

Newsletter

December 2011

Featuring: *Botanic Garden Master Tree Plan Revealed*
A Children's Treehouse for the Rose Garden?
Basil - R. I. P.



Who was Albert Kellogg? (P8)



President's Patch

At the Annual General Meeting held on 15 September I had the honour to be re-elected President of the Friends for a further year. Most of the existing Committee were re-elected too and I look forward to working with the Committee over the coming year to realise the goals and objectives of our association. We welcomed as new committee members John Larkindale and Father Paul Shanahan while at the same time we farewelled Brian Absolum and Pip Murdoch. John Norwood remains as our patron. In this context it would be remiss of me not to acknowledge one of the longest serving office holders of the Friends and that is Charmaine Scott who has been editor of this Newsletter for nearly eleven years. As I said at the AGM, Charmaine "carried out this often thankless task with good humour, professionalism and dedication". We wish her successor in this role, John Larkindale, well.

Members may be interested to know that the Wellington Rose Society which has had a long-standing and special involvement with the roses in the Garden has recently been wound up. Residual funds of the Society have been transferred to the Friends and we will act as custodian for these monies which will be primarily used to support projects relating to the Rose Garden. I acknowledge with thanks this mark of confidence shown in us by the Rose Society.

The financial situation of the FOBG remains sound. At the AGM our Treasurer Elizabeth King reported that income over the past financial year amounted to \$6921 while expenditure totalled

\$7319. As at 30 June 2011 accumulated funds stood at \$66,960. Over the coming year your Committee will be looking to identify appropriate projects to support. I will repeat now what I have previously stated and that is that your Committee welcomes suggestions from members regarding projects or initiatives relating to the Garden that the FOBG might support. More generally, while we are conscious that it is not the purpose of the FOBG to accumulate funds we are obliged to be prudent in our husbanding of the resources we hold.

Some members attended the workshop held on 5 November to discuss the future of specimen and framework trees in the Garden and to review the Tree Master Plan recently completed by David Sole, James Jones and Leanne Killalea. The proceedings of this workshop are reported elsewhere in this Newsletter but I would like to say that for me the exercise was very worthwhile. We were given a very full account of the state of health of the exotic trees in the Garden (and in the Bolton Street Memorial Park) and a detailed plan for their replacement over the next twenty to thirty years. We had a lively discussion about the criteria and replacement policies underpinning this Master Plan and your Committee will be working with Garden management in respect of the implementation of the Plan. In reality, there can be no more important topic for the Friends than the future of the trees in Wellington's Botanic Garden.

Frank Wilson

Botanic Bulletin

As I write, the day has transformed from a blackened morning and heavy rain to bright sunshine and a gentle breeze. Great to see the visitors in the garden when the sun comes out...and those hardy ones who visit regardless of the weather!

The team are in the throes of finishing the bedding change over for summer. The designs are looking great already. We received a lot of positive feedback over the bedding and bulb flags during the RWC and the rugby ball remains

of interest to visitors. These are great opportunities for staff to think laterally about their displays and I have to record that I am very proud of what they have achieved this year.

Spring Festival proved to be a mixed bag with the weather, though the Festival, as a whole, was again successful. The Midland Park music proved to be popular. Charmaine, with assistance from Katrina Bayliss and Judy Bale did a splendid job of promoting the Festival along Lambton Quay. The broadening of the Festival to harness



other attractions proved to be a success with the Reserve Bank museum having an unprecedented number of visitors.

My thanks to the Friends for hosting the Tree Workshop. It was useful for Leanne James and me to actually have to articulate the processes for preparing the plan and to answer the questions that it raised. The need for adequate and informed public communication came through strongly as did the call to expand the possible range of species. It was a very positive and affirming workshop.

We had the pleasure of participating in the Hector exhibition, curated by Peter Hector, at the Tutukiwi Living Gallery in Lower Hutt. The Botanic Garden featured prominently. We have negotiated with Peter to bring most of the exhibition to the Treehouse over the summer (*Ed*: See subsequent article). It is a fascinating insight into Sir James Hector's life and his role in science in New Zealand.

I recently attended the BGANZ Congress in Albury, NSW. Albury has a small but traditional and very well kept Botanic Garden with many magnificent trees. One unusual plant I noticed was a weeping *Coprosma repens* which appeared to be on a 2.0m standard. It had a cascade of shiny green leaves which could happily grace any garden. The Congress theme was 'Staying Viable and Valuable'. Many of the papers gave very good insight into the role that volunteers play in the smaller Australian botanic gardens. I took the opportunity to revisit the Royal Botanic Gardens, Cranbourne. They are making rapid progress with their \$25m extension with extensive plantings now beginning to get under way. While

it is a great garden now, it will almost certainly become one of the truly great gardens of the world.

We have been spending considerable time working through the Long Term Plan over the last month. As you will be aware from media discussion, there is heightened pressure on Council to reign in its spending. When the draft annual plan is published in the New Year I encourage you to give it close scrutiny and to make submissions. It is important that the 'green voice' is heard by Council as Wellington as an *Ecocity* is one of the cornerstones of the 2040 Strategy.

The Unnamed Roy Cowan lantern gifted by Winsome Shepherd has now been installed and the plaque along with it. It is located at the foot of the Treehouse lift and can be viewed during the week. As it is fragile it is locked away over night and the weekends. Please take the time to have a look at the lantern. It was a generous gift to the Garden.

Professor Swee Tan, plastic surgeon and keen gardener has been invited to speak on the topic of 'Hard Graft' at the Rose Festival on Friday, 25 November. Also during the evening 'Live on Air', the new growing frame for the *Tillandsia* spp (air plants), is to be unveiled. This recognises 50 years since the opening of the Begonia House to the public.

A little early I know but...Best wishes for the Festive Season and the New Year.

David Sole, on Behalf of the Botanic Garden Team

Botanic Garden Tree Master Plan Revealed And Endorsed

At a Workshop arranged by the Friends on 5 November 2011, the Manager of the Garden, David Sole, together with James Jones and Leanne Killalea, briefed members and other invited guests on the recently completed Tree Master Plan. The Plan contains detailed assessments of 1,800 individual trees in the Garden rated in terms of health, maturity, contribution to the landscape and importance, and sets out a timeframe for action for each tree, or groups of trees, in terms of a need for removal

and/or replacement over the next 30 years.

This Plan is the most significant addition in many years to the management tools available to Garden staff. It was increasingly evident that in the face of a rapidly maturing tree population, climate change, pest animals, pest pathogens, and the random effects of storms, a detailed forward plan was required to manage the cycle of maintenance, removals and replacements.



Garden management and the Friends were also in agreement that better and more comprehensive information was required as a basis for informing the citizens of Wellington of the significant changes that can be anticipated in the Garden landscape over the next 30 years as a consequence of these influences. More information was needed as well to determine budget implications for the City Council, given the high costs of removing very large trees, such as the conifers, in the confined urban environment.

At the Friends' Winter Seminar in August 2010 David Sole talked to members about the work then under way (see the August 2010 Newsletter for a report on that Seminar). The follow-up workshop this year provided the opportunity for a more detailed explanation of the way the project was carried out and discussion of the implications of implementing the conclusions of the study. As well as members of the Friends, the Workshop was attended by representatives of the Friends of Bolton Street Memorial Park, and the Friends of the Town Belt.

The discussion did not reveal any difference of opinion about the nature or scale of the challenge facing the Garden between now and 2030. A dramatic example will be the need to remove, on the grounds of age and public safety, most if not all of the large pine trees on the main ridges. Many other trees - natives and exotics - throughout the Garden are marked for replacement. A major focus was on whether the trees that are removed should be replaced by the same or other species. In the case of the conifers, David Sole reaffirmed previous commitments to their retention on the ridges reflecting their place as defining heritage and landscape features of the Garden. It was noted that a replacement planting programme was already being implemented. However, it is very clear that for a considerable period after the pines are removed there will be significant gaps in the landscape.

In the case of other trees, replacement decisions will be reached after a considered evaluation of heritage and landscape values together with site and environment factors. In many cases the Plan envisages replacing with the same species. Other trees will not be replaced at all because of crowded conditions or adverse environmental

conditions - wind, salt, diseases, or kaka. In some cases it might be judged that another species would be more appropriate on the site. The specific choice would be influenced also by matching characteristics such as height and form with the tree being replaced. In response to comment, David acknowledged that there would continue to be scope for experimentation and the introduction of new species into the Garden. He considered that the developing Arboretum area would provide an excellent site for some new and replacement trees. He also noted that there could be circumstances when it was judged that a particular species would be likely to perform better in the environment of one of the other public Gardens in the Wellington cluster, and a replacement planted elsewhere.

Time allowed only limited discussion of the situation of individual trees. David illustrated the challenges of defining and interpreting the criteria used in the assessment work by referring to three significant trees in the Main Garden - *picea sitchensis* (was under stress and thought needing replacing some years ago but had survived and now had an assessed extended life span); *picconia excelsa* (is degenerating and will be replaced on this site with another species of similar form; a new *picconia* will be planted in a more favourable environment elsewhere in the Garden); and *ilex aquifolium* (diseased and already replaced). The two well-known macrocarpa bucket trees - at the Cable Car entrance and near the Seddon memorial - are both destined to be removed, on plant health and environmental grounds, and not be replaced.

Several participants raised the need for citizens and visitors to the Garden to be better informed about the tree replacement policies - the justification, the criteria being used, and the timetable; and for comprehensive tree labelling. David acknowledged these suggestions and said that a planned upgrade of the Treehouse would provide the opportunity to incorporate appropriate information and interpretation. He thought the completed Plan should be available for scrutiny by visitors to the Treehouse. Enhanced labelling was a priority. He suggested account should be taken also of the possibility of incorporating technology now becoming available for visitors to download on handheld IT devices data on individual sites and trees.

The desirability of community education on the tree removal and replacement programme in the context of the significant budgetary provision for the large scale changes that will be required was also emphasized. Prudent management suggests that such provision should be made in accordance with a pro-active programme, taking into account public safety considerations, rather than waiting for events to take their natural course with the potential for accidents to happen.

The special interests of the Friends of Bolton Street Memorial Park were reflected in comments concerning the need for additional criteria relating to the protection of grave sites - both marked and unmarked - in the tree removal and replacement programme in the Park.

In opening the workshop, FOBG President Frank Wilson said that “the topic went to the heart of the future of the Botanic Garden”. In closing, he said he thought the discussion had endorsed the importance of the project and focused on the essential questions that needed continuing consideration. He committed the Friends to supporting Garden management on the implementation of the programme and working closely with them on issues such as financial resources. All participants joined in congratulating David, James and Leanne on the excellence of the research work and the presentation in the Master Plan.

Ted Woodfield

A Children’s Treehouse for the Rose Garden?

The Committee of the Friends of the Botanic Garden is planning the installation of a play area for under-5 year old children in a section of the Lady Norwood Rose Garden, adjacent to the Picnic Café.

The Botanic Gardens management has agreed to make an area of land available where young children can play in a safe environment, while their carers can have a coffee “in peace”, whilst keeping an eye on their charges.

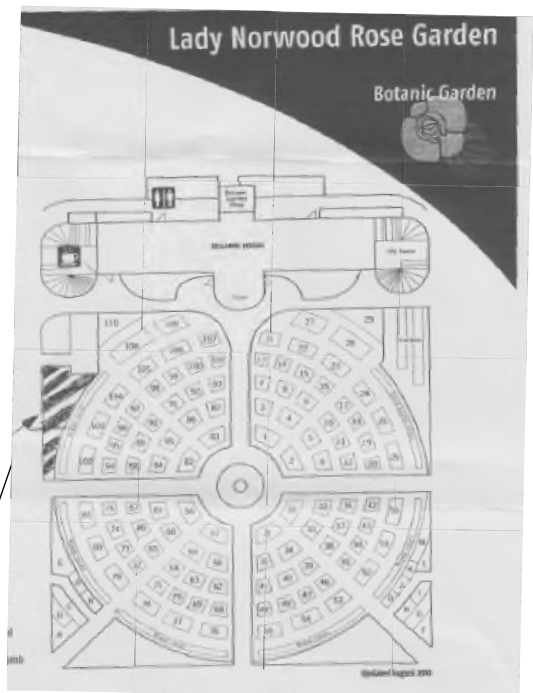
OSH (occupational safety and health) regulations are stringent and no type of swing is permitted in the space available. Playground mats, a compliant shock pad underneath and fencing around the area are all prerequisites. Any sort of tree house must have an open frame wall so that children can be kept under observation at all times.

We are seeking financial assistance in the form of pledges, sponsorship and/or naming rights for this project. Direct funding and donation of one (or more) of the components of the tree house would also be very welcome. The photographs indicate the kind of tree house that the Committee is currently investigating, but other suggestions would also be very welcome.

The cost of the project would be of the order of \$28 – 30,000, depending on which of the two tree house possibilities were decided upon,

inclusive of the cost of safety mats (\$5,500 + GST) and surrounding fence (\$2,500 + GST).

The Committee wishes to involve members of FOBG, their friends, and members of the public who frequently use the Picnic Café as a meeting place. Requests for a play area for young children have been made for many years, and the FOBG Committee is now at last able to respond positively to proceed with the project.



Proposed location of the Children’s Treehouse



Possible options for the Children's Treehouse

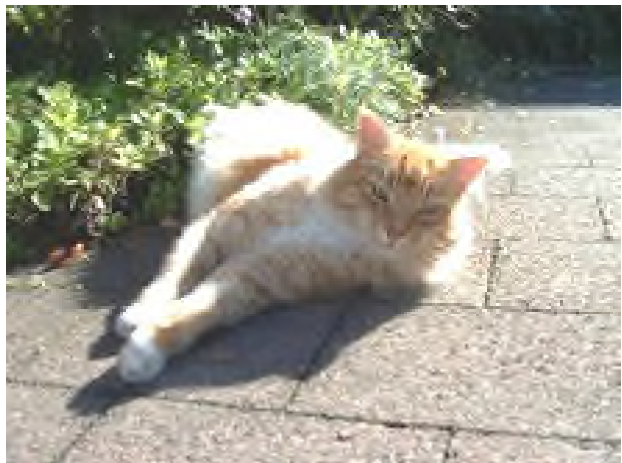
Basil

Long-serving Botanic Garden “staff” member Basil was put to sleep on 20 September. Although only 12 years old, he had cancer.

Red-haired and handsome, Basil was arguably the most popular member of staff, most definitely with Garden visitors. Basil was very much his own man and had, throughout his life, firmly resisted any attempts to “own” him.

In early 1998 Kelburn vet Vicki Melville found him as a six month old kitten, lost and lonely, on the street, where he had been following people and trying to get into cars. As she is wont to do with strays, she took him home to the clinic, advertising to try to find his people. Her neighbours then tried to adopt him but he preferred Vicki's flat, despite the fact that the resident Burmese loathed him. Back to the neighbours, the idea was he'd have the perfect home because they had a female kitten around the same age and she absolutely adored Basil. But he wasn't having any of that – and apparently, his girlfriend has never gotten over being jilted.

Basil set out to live the life of a hobo, being returned to Vicki from many parts of Wellington, including once from halfway to Makara. While some of the places he's allegedly been found



Basil in typical and much-loved pose

are probably urban legend, it is true that Basil has been down and back up on the cable car.

He then started consistently visiting the Garden, and after Vicki had retrieved him several times, she realised he had finally decided on a home base. WWF staff, who had offices in the Treehouse, said, “We think he's cute and we won't mind feeding him,” and the deal was struck. Vicki and the Kelburn vet practice took care of him when he occasionally needed treatment, but otherwise Basil remained a rugged individual and always went where he wanted to go.

He could often be found lying regally on a bench, anywhere from the duck pond to the rose garden,

allowing Garden visitors to admire him. He could well have been the most photographed cat in the city. He was a most convivial chap and sometimes attended meetings in the seminar room, as the Friends can attest to.

We left bowls of water out for him but his preferred tippie was straight from the tap. He'd sit in the sink staring at you until you got the hint

and turned the tap on a little. In winter he liked to laze the day away in one of the offices or gardeners' messes, hogging the heater and grumbling in his sleep.

Sleep Well, Basil.....

Charmaine Scott

The Big Bang

James Hector and the birth of organised science In New Zealand

This exhibition graced the Tutukiwi Living Gallery in Lower Hutt for nine days in early November. Organised by the Hector family, it celebrated the life and work of Sir James Hector, in particular the influence he had on the scientific community.

A number of organisations, including the Wellington Botanic Garden and The Museum of New Zealand Te Papa Tongarewa, can trace their origins back to the involvement of Sir James. Several of these supplied material for the Tutukiwi exhibition and have generously allowed the Botanic Garden to continue with it.

James Hector was a brilliant scientist and energetic organiser. As the only scientist working for the Government, he became the official adviser on all matters of science. He also became Chancellor of the University of New Zealand, and at different times was responsible for the Meteorological Department, the Colonial Observatory, the Wellington Time Ball Station, Botanic Garden (manager for 22 years), the Patent Library, and custody of the official Weights and Measures.

One of Hector's most enduring contributions was the development of the New Zealand Institute (now the Royal Society of New Zealand) as an independent scientific organisation. From its inception in 1867, Hector was its manager and editor for 36 years.

He played a crucial role in establishing *Pinus radiata* as a major economic species in New Zealand (*Ed*: See next article).

Hector also oversaw the production of a series of publications by the Colonial Museum. These

were pioneer works, in some cases not replaced by more authoritative works for many years. There are 13 plant species named after him and of course, Hector's dolphin, honouring the man who examined the first specimen.

The exhibition will be mounted in the Treehouse in early December, remaining until the end of February.

Charmaine Scott

Sources: Peter Hector, Phil Tomlinson



Sir James Hector

Who was Albert Kellogg?

A forward thinker

Albert Kellogg was born in Connecticut USA on 6th December, 1813. He eventually became a medical student at the Medical College of South Carolina and graduated with his M.D. degree from Transylvania University in Kentucky. Kellogg was drawn to California in the gold rush of 1848. However, when he arrived he found that it had already peaked and he decided to move to San Francisco, California. It was there that he resumed his medical practice and also opened a drug store. It was during his journey to California that he was introduced to the diverse flora associated with that area. He became an important botanical collector, and was also one of seven men who organised the California Academy of Sciences in 1853. One of his forward thinking ideas was the inclusion of women in scientific and natural history work, and he subsequently hired two women as curators.

The “Eastern” botanical establishment was not always appreciative of the attempts by the “amateurs and upstarts” in the West (who lacked adequate library and herbarium collections) to publish their new discoveries. In fact, the prominent Harvard University botanist Asa Gray described Kellogg as a “good meaning soul” but “a nuisance in the science”. However, another prominent “Eastern” botanist, John Torrey, honoured him by proposing *Kelloggia*, a genus of *Rubiaceae* from the Sierra Nevada. Irrespective of any faults as a botanist, Kellogg’s abilities and productivity as a botanical illustrator were widely considered to be considerable.

He travelled in the western states of the USA, especially Oregon and North California in the years 1843-44. He made the earliest scientific description of the big trees of California, which appeared in 1845 and also explored the Republic of Texas with John J. Audubon, at the time of its annexation to the United States. He later made botanical explorations along the western coast of America from Terra del Fuego to Alaska. In 1867 he visited Alaska in the capacity of botanist of the special expedition under Prof. George Davidson, of the U.S. Coast Survey, and made large collections of the plants of the coastal region, of which he furnished complete collections to the Smithsonian Institution, the Philadelphia Academy

of Sciences, and the California Academy of Sciences. He was a frequent contributor to scientific journals and to state and national reports. His more important work consists of 400 beautiful botanical drawings of the West American Oaks (1889), and at the time of his death he had in preparation a similar series covering the West American pines.

Kellogg’s speciality was the study of trees and he was the first botanist to undertake a systematic study of *Sequoiadendron giganteum* in the Sierra Nevada Mountains, which even today is valued because of its thoroughness and accuracy.

Kellogg spent his last years in Alameda, near San Francisco Bay and died on March 31, 1887.

The Botanic Garden Connection

The first Director of our Garden, James Hector, had the problem of sourcing plants for the new Garden. He was concerned that timber and firewood were in short supply in parts of the developing colony, and the provision of suitable shelter in grassland areas to protect farmer homesteads and provide stock shelter was seen as a priority. The need to trial plants to see what was suitable for our soils and climate was recognised by the authorities. In 1868 in Christchurch Edward Robinson and Aubery Park Station in Canterbury received some tree seed from Professor Kellogg. This was successfully raised, and Professor Kellogg was subsequently asked to provide the NZ Government with significant quantities of Californian conifer seed which was imported by the Government and Garden between 1870 and 1877, although some trees were established earlier in the Garden from plants variously sourced.

While some seed had been imported privately, the first official purchase of seed was made in San Francisco by William Gray of the Post Office. This was subsequently distributed around the country, the Wellington Botanic Garden receiving its share. Of the plants imported, two in particular were showing significant promise – *Cupressus macrocarpa* and *Pinus radiata*. The results confirmed the experience obtained from the first recorded

importation of *Pinus radiata* in particular, which occurred in 1859 and which was performing well in many locations around the colony. Eventually some 25.5 kg of *Pinus radiata* seed (not cones) was forwarded from California, much of which was germinated in the Wellington Botanic Garden and widely distributed. This resulted in some hundreds of thousands of plants being propagated and planted throughout New Zealand.

In August 1871, James Hector, on behalf of the Colonial Secretary wrote to Professor Kellogg (extract):

“I venture to ask your assistance in carrying out the recommendationsof the Committee of the Legislature on Colonial Industries. The desire of the Government is not so much the introduction of a great variety of forest trees as to be able to supply the seeds of those kinds which are most likely to be raised successfully in large quantities. Arrangements have been made to have the seeds raised in local nurseries in the district where the young trees are to be distributed and the Government has authorised the expenditure of a sum not exceeding 200 pounds in the first instance for the purpose of procuring the seed. I enclose a list only with the idea of suggesting the species that we find most suitable to the climate – no wish to limit you to the list or to require that all be sent. Mr Richardson of Christchurch informs me that he had written to you fully giving his experience in packing the seeds and I recommend you to adopt his suggestions.”

The Identification of Seeds

It is interesting to look at the list of plants supplied to Professor Kellogg and note that the plants he did supply have stamped their character on our Garden.

This list was based on an earlier one Alfred Ludlam had prepared for the Colonial Secretary; Ludlam explained the reasons for his suggestions and gave advice on how the seeds should be packed. Unfortunately the following advice was not always heeded.

1871 List of Conifers suggested by Hector to Prof. Kellogg

(Plant Names as in original document)

Californian firs

Abies Douglcsii

Abies mertensiana

Silver firs

Abies picea bracteata

Abies picea nobilis

Abies picea balsama

Abies hookeriana

Abies menziesii

Abies picea amabilis

Abies picea grandis

Abies picea frascii”

Californian Pines

Pinus muricata

Pinus benthamiana*

Pinus fremontiana

Pinus insignis*

Pinus jeffreyi

Pinus coulteri

Pinus pondcrosa*

Pinus radiata

Pinus contorta

Pinus sabiniana

Pinus tuberculata

Pinus lambertiana

Pinus monticola

American firs

Abies alba

Abies nigra

Abies rubra

Abies canadensis

Pines

Pinus inops

Pinus mitis

Pinus resinosa

Pinus australis

Pinus rogoda

Pinus taeda

Mexican firs

Pinus llaveana

Pinus patula

Californian

Cupressus macrocarpa*

Cupressus lawsonia*

Wellington gigantea*

Thuja gigantea

Sequoia sempervirens*

Juniperus californica

* Seed of the species Hector suggested and that were supplied by Professor Kellogg are marked with an asterisk.



“List attached is confined to varieties growing in California as well as the best from Northern States of America and from Mexico. New York should furnish Northern species whilst Government should authorise seedsmen at San Francisco to obtain them as opportunity offers (from Mexico). I mention pines from Mexico because they are quite new to us in New Zealand and of a very beautiful character and I think well suited to the New Zealand climate. I have a few which are doing quite well. While the government are spending money on such a good object for the future I think they should obtain those varieties which will give the plantations of the country character, a collection such as I have named would be valuable to be distributed over the Colony. The seeds should be packed in a canvas bag and hung up in a cabin on the voyage”

Some idea of Professor Kellogg’s collecting operations in California was given in his reply of 18 October 1871 to Hector:

“The order for Californian forest tree seeds came to hand so late that I find it impossible to send a full supply. These seeds are mostly from my South Californian Coast expedition. My North Coast expedition was not in by the time allotted, and though often urgently written to for whatever could be sent here before the 10th inst., none have come in, and only a few have been received from the Sierras. I am unable to send any of the silver firs, and some of the spruces here seldom open before frost, which sometimes holds off late. Hence the list is meagre compared with what it ought to be, had a previous understanding of the urgency of your requirements been impressed upon the parties. Under the circumstances, I felt reluctant, hesitating whether to make up a package or not; but at the suggestion of Mr Collie, I concluded to do so. Another year they can mostly, if not all, be ready perhaps early enough for - say 10th October.”

The first parcel of seed sent to the Garden occurred in 1871, with importations continuing to 1884/85. The seed was either distributed, or germinated and seedlings distributed widely throughout the country. *Pinus radiata* seed weighing some 25.5 kg in total was received. For the full story of the plant importations, refer to Winsome Shepherd’s chapters in the Garden History 2.

The importance of the Botanic Garden *Pinus Radiata* Plantings

In the establishment of the *Pinus radiata* plantation industry in this country, recent studies have confirmed that some of the significant breeding stock used by the industry can be traced back to plants brought in and distributed through the Wellington Botanic Garden, with a number of the currently used breeding trees carrying DNA markers from specimens in the Garden. Professor Kellogg’s procedure of randomly collected seed from wild stock was a key feature of the establishment of this species, and we, and indeed all New Zealanders, should pause and thank this gentleman for his efforts. We can be certain that he would not have contemplated that the plants he forwarded would play such an important part in this country, and indeed throughout the world.

Pinus radiata is endemic to central coastal California coast. The northernmost stand is east of point Año Nuevo, the central stand, 48 km to the south near Monterey and Carmel, and the southernmost stand about 105 km away in the Pico Creek-Cambria area. In addition to these three separate populations there are a further two island stands off the coast of Baja California on the Isla Guadalupe and Cedros Island. These last two populations are now considered to comprise a distinct variety (*Pinus radiata* var. *binata*), and differ from the mainland form in having two-needled fascicles, whereas the usual form has three. It has been noted that the trees are generally unbranched from the Monterey plantations, but are highly branched from the Año Nuevo forest. The original seed was sourced from all areas, and both growth forms can be seen in our old Garden trees.

Habitat loss from urban encroachment and the fragmentation of stands remains the greatest threat to the native populations, which contain the genetic diversity of this widely planted

species. When the understory is cleared, the health of the pine forest as a whole suffers. Roads prevent the flow of genes and hinder range expansion. Like a lot of coastal California, condensation of the coastal fog provides an important moisture source; a decrease or change in the distribution of fog could reduce the amount of moisture the trees receive from fog drip. In addition, the reduction in natural fire frequency resulting from development has encouraged the spread of pathogens. All three of the remaining native stands of *var. radiata* are infected and under threat of extinction from pitch canker, a fungal disease native to the southeast United States and found (in 1986) to have been introduced to California. When trees begin to die of the disease, they attract bark beetles which provide a pathway for infection of other trees. In some stands, 80-90% of trees are infected.

Plant breeders often want to introduce new characteristics into their plants, and often this is best achieved by going back to the original species and making selection of the characteristics desired. As previously noted the native habitat stands are under pressure. Genetic mixing is also thought to be occurring, as modern trees have been breeding there with the native stock. Plant breeders are therefore uncertain that many of the Californian trees in fact contain original genetic material only. By contrast, the plants in the Wellington Botanic Garden were obtained from randomly selected stock, and those that have survived are genetically pure species. We therefore have a store of genetic material which is, and will

continue to be, valuable to plant geneticists, not only in this country but overseas as well.

In their native habitat the trees have an estimated natural life of only 30-50 years. Our trees are now over 130 years old, and many are showing their age. To preserve their valuable genetic material, a number have been vegetatively propagated through cuttings, and these are now growing in the Garden, and will be planted when established to ensure the survival of these trees for future generations, valuable not only to us because of their history, but for their diverse genetic material.

Next time you pass a radiata pine, give it a hug. You owe it and Professor Kellogg a special vote of thanks for the contribution made to the prosperity of this country, not to mention the unique vista the trees provide to our Garden.

Many individuals involved in the initial establishment of the Garden have been honoured by having a feature named after them (Hector, Ludlam, Buchanan, Bramley, Wakefield). Perhaps it is time to grant similar recognition to Professor Kellogg, he deserves it! The Kellogg Grove where the propagated *Pinus radiata* are planted, or by naming a path – e.g. the unnamed path off Pine Hill Path past *Pinus roxburghii*'s (not a Californian tree) towards Druid Hill and the other pines is also a possibility

Phil Tomlinson



Kellogg Paintings

A Plea from the Editor

It has been something of a daunting task to follow in the footsteps of your long-time editor, Charmaine Scott. She has been extraordinarily helpful to me as I seek to grapple with what for me are the challenges of seeking to come to grips with not only the content of this *Newsletter*, but also the complexities of word processing for a publication such as this. I thank her very much for her assistance, but also look to the

understanding of you, the readers, if this edition does not have the same professional look about it as previous ones. I promise to do better in future! And I will always very warmly welcome any articles that you might wish to contribute for inclusion in the *Newsletter*.

John Larkindale

Coming Events

Sunday 15 January, 11am Fragrance, flavour and physic

A Herb Garden walk that looks at the fragrant, medicinal, culinary and domestic uses of herbs. Meet at the Rose Garden fountain for this easy (with one uphill section) 90-minute walk.

Monday 23 January, 11 am Our botanical treasures

A tour of the Main Garden and its many treasures. Meet at the Founders' Entrance, for this easy 90-minute walk.

Sunday 19 February, 11am Insects, birds and plants

Hear about the relationship of birds and insects to some of the plants in the Garden. Meet at the Founders' Entrance for this moderate 90-minute walk.

Monday 27 February, 11 am Plants that changed the world

Some of the plants that we take for granted have shaped human civilisation and changed the history of the world. Meet in the Begonia House Foyer for this 90-minute moderately energetic walk, with some uphill sections.

Sunday 18 March, 11am West Way wonders

Ten trees and shrubs, each with an intriguing story. Meet at the Duck Pond for this moderate 90-minute walk.

Monday 26 March, 11 am I spy...

Ten plants beginning with the letter B. Join this moderate 90-minute walk to discover which ones they are and hear their stories. Meet at the Cable Car entrance to the Garden.

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