



Pukeiti NEWSLETTER

Pukeiti Rhododendron Trust Inc.

www.pukeiti.org.nz



R. 'Beverly McConnell'

Autumn has been and gone

This week winter officially begins – a warm wet one was promised, just a little different from the autumn of mixed fortune which was unsettled with warm days, interspersed with heavy rain and thunderstorms over much of the country, and even the occasional cyclone in places. As a result a flush of anticipated autumn colour was often reduced to wrinkled brown.

The new Vireya House though is looking great and drawing many compliments. It is well planted and colourful, with climbers beginning their journey up the metal framing, and vireyas settling in well and beginning to flower. As they fill out the vireyas will certainly provide the focus of this attractive addition to Pukeiti. Research

has shown that Pukeiti has one of the largest collections of vireya species world-wide, second only to the Edinburgh Botanical Garden.

The many hybrids, most originating in New Zealand and Australia, are a colourful feature and are also seen in many private gardens in late autumn and early winter, particularly in the north, brightening the landscape on a dull day.

The interior pond which will feature native freshwater fish from neighbouring streams, the walkway through the bush to view the waterwheel and the ferns are additional attractions, even in the rain.

The autumn began at Pukeiti with the Autumn Meeting of the Trust held in the Rata Room in the basement of the Rainforest Centre, formerly the Gatehouse,

and attended by over fifty members. The highlight of the occasion was a talk by Heather Robson on the recent trip to the Xinjiang Province of China. This trip was arranged and hosted by Professor Guan Kaiyun, formerly Director of the Kunming Botanical Institute and now Deputy Director of Science for the Province of Xinjiang. A long-time friend of Pukeiti who has overseen the approved introduction of the seeds of many rhododendron species into New Zealand, Guan will be our guest at the celebrations to mark completion of the new Lodge on Spring Members' Day (October 20).

continues

The Lodge is nearing completion: the steps, ramps, basement garages and gardens surrounding the building are yet to be finished. The furniture has been selected by the Members' Committee and we look forward to our occupation which has been secured with a lease from the TRC. As a result of the generosity of members a donation of \$200,000 has been made by the Trust for furniture and fittings.

The staff at Pukeiti has been fully stretched keeping the garden up-to-date while the construction work has progressed over several years. Once the area around the Lodge and lawn, which is still 'under development' and looks like a bomb site, is completed, a renewed emphasis will be placed on the maintenance of the rest of the garden and the collections to the highest of standards.

The Garden Forum, a group including Trust representatives Graham Smith and Alan Jellyman, established to advise on the gardens and collections, has a new brief. It meets every second month and works with the gardeners, each of whom has been allocated a specific zone in the gardens for which they have responsibility. Andrew Brooker also has the responsibility of the rhododendron collection, its maintenance and development. The outcome of the ex-situ species project, funded by the Trust, will assist in giving a new emphasis to some aspects of the collection policy.

Winter is coming and as usual the Mid-Winter Lunch will be a highlight of members' activities. This will be held at the Quality Hotel, but from October all our activities will be back at Pukeiti, the Lodge being the centre. A settled future is our goal and it needs your continued support.

The rhododendrons are showing plenty of bud so the spring should be a colourful and encouraging beginning to the next phase of the Trust's partnership with the TRC.

Lynn Bublitz



Colchicum giganteum a harbinger of Autumn at Pukeiti



R. fallacinum



R. konori

Vireya species at Pukeiti in the new Vireya House

Obituary



Brian trying out the furniture in the new Lodge.

BRIAN PALMER

Brian has been closely associated with the Pukeiti Rhododendron Trust for over twenty years, playing an important role in a number of activities, cheerfully and enthusiastically contributing his knowledge and experience. His quiet, contemplative, thoughtful and considered input into proceedings was always appreciated.

He served on the Trust Board for a number of years and his suggested by-line for the Trust, 'A garden for all Seasons', was adopted and became an important selling point to attract visitors throughout the year when the Trust was the owner and sole operator of Pukeiti. In those early years he was also involved in working bees - volunteer work in the gardens. His contribution earned him, by acclamation at an AGM, Life Membership of the Trust.

Later, Brian assumed the role of Chairman of the Members' Committee which was tasked to programme members' events, working bees, and arrange for volunteer helpers to assist the TRC staff particularly during the festival season.

Recently, simply as a member of that committee, his thoughtful considered input was pertinent and constructive. Although his active physical involvement was reduced he assisted with parking and on occasion drove the buggy taking visitors on a guided trip through the gardens. Just a fortnight ago with the other members of the committee he was at Pukeiti selecting furniture for the new Lodge.

Like that of so many others his contribution to the Pukeiti Rhododendron Trust, has enabled Pukeiti to become world renowned - a rhododendron garden in a unique rain forest setting.

Pukeiti is part of his legacy to the community in which he lived and served.

A Most Unwelcome South American Overstayer

It is just over a year since *Austropuccinia psidii*, myrtle rust, first arrived in mainland New Zealand.

Rusts are fungi which get their name because the myriad of spores they produce are rust coloured. These spores are very small and light and are easily dispersed by any air movement. Wind is the most common way the rust spreads. Myrtle rust thrives when the temperature is between 15 and 25 degrees, there is high humidity to keep the leaf surfaces moist and there is at least 6 hours of darkness. If conditions are perfect it can produce new spores in 10 days. Conversely, if it is too dry for the fungus to grow, the spores can last in the soil for up to 12 months.

Rusts are usually very precise as to which species they can infect, however the bright yellow pandemic strain we have in New Zealand can infect all the species in the entire Myrtaceae family. Of the over 6000 different species in the Myrtaceae family world-wide, myrtle rust has been found on 450 of them. New Zealand has over 30 species including pohutukawa, rata, manuka, ramarama and swamp maire as well as exotics such as feijoa, eucalypts and bottle brushes. Myrtle rust has generally been found on ramarama and pohutukawa but when writing this in April, it had been discovered on one manuka plant and on one swamp maire plant – both in nurseries.

Myrtle rust was first discovered in Brazil in the 1970s in plantations of eucalypts. From there it dispersed and it is now widespread in the Caribbean and Central America, California, China, Indonesia, New Caledonia, Hawaii, Australia and now New Zealand.

It is not known how the fungus first got to Australia 8 years ago, but once there it spread quickly and is now in all states except South and Western Australia and is well established in the native ecosystems of New South Wales and Queensland. It is of particular concern to Australians as there are over 2000 myrtle species native to the continent and they are the dominant plants in many of their native ecosystems. To date 350 species have been identified as hosts to the fungus and 45 of these are very susceptible to infection. Two species have been so heavily impacted they are now critically endangered.

Once it got to Australia, New Zealand scientists knew it was only a matter of time before it was discovered in New Zealand. Insects are blown across the Tasman so there was little possibility that, given time, the small myrtle rust spores would not also arrive in the same way. And there was a precedent – poplar rust became established in New Zealand after its spores were blown across the Tasman in the 1970s.

In May 2017, myrtle rust turned up in a Kerikeri nursery. This was soon followed by several infections in Taranaki. The Ministry of Primary Industries (MPI) knew that once the fungus arrived, there would be very little chance of eradicating it, but because it was discovered as winter was approaching and the temperatures were cooling they threw all their resources into

eradicating it before it could become widespread. With each new detection the MPI would send its teams in to remove and destroy all infected plants and to check the whole property, plus those surrounding it, for further signs of infection. At the end of 2017, the weather warmed up again, bringing the perfect sporulation conditions for the fungus and it was detected in more and more sites around the North Island. To date, over 600 properties, such as nurseries, parks and gardens have been infected and this number grows daily (e.g. In March this year a further 184 properties were identified as having the rust present). Since our last newsletter myrtle rust has been detected on ramarama at Pukeiti and on pohutukawa at Tupare.

This rapidity of spread showed eradication was not possible but MPI still worked to contain the disease and minimise its spread.

This year myrtle rust has been found, for the first time, in our native ecosystems. In February it was found in ramarama plants in the Mount Messenger wetlands and since then it has been found in 4 more native ecosystems in the Waikato, East Cape and Wellington regions. It has also crossed Cook Strait and established itself on the mainland in the Tasman region. In April MPI announced that “the wind-borne nature of the disease means containment has not been possible” and it has concluded that the spread of the fungus to yet more regions is inevitable.

We are going to have to live with myrtle rust. It is too soon to know what the long term effect will be in New Zealand. Even after 8 years, Australia is finding the immediate results of infection do not tell the whole story. Tender new growth is the most susceptible, so when canopy plants die as a result of repeated infections and the seedlings in the undergrowth start to grow, these are also quickly infected and die. Thus forest regeneration does not occur. On the positive side, Australia has found that there is resistance to myrtle rust at population level. Seeds collected from the same species at different locations can show vast differences in the number of individuals that show resistance.

In New Zealand, ramarama (*Lophomyrtus*) appears to be the most susceptible to infection and has been heavily impacted by the disease. Pohutukawa has also been impacted but evidence from Australia, described above, would suggest that it is variable in its response. The best case scenario is that there will be resistance to the disease in New Zealand populations that can be exploited. This is not straightforward as there is not a general breeding programme for native plants nor even good genetic data to assist scientists in the production of new resistant varieties. There is not expected to be wholesale extinction of species but there may well be localised extinctions, especially in susceptible species like

ramarama and in those warm, humid areas most conducive to fungal growth.

In the meantime MPI is frantically seed-banking native myrtles. The collected seeds are sent to the Indigenous Flora Seed Bank in Palmerston North, but the viability of the seeds in storage is unknown. Small seeds such as rata may not last and the large fruited seeds from swamp maire and ramarama die if they are dried out – the usual way of seed banking. This means that seed banking will have to be ongoing. Research is also being undertaken into germplasm conservation such as tissue culturing plants or embryos to future proof our biodiversity as best as is possible. New Zealand scientists are now working with Australian scientists to sequence the genome of the fungus. The aim is to find the genes responsible for causing disease and then to work out how to nullify their action.

The problem is the fungus is also evolving to future proof its own survival. Again we look to Australia for examples. In the Brisbane Botanic Gardens there are plants that have been free of myrtle rust for over 7 years but then suddenly have become infected and died. This suggests the fungus has adapted to exploit the local environment and the plants present, again illustrating that the initial impact of the fungus isn't necessarily the final one. It would also appear that myrtle rust is adapting to colder regions of Australia by producing spores at temperatures as low as 6 degrees.

MPI acknowledges that they can no longer stop the fungus spreading but there is no one-size-fits-all response to tackling new outbreaks. Should you find rust on a plant from the Myrtaceae family, you are asked not to touch it but to take a photo and ring the MPI hotline for further advice – 0800 80 99 66. The approach taken and the advice given will depend on your location and on which species has been affected.

New Zealanders, and especially gardeners, need to remain vigilant if we are to minimise the effects of this fungus on our native ecosystems, our gardens and our economy.

Heather Robson

References

The Ministry for Primary Industries website, mpi.govt.nz; NZ Plant producers Inc website, NZPPI.co.nz; A National Radio podcast, and a couple of Australian websites - www.environment.gov.au & CRC Plant Biosecurity website.



IF YOU SEE MYRTLE RUST, CALL US

0800 80 99 66

New Zealand Government
Ministry for Primary Industries
Manatū Ahu Matua
Department of Conservation
Te Kaitiaki Take Kōwhiri

From the Members' Committee,

VOLUNTEER INDUCTION DAY

On April 18 Adele, Greg and Andrew welcomed the 16 volunteers present and spoke briefly about Pukeiti, its facilities, the collection of rhododendrons it holds and the roles of volunteers at Pukeiti.

The gardeners at Pukeiti have now each been assigned an area of the garden for which they are responsible, so after the introduction, we set off to meet the staff, hear about what they do in their areas and the way we volunteers could be of assistance to them. There was no shortage of things they would like us to help with and the jobs varied from things like working in the office folding the garden leaflets, wandering round the garden checking that the current database of plants is accurate and that no plants have been added or removed without the database being updated accordingly, helping Wendy in the propagation area plus the usual tasks of garden maintenance and bush control.

By happy coincidence, the gardening and café teams were getting together that afternoon to sample new café menu items and have a BBQ, so Adele invited the volunteers present to join them. A lovely way to finish the afternoon.

The induction day was organised for the new volunteers only, as Adele presumed PRT volunteers had already been through something similar. Most have but it would have been many years ago and not under the TRC. By the time Adele realised it would be good to invite PRT members, she had time only to notify regular volunteers and so she organised another day in late May, and e-mailed local members about this. More days will be organised as the need arises so if you were not notified about either of these days, but would like to be involved in one, let Heather know and she'll work with Adele to organise another later in the year. As one member said, he has volunteered in the garden for nearly 25 years but there is always more to learn.

MID - WINTER LUNCH

SATURDAY, JUNE 23, 12 NOON

Following last year's very successful lunch in town we have decided to repeat the experience this year. We will again hold this function in the Orangery Conservatory at the Quality Hotel at a cost of \$30 per person. The board will provide a pre-lunch drink and after dinner we will have Doug Thompson giving us a talk on his trip to Bremen, Germany to the American Rhododendron Association Conference.

PLANT PROPAGATION DAY

WEDNESDAY, JULY 25, 9:30AM

Members, under the supervision of staff, will make cuttings and divide perennials. This is an excellent learning experience for those not used to propagating, and helps the staff produce plants for the gardens as well as for future members' plant sales.

SOUP AND ROLL DAY

SATURDAY, AUGUST 18, 9AM

Working Bee followed by Soup and Roll Lunch and Garden Walk. Come to the working bee, lunch and walk or just come to the lunch and walk – we'd love to see you at any stage. The people mover will be available to take you around if you can't walk and anyone needing transport only needs to contact Diane or Heather and we'll try to organise someone to bring you up.

WORKING BEES

The Pukeiti staff are still working hard to keep the gardens looking their best whilst also developing the new areas. The TRC welcomes any help with the garden that members can give. There are many activities we can assist with and you can choose one that suits your physical abilities and interests. The dates of the upcoming working bees are listed on the last page.



Luculia pinceana in the Pukeiti Drive

SPRING MEMBERS' DAY AND AGM

**SATURDAY, OCTOBER 20
(LABOUR WEEKEND)**

A very special date to keep free of other engagements because it is the day we will celebrate the new members' Lodge. From mid-morning till late afternoon the Lodge will be open for members to use. Our pot-luck lunch will be held there and there will be special speakers and other celebratory events. It is Labour Weekend and parking will be at a premium so the Board will make available a bus to transport members between New Plymouth and Pukeiti. After the AGM there will be guided walks of the garden. In the evening, harking back to times of old, there will be a formal dinner after which Professor Guan Kaiyun will be the guest speaker.

New Plymouth gets very busy at Labour Weekend and we are both expecting and hoping for many out of town members to attend. If you are one of these, I strongly suggest booking your accommodation at the earliest opportunity to avoid disappointment.

Final details will be published in the next newsletter.

PUKEITI STILL NEEDS YOUR HELP

Pukeiti is looking for more volunteers. We love having our regular Wednesday morning volunteers who are making a big difference in the garden. As the developments continue and the place gets more and more busy, it would be wonderful to have some more Pukeiti Rhododendron Trust members to help in the garden and in other areas too. Opportunities you may not be aware of include tour guiding, driving the mobility vehicle, biodiversity work and assisting with events. Gardening can be tailored to the individual's preference from 'grunt' work such as digging out grasses, seedlings and ferns to gentler deadheading and weeding in the garden and nursery.

Volunteering at Pukeiti is a great social activity and you don't need any particular experience as training and support will be provided. If you are passionate about New Zealand history and culture, gardening, our native biodiversity, or even just keen on meeting new people, please get in touch. Email regional.gardens@trc.govt.nz or phone Adele (our new gardens operations manager) on 0800 736 222 and come and join the team.

Pukeiti Rhododendron Trust Inc.



invites you to a

MID WINTER CHRISTMAS LUNCH



Saturday 23 June 2018
12.00noon, Orangery
Consevatory, Quality Hotel
Plymouth International

(Corner of Courtenay and Leach Streets, New Plymouth).

Cost \$30 per person (the three course meal includes a pre dinner drink on arrival).

RSVP to Anne Howard by 20th June, either by email pukeiti@pukeiti.com, or phone Mobile 021 083 15444. Bookings must be accompanied by payment - either by cheque to P O Box 1066, New Plymouth or by electronic banking to Bank a/c 15 3953 0497531 00 using your name and 'Lunch' as a reference. *If you have any special dietary requests please let us know when booking.*

Please invite a friend – they would be more than welcome.



Gift Membership Cards Available

Buy someone you love the gift of a year's membership to the Pukeiti Rhododendron Trust.

Gift membership also includes a free guided tour of the garden.

Just \$30!

Contact the secretary at pukeiti@pukeiti.com for more details.

Please mark these dates on your calendar

Members' Activities

2018

WORKING BEES

9am Start
meet at Propagation area

- SATURDAY JUNE 16
- WEDNESDAY JULY 25
- SATURDAY AUGUST 25
- WEDNESDAY SEPTEMBER 26
- SATURDAY OCTOBER 27
- WEDNESDAY NOVEMBER 28
- SATURDAY DECEMBER 22

Propagation Workshop

WEDNESDAY JULY 25 – 9:30AM

Meet in Propagation area. Propagating perennial plants.

Members' Committee Meetings

Tuesday September 04 – 9:30am - venue to be confirmed.
Tuesday November 20 – 9:30am - The Lodge

Board Meetings

Friday June 22 – 6:00pm
Saturday October 20 – 9:00am - The Lodge

MEETINGS

SATURDAY OCTOBER 20 IN THE LODGE
Spring Members' Day & AGM
Details later in the year

OTHER ACTIVITIES

SATURDAY JUNE 23

Mid-Winter Lunch

Please book by Wednesday, June 20
Details in this Newsletter

SATURDAY AUGUST 18 - 9AM

Soup and Roll Day Large-leaf Adventure

A walk around the Large-Leafed area followed by a lunch of soup and rolls in the Rata Room.

SUNDAY SEPTEMBER 23

Members' Garden Tour

A selection of members' gardens which are not normally part of the festival will be open for members to visit.

SATURDAY 03 - TUESDAY
06 NOVEMBER 2018

Rhododendron Conference - Nelson.

FRIDAY OCTOBER 26 –
SUNDAY NOVEMBER 04

2018 Taranaki Garden Spectacular – volunteers needed for assisting Pukeiti staff and hosting duties at The Lodge.

SATURDAY DECEMBER 15

End of Year BBQ

Details in the next Newsletter



Pukeiti

Pukeiti Rhododendron Trust Inc.



Taranaki Regional Council

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Location: 2290 Carrington Rd. RD4

Secretary: Anne Howard
Phone 021 0831 5444
pukeiti@pukeiti.com

Chairperson: Gordon Bailey
gordon.bailey@codc.govt.nz

www.pukeiti.org.nz
is worth a look!

TARANAKI REGIONAL COUNCIL

www.trc.govt.nz

Office hours	Mon-Fri 8am - 5pm	Environmental hotline	0800 736 222
Postal address	Private Bag 713, Stratford 4352	Regional gardens	regional.gardens@trc.govt.nz
Location	47 Cloten Road, Stratford 4332	Greg Rine	Phone: (06) 765 7127 Mobile: 027 240 2470
Phone	0800 736 222 (06) 765 7127	Andrew Brooker	Phone: (06) 765 7127 or Phone (06) 752 4141 Mobile 0210 264 4060
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