovered from the ordeal of his Andean crossing he left and travelled south by steamship from Valparaíso to Concepción from where he set off to the forests of the Araucanía Region. At 5,250 feet, he reached his destination where the sought-after *A. araucana* was growing on the exposed ridges below the snow-capped volcanic peaks of the southern Andes. Lobb collected over 3,000 seeds by shooting cones from the trees while his porters gathered fallen nuts from the ground. Lobb then returned to Valparaíso with the sacks containing the seeds and personally saw them onto a ship bound for England. The shipment arrived safely at Exeter and by 1843 Veitch was offering seedlings for sale at £10 per 100.

Unknown to his employers, Lobb also sent seeds back to his former employers, Sir Charles Lemon at Carclew and John Williams of Scorrier House, where a plantation of monkey-puzzle trees was grown.

During 1842, Lobb sent from the Valparaíso area seeds of a purple nasturtium climber *Tropaeolum azureum,* the pale-blue mallow *Abutilon vitifolium* and the white, rosemary-scented *Calceolaria alba*, which was the forerunner of many calceolarias which were to become popular as summer bedding plants.

Lobb then travelled by steamship to Los Ángeles, from where he went inland on an expedition into the mountains regularly making excursions up to the snow line. Lobb found this expedition exhausting and not very productive. Lobb then continued

through northern Chile, where he discovered *Desfontainia spinosa*, before moving on through Peru to Ecuador. En route, he collected the passion flower, *Passiflora mollissima* which became popular in greenhouses, and the delicate *Calceolaria amplexicaulis*.

In the spring of 1843, he took four cases of plants, which he had collected on the slopes of the Peruvian Andes, by sea to the Ecuadorian port of Guayaquil. While he was there, an epidemic of yellow fever broke out and, along with other European residents, he was forced to move to Puná Island until the epidemic was over, leaving his cases with a shipping agent to send to England.

On leaving Puná, Lobb hired mules and a guide and travelled inland to Quito and on into southwestern Colombia. He eventually reached the port of Tumaco, from where he sailed for Panama intending to travel on with his latest finds back to England. On arriving at Panama City however, he received news from James Veitch that the cases of plants left in Guayaquil had never arrived. Lobb therefore despatched his latest collection from Panama (which arrived safely at Exeter) and awaited instructions from Veitch.

Amongst the shipments from Panama were several orchids including *Oncidium ampliatum* collected near Panama City, described by Veitch in a letter to Hooker as arriving "quite fresh but others are rotten".

While waiting in Panama, Lobb continued to seek out new plants despite suffering from an attack of dysentery. Once he had recovered, he returned to Guayaquil where he discovered all his cases rotting in a corner of a warehouse, with much of the contents destroyed by ants. The agent explained that the cases had "quite escaped his notice". Lobb was able to rescue some of the seeds, bulbs and dried specimens which he sent to Exeter. Veitch replied by sending back a supply of glass to make new shipping cases and insisting that Lobb endeavour to replace everything that was lost.

Despite being exhausted from his travels and repeated attacks of ill health, Lobb returned to the interior of Peru for a further four months, finally arriving back in England in May 1844. On Lobb's return to Exeter, Veitch wrote to Hooker: "I was disappointed at hearing William Lobb had left Peru, but pleased to hear of his safe arrival in England with many plants and seeds in good order. He reached Exeter with his plants on Saturday and is now gone to his friends."

Crinodendron hookerianum

After a period of rest and recuperation, Lobb returned to work in the Exeter glasshouses planting out and nurturing his introductions. By April 1845, his health had fully recovered and he was again despatched to South America with instructions to collect hardy and half-hardy trees and shrubs. After sending home a consignment of plants from Rio Janeiro, he travelled by sea to Valparaíso in Chile from where he visited the montane forests of the Colombian Andes, and down to the extreme south of Chile from the shores of Tierra del Fuego to the southern coastal islands.

Lobb brought back the Chilean firebush (*Embothrium coccineum*), the Chilean bellflower (*Lapageria rosea*) (the national flower of Chile), the flame nasturtium (*Tropaeolum speciosum*), the Chilean Lantern Tree (*Crinodendron hookerianum*) as well as species of myrtle and interesting conifers.

From a visit to Chiloé Island, Lobb introduced *Berberis darwinii* which had been discovered in 1835 by Charles Darwin during the voyage of HMS *Beagle*. The Gardeners' Chronicle maintained that: "If Messrs Veitch had done nothing else towards beautifying our gardens, the introduction of this single species would be enough to earn the gratitude of the whole gardening world." Lobb's finds were despatched to England where they were grown in Veitch's Exeter nursery before being sold to eager gardeners. Many of his discoveries have endured and remain popular garden shrubs today.

At the beginning of 1848, William Lobb arrived back in England and was re-united with his brother Thomas for the first time since setting off for Brazil in November 1840.

Berberis darwinii

In 1849, Veitch sent Lobb to collect in the cooler climate of North America in order to find conifers and hardy shrubs in Oregon, Nevada and California, Lobb reached San Francisco in the summer of 1849, at the height of the California gold rush. He spent the autumn of 1849 through to early 1851 in the Monterey area collecting and despatching seeds and plants. There was *Rhododendron occidentale*, which was to become the parent of many hybrid Rhododendrons, the California buckeye (*Aesculus californica*) and conifers including the Monterey pine (*Pinus radiata*).

In the autumn of 1851, he collected sackfuls of seed from the world's tallest tree, the California Redwood (*Sequoia sempervirens*). The following year, he moved further north again collecting seed including Douglas fir (*Pseudotsuga menziesii*), the western red cedar (*Thuja plicata*). and the ponderosa pine (*Pinus ponderosa*. Lobb was the first collector to gather seed in bulk from trees that were still rare in England; the amount of viable seed he sent to Exeter enabled Veitch & Sons to grow thousands of seedling trees.

As well as the large number of conifers, Lobb discovered various shrubs including the red *Delphinium cardinale*, the yellow *Fremontodendron californicum*, a flowering currant *Ribes lobbii* and a collection of ceanothus

In 1853, when Lobb was in San Francisco packing his collection of seeds to prepare them for shipment back to England, he met a hunter named Augustus T. Dowd who told to him a story of a "big tree". Dowd had been employed as a hunter to supply workmen, engaged in the construction of a canal, with fresh meat. A long hard chase after a large grizzly bear led Dowd into a strange part of the forested hills where he followed the bear into a grove of gigantic trees. Dowd lost interest in the chase and wandered around in amazement at the sheer size of the trees surrounding him.

Lobb realised the impact such a tree would have on British gardens and the importance that his employers would attach to being the first nursery to offer it for sale. After meeting Dowd, he quickly headed to Calaveras Grove where he had the good luck to find a recently fallen tree, which he measured as "about 300 feet in length, 29 feet 2 inches at 5 feet above the ground...". He collected as many seeds, cones, vegetative shoots and seedlings as he could carry back to San Francisco, including two small living trees. He then returned to England on the first available boat arriving back in Exeter a year earlier than expected. Lobb had taken a gamble cutting short his contract, knowing that, at the risk of angering his employer, he had to get the seeds to England before anyone else could get back first. The gamble paid off as Veitch was delighted, abandoning all other projects to concentrate on raising the seedlings in commercial quantities.

The Gardeners' Chronicle announced that Veitch & Son "had received branches and cones of a remarkable tree from their collector in California, William Lobb" who had described it as "the monarch of the Californian forest". James Veitch gave specimens of the tree to John Lindley, professor of botany at the University of London and invited him to name the tree. In the *Gardeners' Chronicle* article, Lindley named the species *Wellingtonia gigantea* as a memorial to Arthur Wellesley, 1st Duke of Wellington who had died in September the previous year. The "giant amongst trees" was considered an appropriate memorial for such an important British historical figure. Unfortunately, the name *Wellingtonia gigantea* was invalid under the botanical code as the name *Wellingtonia* had already been used earlier for another unrelated plant. Eventually in 1939, after several attempts to find an acceptable name, the tree was given the name *Sequoiadendron giganteum.* In Britain, however, the tree remains known popularly as Wellingtonia.

Six months later, the *Chronicle* reported that Veitch was offering seedlings of the tree at 2 guineas each or 12 guineas a dozen. The Victorians fell in love with the tree in much the same way as they had with the monkey-puzzle tree a few years earlier, using it as a specimen tree and often planting it to form avenues.

By the middle of 1854, James Veitch and his son

James Veitch Jr, decided that it was time for William, to be sent off again to collect fresh seed and search for yet more new plants. William had been suffering from persistent ill-health for some time. In a letter to Sir William Hooker, James Veitch noticed: "He seems taken with a sort of monomania, which it is difficult to describe and which he could not explain himself, a sort of excitability and want of confidence."

Despite his concerns, in 1854, Veitch sent Lobb back to California on another three-year contract. Lobb was unable to make any further new discoveries, but sent back consignments of plants and seeds from time to time until the end of 1856. In January 1857, Veitch wrote to Hooker: "We hear Lobb has been ill, his writing appears shaky and I am inclined to think it is probable he will soon return".

In the event, Lobb did not return to England and after the expiry of his contract in 1858 he remained in California. He sent back a small number of seeds to private collectors. Communications from Lobb gradually ceased, to the alarm of both his family and Veitch.

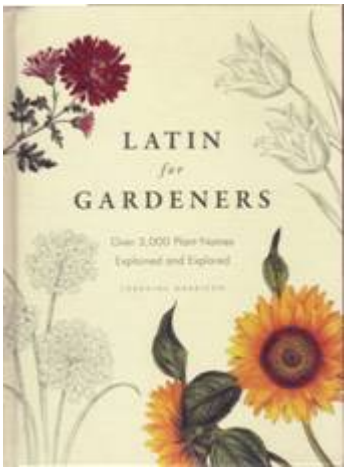
In May 1864 Lobb died forgotten and alone at St Mary's Hospital in San Francisco. The cause of death was recorded as "paralysis" but was probably a result of syphilis. He had no mourners at his burial in a public plot in Lone Mountain cemetery.

In *Hortus Veitchii*, Lobb's contribution to modern gardening is described thus: "The singular success which rewarded his researches is, perhaps, unparalleled in the history of botanical discovery, the labours of David Douglas not even forming an exception." And in her history of the Veitch family, *Seeds of Fortune – A Gardening Dynasty*, Sue Shephard adds: "William was arguably one of the finest but least–known of collectors who gave gardeners some of the most remarkable trees and loveliest plants ever grown."

Bill Whitmore

Book review: *Latin for Gardeners: Over 3,000 Plant Names Explained and Explored*.
By Lorraine Harrison. Crows Nest Books (an imprint of Allen & Unwin), Australia. 2012. 224 pp. 173 × 235 mm. ISBN 978-1-74331-275-9. RRP: AU $35, NZ $40 (hardback, colour illustrations)

You would expect this dictionary-like book of botanical Latin to be about as appealing as reading a phone book. However, author Lorraine Harrison has exceeded these expectations and crafted a beautifully presented and engaging work. There are nice touches throughout, starting from the textured and durable hardcover with a nostalgic design that invites the reader in.



Within the covers there is a bookmark ribbon, excellent and clear layout, muted colour tones and liberal use of botanical paintings.

The introductory pages (Preface, How to use this book, A short history of botanical Latin, Botanical Latin for beginners, An introduction to the A–Z listings; pp 6–13) are brief and well-pitched at the target audience of gardeners and horticulturists. The writing is at this level rather than that of a botanical textbook. However, as a career botanist, I too found plenty of interest.

As the title indicates, more than 3,000 Latinised plant names are listed in alphabetic order (from abbreviatus to zonatus; pp 14–221), along with their pronunciation spelt out phonetically, gender variants, meaning, an example of a binomial that uses that name and any variations in spellings.

Botanical illustrations are captioned with their scientific and common names and intermingled throughout. Further text on these illustrations appears in a box entitled 'Latin in action'. Botanical illustrations are appropriately placed near to their Latin names (usually the species epithet) in the A–Z listing. Most of the examples named and illustrated have a Eurocentric bias as this book was written and released in the UK under the title *RHS Latin for Gardeners*. Nevertheless, most of the species mentioned are also to be found in Australasia too, as garden subjects or as weeds.

To maintain the reader's interest, there are tales of botanists and plants interspersed with the A–Z definitions of botanical Latin. These special interest features are presented on pastel green pages to set them apart from the alphabetic listings that are on a cream background. They include plant profile pages (20 featured plants, from *Acanthus* to *Vaccinium*), plant hunter pages (summary biographies of the trav-

els and discoveries of 15 botanical collectors, including Alexander von Humboldt, Sir Joseph Banks, Carl Linnaeus and Sir Joseph Hooker) and plant themes (seven themes: Where Plants Come From; Plants: Their Shape and Form; The Colour of Plants; The Qualities of Plants; Plants: Their Fragrance and Taste; Numbers and Plants; Plants and Animals). The plant profiles and themes explore the meanings of the Latinised names that may allude to the plant origins and characters.

It was good to read a few cautions on inferring too much from plant names. For example, the orchid *Dendrobium anosmum* has a strong fragrance despite the name 'anosmum' meaning to lack scent (p 144). Because of enlarged circumscriptions, synonymy and taxonomic vagaries, the meaning of Latinised names used in a binomial can be misleading and may not always be an accurate reflection of the characters of a species to which they seem applied. I think that this warning could have been made upfront in the introductory pages.

Latin for Gardeners concludes with a short glossary (of just 34 terms; p 222), a well chosen (albeit UK-weighted) bibliography (p 223) and image credits (p 224). We are told that illustrations are sourced mainly from the RHS Lindley Library but I would have liked to have seen the original botanical artists credited here if known.

This book is certainly more lightweight compared to William Stearn's authoritative *Botanical Latin*, or of more direct relevance *Stearn's Dictionary of Plant Names for Gardeners* which gives the meaning and origin of some 6,000 botanical names encountered by gardeners and horticulturists. *Latin for Gardeners* is not intended to be as heavy-duty as Stearn's reference works and succeeds admirably in providing a concise and approachable primer that should meet most people's needs.

References

Stearn, W.T. (2004). *Botanical Latin*. Portland: Timber Press.

Stearn, W.T. (1996). *Stearn's Dictionary of Plant Names for Gardeners: A Handbook on the Origin and Meaning of the Botanical Names of some Cultivated Plants*. Portland: Timber Press.

Murray Dawson
Allan Herbarium, Landcare Research
Lincoln, New Zealand

Art in the Gardens: "Muegano" – art installation in pond by Information Office

Have you seen the art installation in the pond by the Gardens Information Office? If you haven't you should. You may love it – or possibly not!

It is part of the Scape Public Art display currently on show in Christchurch. This large scale installation is intended to generate reflections about the implications about the traditional house structures in Western culture. The artist Héctor Zamora saw this project as a way to re-examine urban Christchurch and comment on inner-city living and urban density.

"Muegano"

Its multi-faceted crystalline shape has been inspired by the form of snowflakes and by that of a Mexican sweet made out of cornflakes and sugar after which the artwork is named. The work was originally conceived for installation in Victoria Square before the earthquakes.

Mexican born Zamora has worked extensively in public space over the last decade, creating major works for amongst others, the Liverpool Biennial in 2010 and the 53rd Venice Bienniale in 2009. He presently lives in Brazil.

Events in the Gardens

From Lynda Burns, Visitor Services Team Leader. 941 7585 or 027 559 0181.

Ingham Lazy Sundays. Every Sunday from 6 January to 10 March, 3 – 4.30pm (if wet postponed to 17 or 24 March).
A free concert of local music on the Archery Lawn.

Sunday Bandstand. Every Sunday from 3 February to 24 March, 12.00 – 1.30pm.
A free concert of big band music on the Daffodil Lawn.

Ellerslie Flower Show
Wednesday 6 to Sunday 10 March

A recent reorganisation affecting the Christchurch Botanic Gardens team.
From Jeremy Hawker, Team Leader Garden and Heritage Parks

The team that looks after the Botanic Gardens has had a name change and its scope and structure altered. The Gardens' staff are now part of the Garden and Heritage Team, Transport and Greenspace.

The Botanical Services Manager is now Team Leader Garden and Heritage Parks. Aligning with the Council's activity management plan, there is also a Team Leader Regional Parks and Team Leader Urban Parks. These positions report to a new position of Parks Operations Manager, along with the Curator and Contract Service Manager.

The Garden and Heritage Parks team's responsibility now extends to all Garden and Heritage Parks, parks and "greenspace" within the four Avenues and Heritage buildings and clocks and statues within the City.

There will be little change within the Botanic Gardens, with staff maintaining current areas, but extra work has been picked up including planning the city bedding displays.

The Mona Vale coordinator is now the Area Supervisor, Garden and Heritage Parks, with responsibilities for Mona Vale and the contracted maintenance of the other green assets, fountains, clocks and statues. This is an exciting change for staff concerned and aligns with the Gardens Management plan which promotes the possibility of satellite plant collections around the city.