The New Zealand Rhododendron

Volume Eight 2020

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Email
secretary@rhododendron.org.nz

New Zealand Rhododendron Association

Rhododendron macabeanum at Pukeiti

REPORTS 2020

Your Board like the rest of the world had its plans dramatically altered in March. However, we have managed to carry on with most of our projects including:

- the *ex-situ* Rhododendron Conservation Project which continued to make progress with the Board supporting a Massey University PhD student who is undertaking research on the DNA make up of Maddenia rhododendrons. This is cutting-edge and world leading research. There have been several collection days at gardens around the country where plants of potentially endangered species have been identified. To support this work the Board signed off on the 5-year Rhododendron Conservation Plan. This plan sets the scene for the *ex-situ* conservation strategy for the next 5 years, including associated budgets and achievement milestones.
- work in the nursery area at Pukeiti where can be found the results of the various collection days undertaken to date. Many seedlings and cuttings are growing on for future distribution to selected sites and hopefully any surplus will be made available to members through the members' plant sale programme.
- that we are now into our second year of working with the TRC in supporting the work of the Collections Officer through a set of KPIs. Last year's KPIs were achieved and a new set agreed on for the current year. The Board has also agreed to extend its support for this work, so it can link in with the Collection Strategy.
- that our Patron Gordon Collier donated a large number of his personal book collection to the Trust. These are now on new shelves in the Lodge library. The Trust is very grateful for this donation.

We note that Basil Chamberlain has retired from his role of CEO for TRC. Basil is a great supporter of Pukeiti and was instrumental in the development of the long-term partnering agreement we have today between the Pukeiti Rhododendron Trust and the Taranaki Regional Council.

Finally, I must commend the Taranaki Regional Council for the way Pukeiti looks. Over the last few years there has been a significant concentration on upgrades to infrastructure in the garden. The bulk of that is now completed and significant work has now begun in the garden itself. The Valley of the Giants has been cleared and is the best it has ever looked. Other areas are being cleared in preparation for receiving plants from The *ex-situ* Conservation Project. The garden is well worth a visit at any time of the year.

Gordon Bailey - Chairman
Pukeiti Rhododendron Trust

On checking records, it seems history has been made in 2020 with the cancellation of the NZRA Conference, the first time in 76 years. NZRA Council made the decision to cancel in the interests of member's health and the unpredictability of the Covid-19 virus.

During weeks of lockdown many people spent a lot more time in their gardens than they would have under normal circumstances. As a result, plant nurseries have experienced unprecedented demand for all genera, with many lines sold out. Those seeking certain varieties of rhododendron are finding they are unobtainable NZ wide, species especially so. Covid-19 cannot be blamed entirely for this situation. The major cause is the diminishing number of specialist nurseries and large wholesale nurseries choosing to reduce the number of varieties they propagate. Just at a time when there seems to be a resurgence of demand for rhododendrons, choices are limited, which is disappointing.

Andrew Brooker is now the Ward 2 representative on Council and this arrangement has enhanced the NZRA/Pukeiti relationship even more. Andrew, Sue Davies/Gardiner and Marion McKay continue to work together in the interests of rhododendron species conservation while Lindsay Davies and a small team work on identifying and propagating endangered NZ hybrids.

For an organization to survive and prosper, Council is aware they must make changes and move with the times. NZRA has endeavoured to do this in several ways.

- During a discussion as to how to attract new members it was suggested the word 'conference' does not sound appealing to young folk. After much soul searching the word 'Rhodenza' was coined. We all need to make a conscious effort to use the name Rhodenza if this re-branding is to have the desired effect.
- Council continues to promote the NZRA Facebook page, ably managed by Sue Davies/ Gardiner. This helps put our organization on the world stage.
- On the recommendation of Andrew Brooker, NZRA is working on Corporate Membership, the aim being to attract younger members such as those working in Parks and Reserves Departments for local Councils. The Rhododendron, Camellia and Magnolia branch of the RHS has used this scheme to great effect.

Although most of the regular attendees at our annual Rhodenza will not be getting together this year, our excellent publications in the form of three Newsletters and 'The New Zealand Rhododendron' help keep us united and well informed.

As we put 2020 behind us we look forward to returning to New Plymouth for Rhodenza 2021. The organizing committee have an interesting programme in the planning. Especially exciting is the opportunity to view the amazing developments that have been happening at Pukeiti over recent years.

Joy O'Keefe - President - New Zealand Rhododendron Association Inc.

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Front Cover
R. longipes at Tannock Glenn,
Dunedin, New Zealand

The New Zealand Rhododendron *Volume Eight 2020*

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INTRODUCTION

INTERESTING TIMES

Lynn Bublitz

What a challenging year this has been. Covid-19 has hung over us like an ominous dark cloud threatening doom. Many events have had to be cancelled. Gardens and gardening, though, have offered some solace for many and a positive path to more settled times. While not regarded by the officials as an essential industry, gardening certainly played a part in increasing the well-being of many during lock-down periods. This was well demonstrated when garden centres reopened: they were rushed, their shelves stripped of plants, particularly vegetables, which could not easily be replaced as many nurseries were forced to close down, or carry out only limited functions, and could not raise further batches of seedlings. The boom of purchasing plants has continued well into the spring.

We are a nation of gardeners and plant lovers, 'tree huggers' even, and despite contrary views most care for the environment. After all we are a part of the web of life for which green plants are the lungs. Gardens and gardeners are a feature of this edition of the Journal and their commitment to tending and making gardens, growing plants they love, is seen in many who care just as much for the natural environment as they do for their gardens.

Garden visit during the Taranaki Garden Festival

To properly care for this environment, of which we are all part, conservation and the understanding of the importance of biodiversity and its protection, is critical. Rhododendrons, bright stars of the spring garden, are part of this biodiversity. Over many years collectors, having roamed often inaccessible parts of the globe, have introduced new rhododendrons, because of their beauty and sometimes rarity, to the gardening world. Many gardeners, like stamp collectors, want the newest and rarest of types. As a consequence many of the rare species, some of which are now endangered in the wild, found their way to New Zealand. Botanists red-list these to signal their need of protection.

Plants cultivated not in their natural habitat, and often in a different country, are defined as growing in an *ex-situ* environment. In an endeavour to conserve these sometimes rare and endangered species, the Pukeiti Rhododendron Trust has launched The *ex-situ* Conservation Project. To ensure a species is not lost, growing a single plant, even a clone of one individual, is inadequate. A population of a variety of forms of the species is needed. Over the last few years the team of researchers, headed by Dr Marion Mackay has travelled the country identifying species growing in various gardens and recording their origin if known, i.e. who collected them and where they came from. Key to understanding variation within a species is finding examples collected from different locations within their natural habitat range.

Much of this basic work has been done and the next step is to propagate and grow on the various forms of a species collected from different parts of their range, ensuring that a species is not lost and the biodiversity is not diminished. One day rare plants extinct in their natural habitat could be returned to that natural habitat, or at least to their country of origin.

Many gardeners are bewildered by species' name changes proposed by botanists, as their research has brought to light new evidence requiring similar species to be considered as one, or for a so-called single species to be separated into two or more species. Knowing whether a plant is a variety of a species or a different species is critical to its conservation. Knowing its DNA is another tool used in determining this.

The Maddenia group of rhododendrons is a well-known series which has a number of species which to some botanists are distinct, while others consider some of them to be variants of a single species. To further complicate this, some plants collected in the wild and thought to be different species are simply hybrids. Studying the DNA of Maddenia rhododendrons is a new step for science. Ling Hu, studying for a PhD at Massey University on a part scholarship from the Chinese Academy of Science and also supported by Massey University and the Pukeiti Rhododendron Trust is under-taking the DNA analysis of Maddenia species growing in New Zealand. Most naturally grow in the Yunnan province in China.

Fortunately Ling Hu arrived just before lockdown and now under the supervision of Dr Marion Mackay and Dr Sue Davies/Gardiner is on the road to finding the DNA of the species within this group - a world first.

The Trust is grateful for the valuable support it has received for these innovative projects. Critical to the role is the TRC, Greg Rine, Andrew Brooker, the Collections and Project Officer and the field help given by Doug Thomson, Graham Smith and Peter Catt.

There is still a good deal of work to be done.

Your continued support would be appreciated.

CROSS HILLS
THE WILSON FAMILY'S LEGACY

Lynn Bublitz

R. yakushimanum standards

Eric Wilson came to Kimbolton to build a home for his sister. An experienced timber-worker he milled local rimu and shaped the timber for the house. He brought with him too, engineering skills and nursery knowledge, the latter learned from his brother, Don, who owned Wilson's Nursery in Hastings. One of the propagating skills learned was budding Golden Queen peaches, the mainstay of the Watties canning industry which was also the first to import asparagus for commercial cropping. While building, Eric was rather taken with the Kimbolton area and in 1938 purchased a 600 acre sheep farm, addimng a further 100 acres at a later date, which was purchased from his father-in-law. He named the property Cross Hills.

Eric and Merle Wilson

In 1950 he built the homestead on the present site using timber milled from a small block of bush on the farm, and heart–timber studs from other demolished buildings, laid out the grounds and planted trees including woodlots of macrocarpas. He also established an orchard with a range of fruit trees, including some older varieties, supplied by brother Don, and on a northern slope, adjoining the house a 'Chinese Gooseberry' patch was planted. The crop was poor and the fruit small. After some thought the vines were removed and the hillside planted in rhododendrons sourced again from Wilson's Nursery and Duncan and Davies. The plant selection was no doubt assisted by Merle, his wife who continued to support the rhododendron venture throughout her life. Those early rhododendrons include 'Sappho', 'Bagshot Ruby', 'Fatuosum Plenum', 'Unknown Warrior', 'Loderi King George' and of course 'Pink Pearl', the favorite of the day. Still, every spring, this early planting produces an outstanding show viewed from the windows of the house, now somewhat altered. They cemented a life-long passion for rhododendrons.

Eric, using earlier learned skills began propagating rhododendrons for his own interest and giving plants to friends, other growers and collectors - an increasing group of rhododendron enthusiasts. His collection expanded and so did the garden. This was the beginning of Cross Hills rhododendron and azalea business. As well his forestry

R. 'Eric's Triumph'

interests led to trialing woodlots of, in particular macrocarpas. And of course there was still the farm, the main income provider, to tend. Two further properties were purchased and sons Graham and Rodney farmed these.

But still remembered are car loads of rhododendron plants being brought home. Plants were imported too. The requirements of the time were far less strict than now and consignments arrived from USA, Germany and famous nurseries in England, notably Millais and Exbury. The Exbury consignment included a range of Azalea mollis varieties. This group soon became favourites and planted 'en-masse' at Cross Hills are breathtaking. Hybridisation was called for and a number of new Mollis varieties have been raised and subsequently named. Eric's early nursery experience paid off

Rodney and Faith Wilson

Rodney tending standard scions

and again was further extended into grafting which at that time was extensively used in the propagation of rhododendrons, with *R.* 'Elegans' the chosen rootstock. Now most rhododendrons offered for sale are cutting grown although grafting is still used for a number of those difficult to propagate, or for special effects. The standard rhododendrons are an example. Eric, growing on rooted cuttings of *R.* 'Elegans', trained them to a height of 1m, removed the side growths, and so established a standard rootstock on which to graft scions. Among his first was *R.* 'Elizabeth' and this standardized plant still grows in front of the house. Standardised rhododendrons, particularly *R. yakushimanum*, are still a feature of the nursery.

During this time the family was growing up and Rodney as a school boy caught the rhododendron bug, learned propagating techniques from his father. On leaving school in 1964 he joined his brother Graham to work on the 'farm'.

Graham's interest was in the stock. Rodney's was in the rhododendrons and he worked closely with his father. The garden flourished, swallowed up the old orchard, and extended over the hill beyond the house in 1972 taking up one of the hay paddocks. In 1982 the Azalea Bowl was created; 1990 saw the finish of the waterfall and pools below the Clematis Bank. This was the last big project Eric worked on before he died in 1992. The garden now covers 7 hectares in which over 2000 different varieties of rhododendrons, including azaleas, are displayed.

The garden in the early years attracted many visitors, particularly rhododendron enthusiasts with whom Eric worked to establish the Rhododendron Association garden, Heritage Park, down the road from Cross Hills.

Cross Hills in 1970, was the first private garden in New Zealand to be opened which charged an entrance fee. A cafe was built in 1986, the nursery was well established and plants sold. The first catalogue was printed in 1972. Still produced, and now on line, the 2020 catalogue lists 230 hybrids and 24 species rhododendrons, 61 evergreen and 65 deciduous azaleas. Varying from most nurseries today, the plants are field grown.

The family involvement was further enhanced when in 1972 Rodney married Faith who has played a hands-on supportive role in the Cross Hills rhododendron business ever since. Scott, their son, now has responsibility for both the farm and the nursery and his wife, Angela, masterminds the annual Country Fair held at the height of the rhododendron season on the 3rd Saturday in November. Their daughter, Rachael, a graphic designer, had a role in the layout of the early catalogues. The office administration has been the responsibility of Margaret Sargent for over 35 years and she can be considered part of the 'Cross Hills family'. Scott and Angela's two boys Henry and Eddie are beginning to show interest too, so perhaps the rhododendron bug has been inherited and Cross Hills will continue through another generation.

Cross Hills' influence is still expanding. Eddie Welsh, a Palmerston North horticulturist and garden designer was so taken with the display of rhododendrons at the height of the season that he initiated the idea of displaying rhododendrons in the 'Gardens by the Bay' in Singapore. The 10 hectare Nature Park on reclaimed land is similar to the Eden Project in the UK and is the largest and most spectacular of modern public gardens to show-case the world's range of ornamental plants in climate controlled tropical, temperate and desert environments under enormous domes. They were built to attract both locals and tourists, further promoting Singapore's image as a 'city in a garden' by exhibiting seasonal garden displays which change every few months throughout the year. Tulips and dahlias have been among those shown, so Eddie Welsh's idea of displaying rhododendrons was agreed to and he set about assisting in the design of the project.

There have been two rhododendron displays in 2018 and 2019. The challenge was to source plants which would perform on schedule and look spectacular in the Flower Dome. A lot of the 700 plants including 70 standard rhododendrons, a number over 3m in height, were sourced from Cross Hills Nursery. Others came from Kilmarnock Nursery and along with maples and hostas were loaded into shipping containers kept dark and at six degrees centigrade and shipped to Singapore, a three week journey. Chosen for their flower colour and growth form, and including

Cuttings in macrocarpa boxes

Standard *R. yakushimanum* ready for sale

A row of standards at Cross Hills

R. 'Cross Hills Frills'

R. 'Eric's Surprise'

R. 'Cross Hills Fiesta'

R. 'Danella'

R. 'Cross Hills Sunset'

R. 'Rachael'

R. 'Crosshills Royale'

R. 'Eric's Triumph'

Garden walk

Waterfall

title

The deciduous Azalea Bowl

Floral and Cloud Forest Domes, Gardens by the Bay, Singapore

Scott Wilson - Rhododendron display, Floral Dome

favourites such as ‘Lem’s Cameo’ and ‘Percy Wiseman’ they were unloaded and arranged in predetermined positions. In 2018 Rodney and Faith arrived in Singapore to a magnificent display of their plants, mostly in flower. The sight of a long queue of people lining up for ‘selfies’ in front of rhododendrons all the way from Kimbolton was a very proud moment. The display the next year, visited by Scott and Angela, was even larger. In accordance with practice when the flowering was over the displays were dismantled and the plants destroyed.

Back at Cross Hills an ideal climate and soil at an altitude of 540m ensures a winter cold spell essential for the flowering of many plants and has enabled a breath-taking display during the main flowering season, October and November when the deciduous azaleas are also at their best. In other times of the year the gardens are still worth a visit. Hydrangeas, dahlias, cardiocrinums and other perennials, set among maples, oaks, conifers and beeches add to the attraction of this extensive garden, part in a woodland setting. The gardens are open from September to May. The nursery production continues supplying the Plant Centre, open from June to November inclusive, and the mail order catalogue. Scions are rooted in boxes made from macrocarpas milled on the site from trees originally planted by Eric. The wood is untreated ensuring healthy rooting of the scions. Some are still grown on for grafting, now one of Rodney’s particular talents, especially for standard rhododendrons which are becoming increasingly popular. There are over 30 different varieties available. A number of *R.*'County of York' and *R.* 'Cunningham's White' yearlings have been donated to Heritage Park and Pukeiti to allow species, endangered and difficult to propagate and identified in the *ex-situ* conservation project, to be grown for later distribution. Thus, in addition to the collection of species grown, Cross Hills is also playing a part in the conservation of rhododendron species.

A visit to Cross Hills is a must for all gardeners, especially rhododendron enthusiasts. While there why not also pay a visit to Heritage Park, the garden established by the Rhododendron Association?

Rhododendrons from Cross Hills displayed

PHOTO CALL

Martin Wilkie

Rhododendron 'Walport', Fendalton, Christchurch

Good quality images of plants generally, and of rhododendrons in particular, are a pleasure and a resource. They can be a memory bank for informing the process of landscape design, a practical reference for the horticulturist, and an inspiration for the writer. With an overlapping focus in these three areas, I try to take photographs often, and refer to them regularly. An effective image showing the character of a rhododendron's flower, foliage and surroundings truly does 'paint a thousand words'. It can spark a free-ranging train of thought with many useful connections—always helpful when considering the most appropriate rhododendron(s) and associated plants for a situation.

Most of my experience with plants has been in the South Island, however a few years living in Taranaki and past visits to Hawkes Bay, Gisborne, Wellington and north to Taihape have offered a glimpse of the environment in these areas and a basic sense of the kinds of rhododendron which thrive in the local conditions.

Editor Lynn Bublitz's thoughtful comments in the introduction to *NZ Rhododendron 2019* about choosing the right rhododendrons reflect many of the increasingly noticeable effects of climate change, both subtle and dramatic that we see on the Canterbury Plains and peninsula. As a traditionally drought prone area with cold winters, in the last few decades there have been lighter frosts, unpredictable changes to long-term wind and precipitation patterns, fewer snowfalls, and an increase in diseases and certain insect pests, including thrips and mites. Once a minor issue, their effects are now a real problem on a much wider range of hybrid rhododendrons and other evergreens, including *Pieris*, laurels, viburnums and daphne.

Lynn noted that there are varieties of rhododendron we can choose which are more resistant to these problems, and as a landscape designer it is an ongoing learning process looking for fresh and creative ways to incorporate well-chosen plants into the landscape, responding to specific sites and changes to the environment.

Rhododendron pachysanthum

Five years ago this fine species found a home in my own garden soil after traveling with me in containers for several years. I had bought three plants from Cross Hills Nursery, after becoming more familiar with them in a friend's beautiful garden just off Memorial Avenue. She had superb examples of many rhododendron species, carefully placed within the overall symmetrical framework of the garden's trees, herbaceous perennials and open lawn spaces.

The original subsoil was far from ideal, a layer of dense bluish clay which was a challenge to work with, but limited the damage to the house and garden during the period of the Canterbury earthquakes. To make it more hospitable, during the twenty-two years of the garden's development every planting hole was prepared with fine bark chip and home-made compost, and new plants were settled in just proud of the original soil level. A network of bark pathways led from the house terrace around the central

symmetrical lawns and down to a boundary stream. Composted bark was ideal as a clean and pleasant surface underfoot, and we developed an annual routine of raking the top layer into the nearby gardens, then spreading fresh bark on the paths. Over time a thick layer of free-draining slightly acid organic matter developed, in which the rhododendrons thrived along with *Fothergilla*, *Loropetalum*, *Styrax*, and *Enkianthus*. Three plants of *R. pachysanthum* next to the northwest boundary had plenty of light but a cool root run, their roots shaded by the fence in summer afternoons. By the early 2010s they were nearly 1.8m / 6ft tall and needed only light trimming to encourage a natural open form. Pure white blooms of tree peony 'Renkaki' and *R.* 'Helen Gordon' nearby were almost spot-lit by morning sun against the darker background of the rhododendrons.

The species' natural habitat is the mountains of Central Taiwan, in grassy meadows and full exposure above the tree line. Dense indumentum (meaning 'garment' in new Latin, a term coined in the mid-1800s from the classical Latin *induere*, to put on) provides thermal insulation, maintains a humidity gradient close to the leaf surface, and repels liquid water to protect new tissue from the effects of freezing and thawing. This rhododendron is known for its spectacular new leaves: intensely silver indumentum to reflect harsh visible glare and heat, changing a few weeks later to rich rusty brown. The pigments expressing this colour selectively absorb harmful blue and ultraviolet light like a broad-spectrum sunscreen.

A successful hybrid with the obvious candidate *R. yakushimanum* is 'Walport', with silvery indumentum and a strong constitution here in Canterbury. Opening buds are a slightly alarming shade of pink at first but they soon develop into attractive apple-blossom pink flowers, tending towards *R. yakushimanum*, and the new leaves are attractive too, creamy coloured rather than rusty.

Another friend who until quite recently had a large streamside garden opposite St Barnabas' Church, planted *R. pachysanthum* and closely related hybrids in light shade under a feature

Rhododendron 'Walport'

R. pachysanthum, new foliage

R. pachysanthum

R. augustinii 'Medlicott' among flax and other native plants

Silver Pear tree. This formed an inspired combination of silver, cream, and grey-blue foliage: rhododendrons 'Walport' and *R.* 'Yak Preyii', *Hosta* 'Halcyon' with mauve purple flowers, and a carpet of Lamb's Ears *Stachys lantana* in the foreground. The *Stachys* tended to thin out even in the light shade, so we regularly lifted, divided and fed them to maintain the effect. Hardy perennial *Digitalis grandiflora* completed the combination. Cool butter-yellow spires to 60cm / 2ft, flowering in summer with the hostas.

A third gardening friend in Christchurch has three *R. pachysanthum* near the top of her sloping property in Cashmere. Conventional wisdom once held that these northwest facing slopes with dense loess clay over basalt were not rhododendron country. During the early development of this garden in 1998 however we found that an area of the upper garden was free draining shingle, probably relating to the original road construction, and more importantly, faced southwest. Rhododendrons would receive plenty of light but the sun would shine across the slope, not directly at it. Three plants of *R. pachysanthum* again from Cross Hills, were my first choice, and were joined by *R. fulvum,* 'Maureen', *R. roxieanum* var. *oreonastes,* 'Dalkeith', 'John Bull', 'Countess of Haddington', and *R. maddenii.* Over twenty years later the three *R. pachysanthum* have formed broad drifts of foliage, within easy reach. The leaves feel like suede to the touch. During heavy snowfalls in the past, my friend and her husband would carefully brush accumulating snow from the branches to prevent possible damage. Heritage Park at Kimbolton, later on in 2007 also had attractive plants of this species labelled 'BDM 192 – 98', whose foliage had a distinctive layered pattern.

Rhododendron augustinii 'Medlicott'

This mid-20th Century selection by Reginald and Nancye Medlicott in Dunedin brings to mind a comment I heard recently describing a clearing sky after heavy showers: 'Enough blue to make a sailor's jacket'—it is not smothered in flower, and I think presents itself more gracefully as a result. It has an upright reasonably compact habit with fresh green willow-like leaves, not unlike Himalayan daphne *D. bholua,* and small trusses of smoky blue flowers with a green throat. In full sun the upper surface of the leaves become quite purplish, and it is particularly effective in groups alongside New Zealand native flowering shrubs, such as *Muehlenbeckia astonii*, *Olearia cheesmanii, Astelia*, Kakabeak *Clianthus,* and ferns. Overall habit, foliage and flower are quite distinctive and to my eye look at home among our native flora. 'Medlicott' does not seem to be quite as drought tolerant as some other species and hybrids mentioned below—under exposure its leaves point downward—but it is adaptable, and responds to additional mulch and shading at the roots. *Rhododendron* 'Platinum Ice' is a Jury hybrid from this species (*augustinii* x *maddenii*) with flowers an elusive shade of pale lavender, and it would be interesting to confirm whether this plant has a degree of heat and drought tolerance brought in through the *maddenii* genes, further explored below.

One of the most heat and drought tolerant rhododendrons in my experience is *R. maddenii* ssp.

R. 'Yvonne Scott'

crassum—it seems even more at home among New Zealand native plants, and in open relatively drier conditions. The alabaster white scented flowers and dark green leaves are set off very effectively by *Muehlenbeckia astonii* and orange/buff coloured sedge *Carex testacea.* I could imagine a group of these rhododendrons rising dramatically from a mass planting of tall red tussock *Chionochloa rubra.* An actual combination of rhododendrons and grasses photographed at Larnach Castle gives a sense of how different textures can work very well together eg. *R.* 'Golden Witt' and *R. johnstoneanum* associated with native tussocks and flax cultivars.

Rhododendron dalhousiae

The photograph of this species flowering at Tannock Glen has captured something of the weight and substance of the flower, which has a luxurious rumpled quality when it first opens, and quite a greenish yellow hue with good scent. Used extensively for breeding purposes it appears in the provenance of some familiar classics including 'Countess of Haddington', 'Eric's Triumph', 'Yvonne Scott', 'Floral Gift', 'Silent Shadows' and 'Michael's Pride'.

The plant at Tannock Glen has a typical wandery habit—*Rhododendron Species* Cox & Cox describes it as leggy and untidy, which is perhaps a little harsh. Once the eye becomes familiar with the loose branching structure it has its own charm, and other plants with large loose flowers on lax stems such as 'Lady Dorothy Ella' can develop into a similar shape in shade.

R. dalhousiae has the reputation of being relatively tender, and certainly needs good frost drainage and

R. lindleyi 'Kingdon Ward Form' bud

R. 'Bernice'

protection by surrounding foliage. A healthy plant at Bruce and Fiona Will's beautiful Trelinnoe Park in 2007 was tucked into a bank of other evergreen trees and shrubs on a warm aspect.

The Dunedin plant is similarly surrounded by foliage, and it must also be able to manage a certain amount of snow in most southern winters. The flower's greenish tinge when just opening is evident in the hybrid 'Eric's Triumph' (*dalhousiae* x *nuttallii* x *lindleyi*) and even more so in 'Yvonne Scott', from the same gene pool. This scented hybrid opens fully to a completely lime green flower, which lightens to creamy white in a few days but still keeps a green throat. A plant grew in my friend's garden near St Barnabas' church mentioned previously, it had the benefit of the nearby stream which protected other tender species in harsh winters, such as *R. lindleyi* 'Ward Form' a pristine white. The intricately opening buds of all these three species and closely related cultivars are as much a *tour de force* as the ultimate flowering spectacle, and repay close attention.

Rhododendron 'Bernice'

This handsome plant is one of a group of Jury hybrids from Taranaki which have *R. polyandrum* as a parent, and which I've found do particularly well in the warmer drier hill suburbs of Christchurch including Scarborough, Redcliffs, Mt Pleasant, Huntsbury, Cashmere, and Halswell. They also thrive in the sheltered rhododendron collection at Orton Bradley Park on Lyttelton Harbour, which can reach temperatures into the 30s in mid-summer. The flip side of this advantage is that a hard frost (minus 5 degrees Celsius) on the Plains can kill the dormant flower buds, but the plant itself usually escapes significant damage. These plants were selected to be more heat tolerant than cold climate rhododendrons, and to maintain healthy foliage against insect pests such as thrips and mites. Some of the (arguably) most successful are selections from *polyandrum* and 'Sirius', which itself has the notably heat and drought tolerant parent *R. maddenii* ssp. *crassum* mentioned earlier. These hybrids include 'Felicity Fair', 'Katie', 'Moon Orchid' and 'Barbara Jury'. 'Floral Gift' has 'Michael's Pride' as the second parent, and 'Bernice' has 'Royal Flush Townhill' (*cinnabarinum* x *maddenii*). There's a clear thread of *maddenii* and *polyandrum* through these selections, and I include the Jury selection 'Platinum Ice' (*augustinii* x *maddenii*) for this reason.

I've been pleased to recommend these plants to clients, or buy them myself as part of a planting design—often from Joy and Bernie O'Keefe at Woodbury here in Canterbury. After working with the hybrids and parent species in the Christchurch environment for decades, it's possible to recognise the foliage in a mass of nursery plants, or in a mature garden. They tend to be willowy & with a more natural open habit; a bit louche—unconventional & appealing. Apart from their tolerance of drought and heat (some are capable of surviving a Canterbury summer on the hill in light shade and with only minimal additional watering, although this is obviously not ideal) their flowers have an attractive sweet and spicy scent, good substance and a relaxed truss.

Mature plants seem to come away enthusiastically after hard pruning and subsequent deep watering, if necessary for transplanting or reshaping after damage. I often hesitate to do more

R. 'Katie'

than take out weak or broken internal or lower branches, as given time and space these rhododendrons will comfortably reach 2.5m tall with some nearly as wide, and can be pruned to make graceful small trees. Their softer flower colours and healthy leaves associate well with the light silvery foliage of olive trees—'El Greco' is an excellent bushy ornamental variety with finer leaves—and *Grevillea victoriae,* and with other suitable shrubs and perennials in warm, well drained areas.

Ways and means

Rhododendron pachysanthum is an example of an adaptable species with dense indumentum, native to alpine grassland and more open and exposed habitats. Along with *R. yakushimanum* and near hybrids which retain at least some indumentum, these plants are less attractive to thrips and have a better chance of staying healthy in our east coast summers, assuming average garden irrigation in extremely dry conditions, and some shade. Mention 'woodland' and images of cool shady spaces under northern hemisphere deciduous trees naturally come to mind—perfect for cold climate and damp forest habitat rhododendrons. However Mediterranean-type woodland with tough evergreen trees for shade and a moderately drier, warmer environment is a better horticultural fit to the present Canterbury summer and autumn, and possible future environments around New Zealand. Relatively heat-tolerant rhododendron species and hybrids mentioned, including *R. maddenii, R. maddenii* ssp. *crassum, polyandrum, johnstoneanum, R. johnstoneanum* 'Ken Burns, 'Katie', 'Bernice' and 'Barbara Jury' are more forgiving, and can be successfully established under olive trees here. Olives have a deep root system so can be cultivated right up to their trunks, and their foliage is easily thinned to manage density of shade.

Thorough spraying (including stems, trunk and under the leaves) with Conqueror oil at 10ml per litre of clean water—no higher—in cool early morning or overcast conditions is one of the best eco-friendly way to control thrips and mites on smooth-leafed rhododendrons and other evergreens. Copper powder added to the oil spray mix at recommended rates and shaken well will control sooty fungal residue too. A three-weekly spray of this combination through December to April usually gives good control, and there will be progressively less of an issue in future seasons.

Most rhododendrons do appreciate some light overhead shade, however if their roots are mulched and kept cool many will tolerate longer periods of direct sun. Species such as *R. pachysanthum, decorum* and *augustinii* grow naturally in more or less open habitat, and so they and their near hybrids are a good place to start. Not every garden has space for even small deciduous trees, so it is worth considering upright deciduous flowering shrubs instead, such as *Hamamelis*, *Chimonanthus* and *Corylopsis*.

Another way to provide shade,

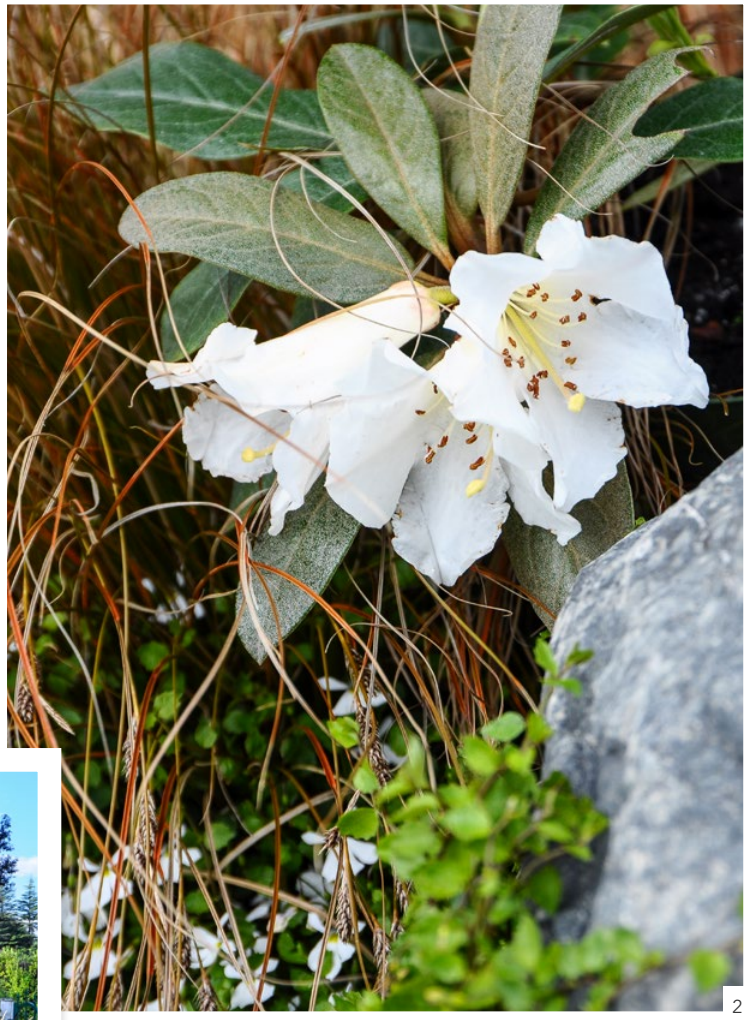
R. lindleyi 'Kingdon Ward Form'

considering that significant numbers of rhododendron species live on forest margins or open grassland, is to use North American prairie grasses. These are becoming more easily available in New Zealand after decades of public and private planting in the United States, United Kingdom and mainland Europe by designers such as Piet Oudolf. Reliable perennials, they have long-lasting attractive flowers over tall upright stems to around 1.5m, above lush clump-forming foliage. They're typically cut down to just above ground level in late winter and mulched, as for herbaceous peonies or delphiniums, and begin to grow again in early September. They can be used as seasonal living sunshades next to small and medium sized rhododendrons in the hottest months of summer, and to maintain cool soil conditions for larger plants—established just outside the rhododendron's drip line. One of the best examples is *Calamagrostis* x *acutiflora* 'Karl Foerster' Feather Reed grass, which is as effective in a formal landscape design as in more naturalistic plantings. In my own garden these grasses are set out in a square 'matrix' grid within a courtyard space, making an attractive 'urban meadow' in summer in association with Goat's Beard *Aruncus*. These two perennials together effectively shade the soil around lilies, *Astilbe, Persicaria amplexicaulis* 'Alba', *Epimedium grandiflorum* 'Rose Queen', herbaceous peony 'Krinkled White', *Rhododendron pachysanthum* and large-leafed hosta 'Powder Blue'.

This style of planting with rhododendrons is of course not for everyone, but it does offer a fresh alternative for those garden landscapes in parts of New Zealand which may find it more challenging to provide the classic environment of dappled overhead shade, free drainage and abundant water. Taking photographs can certainly build up a visual record of what works and what doesn't in our own gardens—and helps to get a better grasp of the bigger picture.

R. 'Platinum Ice'

1



2

3

1) Tree peony 'Renkaki' and *R.* 'Helen Gordon'
2) *R. maddenii* ssp. *crassum* among *Carex testacea* and other native plants
3) *Calamagrostis* x *acutiflora* 'Karl Foerster' Feather Reed grass
4) *Fothergilla major*
5) *R.* 'Golden Witt' among native tussocks and flaxes, Larnach Castle, Dunedin

Images 1-4 photographed in various Christchurch gardens

4

5

R. 'Spring Dance', Tannock Glen

LEARNING FROM THE PAST

Gretchen Henderson

At 'Tannock Glen', the Dunedin Rhododendron Group's garden, a lawn-mowing volunteer became concerned about the vertical drop at the lower edge of the main sloping lawn. There is about a 75cm drop to the driveway so for safety we sprayed off a 60cm wide strip, which then needed to be planted. We wanted something low for this long border to keep the open aspect, and a plant material that harmonised with the atmosphere of the Group's rhododendron collection.

Garden volunteers are not enthusiastic about weeding, and herbaceous perennials are usually high maintenance. We wanted an evergreen shrub just high enough to suppress new weed germination without growing too wide. The soil was heavy damp clay and not suitable for alpines. We also preferred a modest financial outlay because the Group does not own the land, and the future of the garden is not guaranteed given a fall in membership. Therefore the availability of tiny plants in pots or root-trainers was significant.

Our choice was *Leucothoe fontanesiana* 'Crimson Globe' which we could source in bulk from Blue Mountain Nurseries, West Otago. In this open position in damp ground the foliage gains the interest of reddish-purple tinges, is dense, but not too formal in appearance when planted in a long line. The flowers are subtle and do not distract or clash with rhododendrons. Having used this plant sourced from Blue Mountain Nurseries, in groups in our own private garden through the years, we knew that every few years it could be clipped back if desired, with no harm, and kept to 30cm (as ours was at 17 years old). It seemed a completely new experiment to plant it as a low hedge, albeit an informal one. The Tannock Glen planting was made in April 2018 with 40 plants.

In 2019 we were in England in spring when the historic Leonardslee Garden opened to the public, after first a gradual decline, and then a closure of ten years. This had been the garden of Edmund Loder from 1889 and the home of his famed Loderi rhododendron hybrids, amongst others.

Leucothoe fontanesiana 'Crimson Globe'

The restoration of the garden and its reopening had been eagerly awaited by many rhododendron enthusiasts, people who had visited in the past and people who had read about the history of the estate, all pleased that historic plantings could be rescued.

For the most recent owners, since 2017, it has been a huge undertaking. As a successful international company, with public venue experience and the capital to take a professional approach, they have been doing things very thoroughly with arborists, engineers and gardening experts. Obviously modern requirements for public access paths and facilities for toilets, cafes and parking have changed considerably since the garden was first opened to the public, and a visitor destination of great capacity is now envisaged. There is still more to do, and as with any garden it will be ongoing. There are always heart-rending decisions when old trees are thinned out, but the trees remaining gave us the impression of surviving the years better than some of the rhododendrons. The old rock garden is a highlight especially the dwarf rhododendrons now grown to great size. Also the views across slopes and valleys to extensive tree plantings are magnificent. As we strolled by the bank of one of the string of lakes along one valley, to our surprise we suddenly realised that the border between lake and path was a very old clipped hedge of *Leucothoe*.

Leucothoe fontanesiana is native to Eastern U.S.A.'s damp woods with acid soil, and Hilliers gives the information that it can grow up to 1.5m. Whether it is shade drawing it up to that height or that Blue Mountain Nurseries have a more dwarf form I do not know. (They say to 75 cm). Hilliers Manual does list forms such as 'Nana' (more compact) 'Rainbow' (cream-yellow-pink variegation) and 'Rollissonii' (narrower leaves). In shade the foliage stays green and we have seen no adverse reaction to any soils in our own experience. It is very frost hardy.

There are other varieties of *Leucothoe* coming from west coast U.S.A., and from Japan, but we have not encountered them. *Leucothoe keiskei* is one I would like to try.

Now in this time of 2020 pandemic lockdown we are walking more in Dunedin and noticing things not seen from a car. On one street is a newly landscaped garden with shaded southerly aspect, and hedges of *Leucothoe* in raised beds. Once again, déjà vu.

R. macabeanum bud

R. luteaflorum

TANNOCK GLENN - A SEPTEMBER VISIT *Lynn Bublitz*

R. antospaerum

R. scrabrifolium

R. protistum a hybrid from Pukeiti

R. lyi

R. 'Alcesta'

A new Taihape garden

THE BEGINNINGS OF A NEW GARDEN...

Lynn Bublitz

Geranium 'Annette': a cultivar raised at Anacapri

...using known loved plants

In his book 'Adventures of a Gardener' Sir Peter Smithers, a renowned UK politician, diplomat and photographer, who has won numerous gold medals for his plant portraits, recalled how he had created four gardens in his lifetime. His goal in the last of these gardens, Vico Morcote in Switzerland, was to develop a fully functioning ecosystem, both sustainable and beautiful, which in his words, should "be a source of pleasure, to the owner and his friends, not a burden and an anxiety". Vico Morcote achieves all of this and from throughout the world has attracted visitors and plants-people with whom Sir Peter has made lasting contacts. These visitors, all interested in the plants, were welcomed warmly, and although the plants drew comment what really impressed was the spirit of the garden, its diversity of plants, and the sense of unity in the diversity. In Sir Peter's words, "The art of gardening is a complex and difficult one in many dimensions. It cannot be collected nor sold at Sotheby's, but it is art none-the-less. For gardening is a personal thing, a part of its creator - but it is ephemeral": when the gardener leaves the garden dies.

A corner of Anacapri

Not surprisingly, one of Sir Peter's visitors was Gordon Collier, Pukeiti's Patron, whose garden, Anacapri, featured in last year's Journal. Anacapri likewise demonstrates much of what Sir Peter set out to do and is an extension of Gordon's imagination, knowledge and skills. His greatest impact has been in the selection of plants and their complementary placement. Just as an artist selects and applies different colours to achieve an appealing image, so does Gordon create, using different leaf shapes, textures and colours, a palate of plants, perfectly suited always to their particular site in the garden. Green with its various hues, to him, is the most important colour in the garden. Anacapri, with its skillful placement of an outstanding treasure trove of well nurtured plants, is a work of art. Recognized by the New Zealand Gardens' Trust as an Outstanding Garden of International Significance it was awarded 6 stars, the highest of honours.

Gordon is a consummate plantsman. He never lets a new plant escape his attention nor collector's zeal. The garden is a tapestry, highlighting in each season and in varying sections, a range of different plants, eye-catchingly focused specialties, many rare, which together give Anacapri a special quality - its spirit.

Anacapri is of course not Gordon's first garden. He has started six- the first when he was four. Titoki Point, his last , also received international accolades and the approval of thousands of visitors from throughout the world, who had to travel miles along a metalled country road to reach it. Margery and Dennis Woodland from Wilton, England described it as "Truly the most important garden in New Zealand and among the greatest plantsmen's gardens in the world."

Like Titoki Point, Anacapri has now closed but survives in the memories of many visitors and the numerous articles and publications in which both gardens were included.

Gordon has now left Taupo to return to Taihape, closer to family and old

friends. As with all who leave a garden, loved and nurtured, a certain grief is engendered, which in Gordon's case was tempered by the thought of establishing a new garden. Decisions on what plants to take, which needed propagating, always one of Gordon's skills; what possessions to pack and which books from an extensive library to take or give away, all weighed heavily, but the experience gained when moving from Titoki Pont helped overcome any misgivings about leaving Anacapri. Once moved the thought of planning a new garden on a blank canvas at Taihape reignited the spirit of this consummate garden artist.

What plants to choose? When asked which were his favourites Gordon found listing them difficult, because there were so many outstanding plants, not only in his own gardens but observed in those of others, and in their natural environment, which had captured his attention and remained etched in his memory. When pressed for answers, Gordon finally admitted that the following were must-haves for his new garden – and rest assured, he has plenty of space!

Trees:

Gingko biloba Maidenhair Tree.

Cornus 'Eddie's White Wonder': the best flowered Dogwood

Dracophyllum latifolium: Neinei, grows naturally from North Taranaki to the Kauri forests

Cercis canadensis 'Forest Pansy'

Pseudolarix amabilis: Golden Larch

Dodonaea viscosa 'Purpurea': Purplish red leafed form with reddish–brown peeling bark

Brachyglottis repanda 'Purpurea': purple leafed Rangiora- a small tree

Acer circinatum: North American Vine Maple with deeply dissected leaves

Sophora longicarinata: Kowhai, this species grows on limestone outcrops, has small leaves a semi weeping habit and handsome flowers

Cotinus coggygeria var. *purpurea* 'Grace': Purple leafed Smoke Bush

Shrubs:

Rosa chinensis 'Mutabilis'

Calycanthus fertilis 'Hartage Wine': purple flowered Spicebush

Daphne 'Perfumed Princess' (*D. odora* x *D. bholua*): a Jury hybrid

Fuchsia 'Ruby Wedding' a named hybrid of the New Zealand *Fuchsia excorticata* 'Purpurea' x *F. procumbens*

Veronica (formerly *Hebe*) *barkeri*: Chatham Island species threatened in the wild

Phyllocladus alpinus 'Glauca': Mountain Toatoa

Helleborus 'Flash Gordon'

Rhododendron 'Rubicon': red flowered Ron Gordon hybrid

Mahonia repens 'Rotundifolia'

Philadelphus mexicanus 'Scandens': climbing evergreen shrub

Lonicera periclymenum 'Graham Thomas': Honeysuckle, a twining shrub with long lasting white-turning-yellow-tinged copper flowers

Buxus sempervirens 'Rotundafolia': a tall growing round–leafed box

Perennials:

Alstroemeria x ligtu 'Tall White'

Aralia cordata 'Sun King'

Helleborus lividus hybrids: Marble leafed with white to red flowers. There are a number of named forms

Helleborus 'Flash Gordon': Red flowered cultivar

Hosta 'Blue Baby': raised by Gordon Collier. There is also a range of other great hostas from which to choose

Trillium grandiflorum: Great white flowered trillium native to eastern North America.

Geranium 'Annette': a cultivar raised at Anacapri similar to 'Johnson's Blue' and other Cranesbill cultivars

Agapanthus 'Jahan': Cream striped-leaf cultivar

Artemisia alba 'Canescens': elegant fine silver-leafed plant

Lomandra longifolia 'White Sands': Australian mat-rush with narrow white-edged leaves

Convallaria majalis 'Variegata': variegated Lily of the Valley

Cypripedium japonicum; Lady's slipper orchid

Of course there will be many other plants in Gordon's new garden and perhaps not all of these. The new conditions of climate and soil might not suit them all, and there will be new plants which become available and old favorites temporarily forgotten will be found.

Gordon has purchased a property in Taihape and already the collection of plants for a new garden has begun. Meanwhile he is resident in a house on Ruanui Station, the property of Meredith and Andrew Carpenter (his daughter and son-in-law).

Footnote: Gordon gave me sweet pea seeds collected from his garden, grown from seed given to him by Sir Peter Smithers. The plant, which had particular appeal for him, *Lathyrus odorata* 'Matucana', has a superb scent and a fascinating history. Originating in North Africa where it is now extinct, it was taken to Spain by the conquering Moors and then taken by the Conquistadors, or a priest, to Peru. Although it died out in Spain it thrived in Peru and Ecuador from where a British gardener brought the seeds back across the Atlantic. Two of the forms were named, 'Matucana' and 'Quito', reflecting their supposed country of origin.

A GARDEN TAPESTRY

A FINAL LOOK AT ANACAPRI

TWENTY SIX YEARS IN THE MAKING

Joy O'Keefe

Woodbury Garden, Geraldine

Having sold our farm on the West Coast in 1994 we purchased a 40 acre property in four titles at Woodbury, Geraldine. The intention was to build a new house but on which title? One title had a large pond surrounded with willow trees and the perimeter of the block had well established shelter belts that protected what was once a peach orchard. Flowers for drying were grown on this block as well. With shelter and excellent soil being ideal attributes for establishing a garden the decision was made that this was the place to build our house.

Bernie's first job was to haul out the dead peach trees. The house was built and the development of the garden began. The area around the house was first to be planted. Bernie's one request was to have a large area of lawn at the front of the house. Soil dug out from the house site was spread around the perimeter creating raised beds, and planting began.

Nine year old rhododendrons that had been brought from our West Coast garden had been planted temporarily where our nursery was later established. These were to form the backbone of our new garden.

Tractor and front-end loader were used to shift the now 11 year old rhododendrons. Colour combinations and ultimate plant heights were the main factors that determined positioning. *Prunus* 'Accolade' had been planted around the curved driveway to provide shade. Other ornamental trees including *Gleditsia* 'Limelight', *Cornus* 'China National' and *Cornus* 'Eddies White Wonder', *Acer negundo* 'Elegantissimum' three *Betula utilus* var.*jacquemontii* 'Silver Shadows' to name a few, were strategically placed to provide height and shade.

After planting the area around the house there was still a considerable number of Coast rhododendrons awaiting a permanent position. Two

openings were made in the garden boundary fence and another garden area created from paddock. The garden design was marked out using a coloured spray and the garden beds sprayed with Roundup three times before planting began. The only shade was provided by one huge willow tree (which we now realise should have been removed at the time). To remove it now would be a huge undertaking. To provide more instant shade six pussy willow trees Bernie was removing from a shelterbelt were planted. The plan was to remove these once the rhododendrons and ornamental trees were established; two remain to this day. Ornamental trees planted included several *Acer palmatum*, *Acer griseum, Acer shirasawanum* 'Aureum,' *Prunus serula*, *Prunus* 'Ukon', *Acer platanoides* 'Walderseii', *Acer platanoides* 'Drummondii' and 'Crimson King'. We love the prunus when in flower but do not love all the suckers that come up from the rootstock. There are a few garden 'fillers' that I wish we had never planted, one being Japanese anemone. It spreads like fury and I just can't get rid of it. This new area only just accommodated all the remaining Coast rhododendrons.

Clematis and climbing roses cover the fence that separates the two areas of the garden.

To emphasise the curved borders of the gardens I grew edging plants including *Alchemilla mollis*, *Stachys byzantine* 'Lambs Ear', Cat Mint, *Anaphalis* and *Heuchera*, most of which still remain. *Anaphalis* (Summer Snow) has greenish white, woolly, pointed leaves and small white round flower heads that remain well into winter so are still attractive when other plants can be looking rather drab. I tend now to prefer groupings of plants especially the various Heucheras which are available in a wide range of different

R. 'Bernie's Joy'

coloured foliage. I particularly like using *Heuchera* 'Lime Marmalade' to lighten and brighten shaded areas. Groupings of *Hosta*, A*stilb*e, *Primula*, and *Euphorbia polychroma,* have been added in recent years.

It soon became obvious several rhododendrons did not like Woodbury's hard frosts so we decided to move these to an elevated site around the pond. *R.* 'Mi Amor', *R.* 'Lady Dorothy Ella', *R.* 'September Snow' *R. megcalyx* , and *an R. nuttallii* (Stellata Form) x *edgeworthii* are a few of the many that now thrive in this more temperate area. A special tree planted in this area is *Manglietia*, a member of the Magnolia family. When on a tour of Yunnan with the Pukeiti Rhododendron Trust in 2012 this was the first flowering tree we spotted. It is also special to us in that the late Robert Young gave us this tree as a small plant after he and Jan sold their farm. Also growing in this area is *Trochodendron araliodes* (name means wheel tree) of which there is only one species. I like it in that it is evergreen and the foliage quite different.

Crinodendron hookerianum always draws people's attention with its bright red lantern-like flowers. Hostas which I am very fond of, thrive close to the pond edge as do Siberian irises, rogersia, astilbe and candalabra primulas. Trilliums like the shaded areas away from the water's edge.

Visitors to the garden and nursery often ask "what is your favourite rhododendron". I don't find this an easy question to answer as it is hard to know where to stop. A few of the hybrids I am particularly fond of are *R.* 'Maryke', *R.* 'Felicity Fair', *R.* 'Mi Amor', *R.* 'Ina Hair', *R.* 'Sheila McLeod', *R.* 'Joy Bells', *R.* 'Windsong' and of course *R.* 'Bernie's Joy' – a 'White Waves' seedling raised by Bernie and yet to be registered. *R. yakushimanum* FCC, *R.* 'Neato', *R. pachysanthum*, *R.* 'Cinnamon Bear', and *R. yakushimanum* 'Preyii' are some of the best for foliage and form. Doug Thomson identified a very nice large leafed rhododendron we have as *R. falconeri x grande*. Not only is the flower attractive, it has fragrance, a most unusual feature in a large leafed rhododendron. Of the species

R. 'Ina Hair' reflected in the pond

growing in our garden they all have their appealing qualities ranging from the large growing *R.arboreum,* down to the small growing *R. calostrotum*.

Once the demand for dried flowers dried up, the area behind the house was gradually planted in rhododendrons, mainly special collections and Bernie's seedlings. The special collections include the Grant hybrids, the Garbutt hybrids, rhododendrons hybridized on the West Coast and raised by Helen Love, the Davidson hybrids and a few of the Dean's hybrids. An avenue of *Acer palmatum* seedlings, intermittent plantings of ornamental trees including several magnolias, and an edging of candelabra primulas add to the attractiveness of this area. *Enkianthus campanulatus* 'Red Bells' is a shrub growing here that I am very fond of.

Roses on the east and north sides of the house provide summer colour. A more recent planting of standard *Choiysa ternata* and Dr Keith Hammett's *Dahlia* 'Mystic Enchantment' with its dark red foliage and bright red flowers provide an impressive display throughout summer and autumn around our driveway. A mass planting of red tulips provides spring colour.

Over the years we have tried using different labelling methods for rhododendrons in the garden. We aimed for a label that can be easily read from a distance so visitors are not treading over treasures trying to find a name. None have proved to be totally permanent but the best we have come up with is a label cut out of sheep drench containers – a thick, sturdy, white plastic. The name is written on using the Allflex stock ear-marker pen. With over 1200 rhododendrons to be labelled we had to find a system that was cost effective. As a back-up I have drawn a plan of the garden should a label become illegible or lost.

The Covid-19 lockdown earlier this year provided the ideal opportunity to work our way around the garden removing a few trees, limbing up others and yes, planting just a few more rhododendrons. Twenty-six years on, Bernie and I continue to care for the garden ourselves. I dread the day when this won't be possible as it does give us a lot of pleasure.

R. 'Mary Fleming'

R. 'September Snow'

Woodbury in the Spring

R. 'Windsong'

R. 'Felicity Fair'

ONE THING LEADS TO ANOTHER

Bernie O'Keefe

R. 'Crest' hybrid

After teaching primary school for 16 years we purchased a farm at Ikamatua on the West Coast. We had a reasonable garden around the house and a son who was a keen cricketer and needed a practice wicket. Part of a paddock behind the house was fenced off and a wicket prepared. This area needed landscaping so one hundred rhododendrons were purchased from Westhurst Nursery at West Melton, Christchurch and planted around the perimeter of the new garden area. There was an ulterior motive as well. An interest in propagating had already surfaced and now there was a range of rhododendron varieties to take cuttings from.

An old hen house was converted to a propagating shed. A propagating table was set up, with an underneath heat cable, plastic covered lid and no mist system. After advice from a Reefton plantsman and Bert Bevin who owned Esk Valley Rhododendrons in South Canterbury, we started propagating straight cuttings. Following success with these cuttings there was the desire to try propagating the more difficult varieties, those that would not root on themselves. There was now the need to learn the skill of grafting. Again, Bert Bevan was very helpful and Ron Coker of Christchurch particularly so and in more recent years Tom Garbutt. Ron Coker had visited our garden with the Canterbury Rhododendron group and invited us to visit him in Christchurch so he could show us the method of grafting he used.

Once plants were ready for sale, the word spread and sales to locals and visiting garden groups began.

After 15 years at Ikamatua we decided to return to Woodbury, Geraldine where we bought a property growing blackcurrants and flowers for drying. We transported two furniture vans with trailers full of rhododendrons to our new property. Shortly after arriving in Woodbury our West Coast accountant informed us the Singing Hills Nursery at Roa was for sale by tender. We tendered for the plants and were successful in obtaining 3000 rhododendrons. Suddenly we had a Rhododendron nursery, a dried flower business and a blackcurrant operation. The erection of shade houses was just an extra chore in what was already a busy life. The long-term plan was to continue propagating rhododendrons and expand the nursery. An existing large tunnel house was the ideal place to set up the propagating facilities.

As mentioned, through rhododendrons we met up with Tom Garbutt from Oamaru who has become a great

R. 'The Beacon' *(R. 'Kilimanjaro'* x *unknown)*

friend. His advice on propagating has been invaluable over the last 25 years. Tom, having done quite a lot of hybridizing of rhododendrons, encouraged me to have a go.

Hybridising for me has really been a hobby, nothing scientific. Any cross pollinating I have done tends to have been carried out in the later part of the flowering season. Examples of parents I have used are *R.decorum,* *R.* 'Kilamanjaro', *R.* 'Autumn Gold', *R.* 'Lemon Lodge', *R.* 'Crest' and *R.* 'Lem's Cameo'. A selection of seedlings have been planted out over several years now for evaluation. As they have flowered each one has been numbered and a description recorded. Any that have been mediocre have been removed. Those with potential are being further evaluated and tested for ease of propagation.

At this stage two have been registered, *R.* 'The Beacon' and *R.* 'Something Special'. *R.*'The Beacon' is a red that from a distance I always said "stands out like a beacon". It has a large calyx which adds to its appeal. While visiting our garden Kathryn Millar was drawn to a low growing, compact plant with a neat rounded truss of mauve pink flowers with frilly edges. She commented 'this is something special' hence the name *R.* 'Something Special'.

Another of my hybrids that we intend registering is an *R.* 'White Waves' seedling. Considering there is *R. nuttallii* in its background it has stayed unusually compact. The original plant has grown exceptionally well in Anne Sim's garden at Waianakarua. I gave it to Anne as a small seedling and a few years later she rang to say that it was the most beautiful rhododendron she had in her garden – that was a huge compliment as she had hundreds of rhododendrons. It was later suggested it be named *R.* 'Bernie's Joy'. It has a typical *nuttallii* shaped flower, large, lime greenish yellow on opening which turns quickly to white.

Anne has kindly allowed us to take cuttings every year since and it does root reasonably easily.

Others continue to be evaluated, a few of which look promising.

Unnamed hybrid rhododendron

Unnamed hybrid rhododendron

PEAT GARDEN REVISITED

Doug Thomson

Rhododendron Peat Garden, Dunedin Botanic Garden

In the 2015 edition of this journal the just completed renovation of the Dunedin Botanic Garden peat garden was described in detail. Since then the plants have grown well and the area has matured into one of the key features in the Rhododendron Dell.

One of the main aims for the peat garden has always been to provide the optimum conditions to display dwarf and low growing rhododendron species which tend to struggle even more than other rhododendrons in the local heavy clay soil.

However, in 2015 the selection of dwarf rhododendron species available was disappointing. Consequently, a mix of dwarf hybrids and groups of cutting-grown *Rhododendron campylogynum*, *R. forrestii* var. *tumescens* and *R. hanceanum* that were available from our propagation department were planted. This achieved the effect of a strong dwarf rhododendron component in the planting scheme, but not the diversity hoped for.

In 2017 however, following my work for the Pukeiti Rhododendron Trust verifying rhododendron species in the South Island collections whilst participating in the Trust's Conservation Project, a wider selection of available species emerged. One garden involved in the project had a healthy selection of dwarf rhododendrons for sale and so Dunedin Botanic Garden benefitted from the purchase of 18 different species for the peat garden. In this article some of these will be highlighted, whilst mentioning both challenges and successes and describing why, although trickier to grow than many other species, they are worth the effort.

The Genus *Rhododendron* is divided into 5 subgenera, 7 sections and 59 subsections according to similarity of characteristics. Of those subsections 33 contain at least some dwarf species whilst 16 contain dwarf species only, thus reflecting the level of diversity present throughout the rest of the genus. The 18 species the botanic garden acquired came from 9 subsections so offered a much more satisfying representation of dwarf rhododendron characteristics and growth habit than was initially available.

Given that several of them come from high altitude alpine regions, most of these specimens were planted in the more open, southwest facing section of the peat garden where they get ample light for their needs. However, on the eastern side of the peat garden, by the Cherry Walk, although the soil mix is the same and extensive drainage has been installed, there is one significant difference. The species planted in this section have to contend with some light to moderate shade from one of the *Prunus* 'Accolade' specimens at the end of the Cherry Walk and for some this has resulted in a lack of vigour.

The roots of the cherry do snake through the soil here as well of course, and will be competing for nutrients,

but they tend to be quite widely spaced so are not invading the immediate root zone of most dwarf rhododendron specimens. However, they do have the annoying tendency of sending suckers up at random points as they work their way across the peat garden potentially disrupting plants above them. In 1992, one cherry was even removed for its habit of invading the inviting soil mix of the newly constructed peat garden. However, having since extended the peat garden up around the next cherry in line, as a necessary compromise, the suckers are cut out as they appear. This *is* the Cherry Walk after all.

Due to limited space in the southwest side of the peat garden several species had to be planted in the vicinity of the cherry. One species that has not settled in particularly well here is *Rhododendron cephalanthum* ssp *cephalanthum* (section Pogonanthum) Its native habitat is between 2,700 and 4,900m in different situations ranging from moist moorland to rocky slopes, screes, cliffs and even on tree trunks as epiphytes. Therefore, ample moisture with very free drainage is of prime importance when grown in cultivation.

In the peat garden they are growing on the edge of the area next to the grass path of the Cherry Walk so in summer are prone to drying out on that more exposed side. This is the most likely cause of their poor vigour in spite of regular watering. They are just on the edge of the cherry canopy, so are subject to some shade, but given that they can grow epiphytically on tree trunks in the wild, the level of shade in the peat garden should be tolerable.

So far the peat garden specimens have not produced their narrowly tubular, open topped flowers which can vary from white to pink, or occasionally yellow to crimson. However, judging by the bright red petioles on the leaves, at a guess, they may be pink. Although the upper surface of the leaves on *R. cephalanthum* are usually non-scaly they can occasionally have scales which these specimens do, appearing as an even scattering of whitish dots against the dark green background. The under surface is densely scaly in two to three layers with patches of darker brown scales that contrast with a dense lower layer of overlapping, golden yellow ones.

It would be a pity to lose these potential little gems from the planting scheme so they will be transplanted to a more favourable part of the garden and we trust that spring brings a renewed lease of life.

Another species that will need to be given a new position is *R. calostrotum* (subsection Saluenensia) which is struggling with shade competition, not only from the nearby cherry but also from larger rhododendrons surrounding it. Having been encouraged by successfully establishing some groups of the cutting grown *R. forrestii* var. *tumescens* and *R. campylogynum* in some shade from the neighbouring cherry, it also seemed worth trying *R. calostrotum* nearby. However as larger rhododendrons such as *R. siderophyllum* and *R. roxieanum* are also part of the mix in this area the additional shade they contribute is too much for the specimens of *R. calostrotum*. The aim of establishing a layered effect of larger rhododendrons interspersed with dwarf species has not been successful and perhaps as I might have expected, the larger growing plants simply outcompete the smaller ones. It is always tempting to fill that inviting space with one more plant though, and as experimentation is a key part of gardening, it was worth a try.

In flower, *R. calotrotum* can range from bright rose to rich purple. Its leaves have matt upper surfaces whilst the underside is an attractive light cinnamon colour from densely overlapping brown and light brown scales. Obviously, this kind of feature can only be appreciated at close quarters, so is another good reason to shift it to another position closer to the edge of the garden where it can be inspected more easily if desired. Coming from 3,300 – 4,300m in N Myanmar and W Yunnan, this is another true alpine from stony alpine meadows and cliffs.

One species that is growing in the immediate root zone of the neighbouring cherry is *R. aureum* (subsection Pontica) which has coped remarkably well. This is a species from much lower altitudes than the first two, growing between 1,500 - 2,700m from several regions of E Asia including from W Siberia to Mongolia, NE China, Korea and Japan.

R. pumilum

In cultivation it is said to often be chlorotic, particularly when exposed

to the sun. The specimens in the peat garden are certainly light to mid green, but although there is localised root competition from the cherry, they may actually be benefitting from its shade. They are developing well and have a distinctive growth habit of overlapping leaves. Compared to many other dwarf species the foliage is much larger – as much as 9.5cm long and 4cm broad on mature plants. In the wild they form spreading carpets 10 - 60cm high and produce pale yellow upright flowers.

Another species that has performed well in this part of the peat garden is *R. kiusianum* (section Tsutsusi) from mountain peaks between 1,200 - 1,700m on the Japanese island of Kyushu.

They are forming healthy little mounds of semi deciduous growth that in early spring appear as a lattice of twiggy growth tipped with small rounded fresh green leaves. *R. kiusianum* actually has two distinct flushes of leaf growth. In spring relatively large leaves up to 2cm long and 1cm broad appear. As the seasons progress, these fall away and are replaced by the smaller more rounded summer leaves, the uppermost of which persist through winter producing the effect currently evident in the peat garden. Good forms can virtually smother themselves in rose-pink, purple or even white flowers in late spring or early summer.

Moving round to the open western side of the peat garden the growth on the dwarf species here is much more reliable. Most are planted next to or near the rock retaining edge which contains the peat garden on that side. The size of the rocks allows for about 50cm of planting depth behind them and so is in effect a raised border. This helps with the freer drainage that alpine species enjoy and also lifts them up for closer viewing by passers by.

One of the most charming is *R. pumilum* (subsection Uniflora), a true dwarf from the Himalayan region growing in screes, and grass or even on mossy rocks at elevations between 3,500 - 4,250m. Usually it only reaches 10 - 15cm in height but can grow to 60cm.

It can vary from compact to a more open lax habit and although still young, the specimens in the peat garden are displaying the latter characteristic. Relatively long shoots carry a scattering of small dark green rounded leaves, with most sporting healthy pink terminal flower buds with a promise of pale pink flowers to follow. As they are growing right at the edge of the garden it is also easy to examine the pale glaucous leaf underside.

R. campylogynum 'Leucanthum' (subsection Campylogyna) is next in line as you walk around the peat garden. In the wild, *R. campylogynum* grows at altitudes between 2,400 - 4,900 and has a spread from SE Xizang to Arunachal Pradesh and through to Upper Myanmar and Yunnan. Its preferred habitats are moist open rocky hillsides, cliff ledges and clefts and also amongst bamboo and larger rhododendrons. With such broad altitudinal tolerance and diversity of habitat, it is no surprise that it is a very variable species. The smallest forms, with miniature thimble-like flowers, grow to only 30cm high and can be some of the most captivating dwarf rhododendrons to have in your garden. In flower they range in colour, from deep black-purple through red to pink and cream. *R. campylogynum* 'Leucanthum' is a white flowered form that can grow relatively tall, from 60cm to possibly even 1.8m. The nodding campanulate flowers appear singly or in trusses of up to four.

A species with such an impressive range of colour and habit is an enticement to keep seeking out all its different examples.

In 2015 *R. keleticum* (subsection Saluensia), was available, but only the larger more vigorous form that grows to 15cm or more. Amongst the species planted in 2017 was the most dwarf form, known as *R. keleticum* Radicans Group. In comparison, this is an entirely prostrate spreading shrub no more than 2.5cm high deemed the smallest in the genus. Although seeming quite distinct as cultivated plants, the two variants do merge in the wild. This reveals that their difference in stature is simply a question of which end of the species' growth continuum they have been collected from.

R. keleticum grows at altitudes between 3,400 - 4,600m in SE Xizang where the higher altitudes produce the smallest forms with tiny leaves only 1.7cm long and 4mm broad. Here they are whittled by the elements

Article Author Doug Thomson

R. hanceanum

to produce creeping mats of dark glossy green foliage studded later in spring by rosy-purple flowers that face upwards as an open invitation to any passing pollinators.

From NW Yunnan and SW Sichuan, another species with tiny leaves is *R. orthocladum* var. *microleucum* (subsection Lapponica). These are of a lighter green, not shiny and produced on a much more upright plant. In fact 'orthocladum' means 'with straight twigs' which characterise its growth habit. *R. orthocladum* is a lavender to purple flowering species, but variety *microleucum* is a white flowered smaller form generally growing to only 60cm compared with over a metre for its larger cousin.

R. keiskei 'Yaku Fairy'

R. megeratum (subsection Boothia) is arguably one of the most alluring dwarf species. It is a compact bushy little plant with oval dark green leaves, distinctly glaucous on the underside and fringed with hairs. Creamy to deep yellow, open faced flowers emerge in spring making a beautiful contrast with the dark leaves and complementing the reddish-brown stems that carry them. There are only leaf buds on the specimens in the peat garden but as the plants mature and fill out over the coming season they will hopefully charm us with blooms next year. It occurs in a fairly wide area from SE Xizang, Arunachal Pradesh through to Upper Myanmar and NW Yunnan, growing on mossy rocks, cliffs and occasionally as an epiphyte on trees.

Quite different in character and from an entirely different part of the world is *R. hirsutum* var. *albiflorum* (subsection Rhododendron). This is the white form of *R. hirsutum*, a pink flowering plant which was first introduced in 1656 and is the earliest rhododendron species in cultivation. *R. hirsutum* is a native of the Central European Alps, Austrian Alps and NW Yugoslavia. It is a close relative of *R. ferrugineum* with which it crosses in the wild and both are referred to as the alpenrose.

The white form has the species' distinctively wavy, bristly edged leaves which look almost prickly but are a lighter green than on the pink form. The new shoots and calyces are also often bristly reinforcing the aptness of the name.

Finally, *Rhododendron keiskei* from rocky hillsides in Japan is a variable species that can be prostrate to low and compact or broadly upright or rounded. The specimens in the peat garden though, appear at this stage to be of the low compact variety with an open to compact spreading habit and oblong to oval pointed leaves. A definite dwarf form, also growing in the peat garden is *R. keskei* 'Yaku Fairy' which has closely overlapping leaves and a prostrate habit from altitudes between 600 - 1,850m on the island of Yakushima.

Rhododendron keiskei is actually in subsection Triflora which we normally associate with much larger plants but this species is the exception. It has dainty pale yellow flowers which typical of the subsection are zygomorphic – that is can only be folded symmetrically along one plane. In full bloom these can virtually smother a mature well grown plant.

It has been deeply satisfying to watch the peat garden grow and develop after the 2015 renovation and it is pleasing how the shape, form and texture of the different plants have blended together in a balanced flow across the garden. The inclusion of a broad range of complementary and companion plants is an essential part of the planting scheme in the peat garden. However, as mentioned at the beginning, a priority here has been to display dwarf rhododendron species. Therefore, finding a wider selection of dwarf rhododendrons for inclusion, and so being able to show their different characteristics, has been the most rewarding aspect of its success.

As these dwarf species grow in modest stature over the coming years they will be an introduction for passers-by to some less commonly known rhododendrons. They will also show that dwarf rhododendrons exhibit as much diversity as the larger rhododendrons around them and remind us of just how extensive the spectrum of rhododendron growth can be.

References:

'*Pocket Guide to Rhododendrons*' - McQuire and Robinson

'*The Smaller Rhododendrons*' - Peter Cox

'*Rhododendrons of the World*' - David G Leach

'*Notes from RBGE Vol 1*' - J Cullen

GROWING RHODODENDRONS IN THE WELLINGTON REGION

Richard Nanson

A view over Wellington Harbour.

You must be joking! The Wellington region is probably best known for its strong, salt laden winds, hilly terrain, clay soils, coffee culture, the arts, the Beehive and blue skies. So it's not all bad!

The Wellington Regional Rhododendron Group's area is very diverse climatically, geographically and with its soil types. It most certainly is not just Wellington city, but four cities – Wellington, Upper Hutt, Lower Hutt and Porirua as well as the Kapiti Coast and Wairarapa Districts. It extends from the Cook Strait coastline up through the Wairarapa on the east, and on the west coast covers Porirua and Kapiti districts, with the Tararua ranges climbing to just over 5,000ft (1,529m) midway between the two coasts.

As one might expect within parts of this diverse region, there are a number of micro climates, with big differences in rainfall, topography, soils and wind. Let's look at three of these diverse areas.

R. 'Taurus' at Efil Doog

The Akatarawa Valley

The road climbs over the lower Tararuas between Upper Hutt City and Waikanae on the west coast.

The well known gardens of Moss Green (now defunct) Journey's End and especially Efil Doog, (until recently owned by Shirley and the late Ernest Cosgrove), are situated on acid soil in a borrowed bushscape at 1000ft (300m) with a rainfall of approximately 10ft (3m) and about 40 frosts a year, down to -5°C. Reputedly the largest Rata in New Zealand grows on the hills above Efil Doog. Little wonder the gardens grow a range of lovely large leaved rhododendron species, and a lot of other varieties, to perfection. Specimens in flower, or just their foliage on the Table of Interest would have members

R. 'Fragrantissimum'

R. 'Mi Amor'

drooling over the spectacular displays. One of the smallest rhododendrons Ernest and Shirley Cosgrove grew was *R. serpyllifolium*. So small it necessitated a garden visit!

Among the 500 or so other rhododendrons grown the following stood out: *R. maddenii* 'Virginales', *R. arboreum* 'Kemesium', *R. davidsonianum* 'Ruth Lyon', *R. montroseanum* 'Solg', *R. fortunei* 'Lu Shan', *R. maddenii* 'Alliance', *R. cinnamomeun*, *R. heliolepida;* and Rhododendron hybrids 'Fragrantissimum', 'Anah Kruschke', *R.* 'La Maise', 'Crater Lake', 'Keay Slocock', 'Blanc Mange', 'Cinneys' and 'Edgar Stead'.

The Wairarapa

Generally the driest region, with rainfall as low as 10-15in (254 – 388mm), but in the Tararua foothills 60-80in (1.5 - 2m). It is mostly a region of big skies, wide valleys, mediterranean climate, known for its wines and small towns full of character. One of our members, Errol Warren, living in Masterton, central Wairarapa, suggests the following are needed for the successful growth of rhododendrons:

- A great love of the plant.
- Complete determination to have rhododendrons in your garden.
- A good knowledge of soil conditions, soil type etc suitable for growing rhododendrons.

R. 'Ina Hair'

- Sufficient shelter to protect from the prevailing nor'westerly winds.
- Sufficient water for use in summer for the normal summer droughts and if possible a plentiful supply of really good mulch.
- Ability to choose your varietal plants carefully so they suit the area and conditions.

Here is her choice of plants that grow well in central Wairarapa, and there are some wonderful gardens to demonstrate this and confirm the choice of rhododendrons that Errol has recommended.

The older varieties such as 'Sir Robert Peel', 'Pink Pearl' etc seem to have survived outside old homes with little care and only the local rainfall. Others that have done well for her with care and limited watering are 'Christmas Cheer', 'Ilam Cream', 'Ina Hair', 'Helen Haig', 'Helene Schiffner', *R.johnstoneanum*, 'Avalanche', 'Unique', and, of course, the fabulous *yakushimanums* and their hybrids. *R. pachysanthum* is also a great and rewarding rhododendron in this area.

Kapiti Coast and Hutt Valley Regions

Not to be outdone these two fairly large areas also grow a wonderful range of rhododendrons. The Waikanae district is largely subtropical and vireyas flourish, particularly in association with poinsettias, frangapani, coleus, luculia and many species of Australian and South African plants. Magnificent specimens can be seen of 'Cornubia', *R. edgworthii*, 'Mi Amor' and *R. nuttalii*. Evergreen azaleas do very well, and there are many deciduous azaleas to be found in older gardens, including 'Pavlova', 'Homebush', 'Melford Yellow' and 'Soft Lights'.

In the Hutt Valley there are also older varieties to be found in Belmont Park, near the Western Hills, that showcase many mature specimens.

Is it any wonder that the Wellington Regional Rhododendron Group's monthly 'Table of Interest' had such a wide and exciting range of species and not all rhododendrons!

Do any readers feel that they would like to relocate?

R. 'Cornubia' Ilam form

R. 'Soft Lights'

DICK BARNETT'S CONTRIBUTION TO ORTON BRADLEY PARK, CANTERBURY

Dick began work at Orton Bradley Park in 1949. Employed by the two trustees, his brief was "to make the Park look as if someone cares". So that's what he did, and has continued in similar vein; to this day he rakes and sweeps the paths of the Rhododendron Garden every Monday and Friday, weather permitting.

Starting as a worker, Dick soon became a trustee, and joined the first Board after a private Act of Parliament established the Park structure in 1972, finally retiring as Chairman in 1996. One of his proudest achievements while on the committee was to help steer the approval of the application by the Canterbury Rhododendron Society to establish a rhododendron garden in the Park. The vote was passed 5 votes to 3. As he says, "The rhododendron garden is a wonderful asset for the Park. Under the leadership of Kathryn and Geoff Millar, the CRS garden has a great national and international reputation as a unique collection of species and hybrid rhododendrons, with an almost complete collection of Canterbury-developed hybrids".

Thank you, Dick, for the splendid contribution you have made to Orton Bradley Park. It is almost certain it will never be equalled – to match Dick's service, someone joining the Park workers today would have to remain, contributing in many roles, until 2090.

From the Canterbury Rhododendron Society Newsletter August 2020

R. 'Molly's Gift', a Canterbury developed hybrid

TOM GARBUTT 'MR GARDENING'
HIS STORY

Introduced by Joy O'keefe

'Mr Gardening', a very deserving title bestowed upon Tom Garbutt by the folk of North Otago for his huge contribution to horticulture and gardening in general.

Tom's story:

"It was mid 1934, I was half-way through my first year at Otago Boys' High School when I was diagnosed as having TB. After some time in hospital I was sent home to convalesce. It was then that I told my father that I didn't want to go back to school. It was still partway through the depression years and available jobs were very few and far between, and so my father made an appointment for me at the Otago University to undergo an aptitude test by a psychologist. The outcome of that exercise was his recommending me to be either a tram conductor or a shoe salesman. How he came to that conclusion I'll never know. Sometime later an advertisement appeared in the local paper: "Wanted – a boy to learn gardening. Apply to the manager, Reilly's Produce Market on Saturday morning at 9 a.m." I arrived there armed with a letter from my father. I duly had my interview and the phone was rung in the afternoon by my future employer to tell me to report to his residence at 7.30 a.m. the following Monday. That was my introduction to a lifetime of horticulture.

His property consisted of a nursery and a large residential garden, containing a large selection of rhododendrons and azaleas and a great many ornamental trees and shrubs. You could say it was the beginning of a love affair with the genus *Rhododendron* which culminated in the ultimate ownership of a garden shop and nursery in North Otago over many years.

During this period I learnt all the trials and tribulations associated with the propagation of trees and shrubs but especially rhododendrons and azaleas.

Sometime in the 1950s I became a member of the Royal Horticultural Society and by way of their seed list I imported quite a number of rhododendron species seed. This was quite an interesting exercise but by and large it was a bit disappointing. Several took as long as twenty years to come into flower. Among my first attempts at hybridising my own plants, was a cross between *R.williamsianum* and *R.haematodes*. The results were not all that interesting except for one. It had the foliage of *R. williamsianum* but with bright red bell-like flowers that were devoid of any stamens. Despite that it was a beautiful plant. Unfortunately it proved a very difficult plant to propagate so that was the end of that.

My first hybrid to be registered was a cross between *R. griffithianum* and *R.* 'Irene Stead'. This was named *R.* 'Alice Hennessy'. Alice was the 21 year-old daughter of George and Mary Hennessy who lost her life in a car accident. I worked with Mary at the local radio station at the time, doing a weekly garden talk back show. I don't know why I used that particular cross but the resulting flower is a lovely white. Unfortunately it does not carry the magnificent scent of *R.griffithianum*. At this time I was crossing *R.* 'Ilam Orange' with *R.* 'Hawk Crest'. That produced quite a range of mainly yellow flowers, but none that I considered worthy of registration.

Another cross was *R.griffithianum* and *R.elliottii*. I was hoping for something with all the attributes of *R.griffithianum* and possibly pink but most of the flowers had the appearance of *R.elliottii*. Although they were quite pretty they were not what I was after.

At about this time I became acquainted with the renowned garden of Centrewood belonging to Winnie Hayes of Waimate. She and I became good friends over a long number of years and as a result I was able to

R. Dan Carter

Rhododendron 'Winifred Hayes', Lindenfield, Dunedin

use many of the very large range of rhododendrons and especially her Exbury azaleas. Winnie was a member of a group of NZRA members who went on a tour of gardens as guest of the American Rhododendron Society in 1969-70. Each member was given a packet of rhododendron seeds. The packet of seeds that was given to Winnie Hayes was a small quantity of a cross *R.* 'Azor' x 'Francis Hanger'. On her return to New Zealand she gave me the seeds to germinate. Only six seeds germinated. They all eventually flowered. Five were a lovely salmon pink and the other was a lemon yellow flushed pink. The five pink ones, although a beautiful colour, behaved very badly when exposed to high temperatures and they were discarded.

R. `Jean Leggett'

The remaining plant was the same colour as its parent *R.* 'Francis Hanger'. I then crossed this with *R.* 'Lem's Cameo'. This cross produced a range of very good mostly yellow flowers. The first one to flower was a good yellow that I registered and named *R.* 'Donald Palmer'. Donald was a good friend of mine, a very talented dental surgeon at Wellington hospital. He was a very good rhododendron grower at his Wellington garden. He was a member of the New Zealand Rhododendron Association and a life member of the Pukeiti Trust. It was he who introduced me to some of the finest gardens in the North Island. Sadly, he was to be a victim of cancer and died at a very early age. Several more of this cross flowered and the best of them all was a very good rhododendron with a well

R. `Joan Elder´

formed flower of a biscuit orange flush pink colour. I registered it with the name *R.* 'Winnie Hayes'. Unfortunately, she did not live to see it flower. I like to think it is a fitting memorial to a very skilled gardener and a good friend.

R. 'Cliff Blaikie' was the next rhododendron hybrid to be registered. About three weeks before his ninetieth birthday his son rang me asking if I had a rhododendron hybrid that I could register in time for his birthday. It happened I did have a hybrid of the cross *R. yakusimanum* 'College Form' and *R.* 'Noyo Chief'. I had it registered and named *R.* 'Cliff Blaikie' in time for this ninetieth birthday. It is a typical '*yak'* plant with good unfading red flowers. Cliff and I played a game of golf every Wednesday at his private golf course at Waianakarua for almost thirty years. Members will remember the fine meal we had at the 2002 NZRA conference in North Otago at the golf course.

One unusual cross I made was *R.* 'Creamy Chiffon' x *R. wardii*. In making this cross I was hoping for a deeper yellow. I would rather have used *R. wardii* as the seed parent but unfortunately *R.* 'Creamy Chiffon' is devoid of any stamens but it does have a pistil so it had to be the seed parent. I had imported a plant of *R.wardii* but it proved to be a poor colour and a very unhealthy plant. It was one of six rhododendron species I imported from the U.K. They arrived on a very hot November day, the roots were washed white, devoid of any soil and wrapped in damp newspaper. Most of them were of the large leaf type and despite lots of TLC most didn't survive the exercise. I later crossed *R.* 'Lems Cameo' with *R.griffithianum*. Most of the plants from this cross were quite ordinary – except for one. This had quite large frilly flowers pink in the bud and later a deep cream flushed pink. I decided to register it naming it *R.* 'Nance Garbutt' in memory of my late wife.

One morning a friend of mine came knocking on my door holding a rich creamy rhododendron flower. She informed me that it was one from a batch of seedlings that I had given to a mutual friend of ours some years before. It was a cross between *R.* 'Lems Cameo' and 'Alice Hennessy'. It had a very tight flower head and altogether a really nice rhododendron. I registered it under the name *R.* 'Sheila McLeod'.

Over the years specimens of many of my hybrids found a home in the garden of Mrs Anne Sim of Waianakarua. Her garden was much admired by members at the 2002 conference. A *maddenii* hybrid of mine, *R.* 'Kotuku' x *R.* 'Polyandrum' put on a wonderful display in Anne's garden with its large lily like flowers. I registered it with the name *R.* 'Anne-Marie Sim'.

I used *R.griffithianum* as a parent quite frequently hoping to carry on some of its great attributes. One of its crosses with *R.* 'Lem's Monarch' I gave to Anne Sim and always admired in her garden. When I rang her to ask for cutting material I was so disappointed to be told it had died so thought "that one has gone for good". Sometime later when being shown around Blue Mountain Nurseries by Denis I spotted the very same plant, in fact there were two. I was so pleased Denis had taken cuttings and the hybrid that I named *R.* 'Dan Carter' had been saved. Denis later brought one up and planted it at my doorway.

The last hybrid I registered was *R.* 'Daphne's Pearl' ('Lemon Lodge' x 'Alice Hennessy') named after a special friend".

Besides running a busy nursery business Tom found time to willingly share his knowledge in many ways. I have often said, "I wish I had written down all the useful snippets of gardening information Tom has given us over the years".

He was a popular speaker to groups in Otago and Canterbury. For 18 years he was a radio star running his own talk back gardening programme on radio Waitaki. Talking on the radio wasn't daunting for Tom as he worked as a radio operator in the Pacific during World War 11.

Tom worked on the production of a Wild South video 'The Realm of the Rhododendron' for the Natural History Division of TVNZ. Not only did he provide expertise in the filming but also wrote an accompanying booklet.

Rhododendrons have provided Tom with much pleasure throughout his long life, meeting like-minded people, visiting beautiful gardens and mentoring anyone who showed an interest in gardening, especially rhododendrons. Up until the age of 97 Tom would arrive at our place at propagating time with bundles of cuttings.

Footnote: Sadly Tom passed away just before he could celebrate his 100th birthday. He will be missed but his legacy remains.

THE VALUE OF COLLECTIONS

As demonstrated by one lowly, but important, old English hybrid at Pukeiti.

Andrew Brooker

R. thomsonii - image reproduced from *Joseph Hooker's Rhododendrons of Sikkim-Himalaya*

When one thinks about it a plant collector is no different to someone who collects stamps, coins or bottle caps. The passion for their obsession drives them to collect a wide and varied assortment of related items, and occasionally they hit upon a gem. Pukeiti's rhododendron collection sits well within this analogy, where to meet the objectives of the Pukeiti Trust, plants of the genus were acquired from around the world to build the collection. Little would the early members realise just how important this collection, of both species and hybrid, was to become today.

According to the original, typed and bound, plant records one plant of *R.* 'Tregedna', Reuthe's form was purchased from G. Reuthe & Co Ltd of England to be added to the collection in 1955. This unassuming plant was described thus in the Rhododendron Society Notes vol III. IV in 1928 by Mr Henry McLaren, later Lord Aberconway of Bodnant:

"A very good hybrid, with finely shaped red flowers in a very compact truss, with splendid foliage, upright in habit and perfectly hardy"– a description that I am sure would have sold many a plant, except that it is also noted in the same article *that "apparently only a few plants were raised, and the original plant no longer exists at Penjerrick."*

But to recognise the value of this old English bred hybrid we need to trek back to the beginning of its story in a Cornish garden called Penjerrick, and the gardener, Samuel Smith. At this point I refer the reader to The RHS Rhododendrons, Camellias and Magnolias 2019 Yearbook where the legacy of Samuel Smith is aptly told by Ned Lomax. I instead will focus on his hybrid, 'Tregedna'.

R. 'Tregedna' is the result of a deliberate cross made by Samuel Smith somewhere between 1909 and 1915, as noted in the RHS registration notes, of *R. arboreum* and *R. thomsonii*. What is remarkable or indeed important about this you might wonder? Nothing at face value except that the two parent plants were collected by Sir Joseph Hooker and grown along with other such gems of the time in the gardens of Penjerrick. This gives this hybrid, along with some of the others raised and named by Samuel Smith, a lineage that links directly back to the wilds of the Himalaya. Ned Lomax notes in his article the extra detail that McLaren states that a pink form of *R. arboreum* acted as the pollen parent.

One single specimen survives in Cornwall today in the woodland garden at Antony, a gift from Bodnant in 1933, with one other, a 1991 propagule grown from that plant imported in 1955 via Duncan and Davies Nursery, in the hybrid block at Pukeiti. They are the only two examples left in the world.

"Smith's plants were offered for sale by nurseries in Great Britain and as far away as New Zealand. This distribution has meant that, even one hundred or so years after many of them were bred, rhododendrons created by Samuel Smith survive in cultivation." said Ned Lomax.

Other examples of this early rhododendron breeding programme can be seen in the garden on the Larcom Walk in the forms of *R.* 'Helen Fox' and *R.* 'Barclayi'. Also at Pukeiti, and indeed enjoyed throughout New Zealand, are plants of *Rhododendron* 'Cornubia' and its glorious red blooms opening from the end of winter into early spring.

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AN EXPEDITION TO CHINA TO SEE: 'THE KING OF RHODODENDRONS'

Craig Carroll

In January, 1991, a party of five Australian horticulturalists with our host Ji Xiangsheng (who we called 'Tony', from the Kunming Institute of Botany, Program Officer for Foreign Affairs, received permission from the Chinese Government to travel to see the 'Giant Azalea' - *Rhododendron giganteum* var. *protistum*.

Tony spent some time organising the expedition and hired guides, two jeeps and drivers to take us to Jietou village in the Gaoligong Mountains, located in Tengchong County, of the Yunnan Province of China.

Our botanist, Professor Yang Zenghong, also from the Kunming Institute, was coming with us too; this was his fourth visit to Jietou as he had never seen the 'Giant Azalea' in flower. He assured us that it should be flowering at this time of the year (late January).

The official party was Tony, Professor Yang Zenghong and four Australians namely, Graeme Oke of Bomaderry NSW, Peter Teese of Yamina Rare Plant Nursery, Monbulk Victoria, Philip Woodbury of Mt. Kuringai NSW and myself Craig Carroll of Baulkham Hills NSW. (One other Australian could not make the trip).

We left the city of Tengchong on Monday, 28th January, at 7.30pm and drove to a small village to spend the night, arriving at 10.30pm at the hotel. We booked in and then went to have dinner - the village restaurant offering us the best bowl of noodles and Chinese food that we had ever tasted. The beer wasn't that bad either! After getting to bed at midnight we were up at 5.30am and back to the restaurant for breakfast and more noodles.

We were into the jeeps and on our way by 6am. We travelled on an extremely rough road for the next 2.5 hours. In one spot part of the road was washed away so we had to detour. On the way we picked up the Park Ranger who was in charge of the Park. The village we arrived at was very remote - this was to be the beginning of our trekking by foot.

Craig Carroll Party at the base of *Rhododendron protistum var. giganteum*

We were the first foreigners to visit this village since early 1930 so we considered ourselves very privileged.

At 9am we began our 20km walk having been joined by two members of the village who were to act as additional guides. Our total party on the walk numbered ten. One driver chose not to come.

Graeme, the guides and myself set a fast pace up the valley, crossing the icy streams on slippery, icy logs and arriving at a small campsite at 10am. While waiting for the rest of the party the man at the campsite offered us a bowl of rice which was most acceptable. We started off again, following a stream, trekking up and down hillsides, through thickly forested areas seeing many plants such as: *Ardisia*, *Acer davidi*, *Aralia chinesis*, green Pilea, violets, schima trees, oak trees, clematis (covered with little white bells), - sweet scented daphnes, large ficus trees and orchids of many varieties.

Rhododendron delavayi with its bright red blooms was just coming into flower. Large trees of *Michelia yunnanensis* were all through the forests. We stopped for a break near some hydrangeas and viburnums and afterwards we headed off through more forested areas, crossing two small landslides above a stream and then when heading down towards the stream we came across our first *Rhododendron giganteum*. The large leaves were over 30cm x 15cm with 25 veins per leaf. We all thought we must be getting very close to the big trees. The first one we found was about 20m in height, close by was a bigger tree, 25 - 30m, with two huge trunks and three large branches. This tree certainly lived up to its name of 'King

A reputed 500 year old 25m *R. protistum* var. *giganteum* growing in Gaoligong Mountains, Tengchong, Yunnan.

of Rhododendrons'. It was indicated to the group that the tree was over 500 years old. We decided this was a great place to have our lunch! After lunch we photographed the tree from every angle possible, each person having their photograph taken in the tree branches. We were disappointed that the tree was not in flower but we gathered as many seed pods as we could find to take back to Australia. We then had to walk the 20km back to the village and did not arrive back until 7.30pm, to have dinner and then drive back to Tengchong, arriving at 1.30am, very exhausted but extremely satisfied with our achievement. During dinner we took the opportunity to thank Professor Zenghong, Tony Ji, the guides and drivers, for without their help this trip would not have been possible.

Note: George Forrest, (Scotland 1873-1932) alone introduced the incredible total of 260 species of rhododendrons and was probably the most prolific collector of plants the world has known. Because of the enormous amount of seed he collected (45kg at a time) large amounts of plants could be grown for evaluation in the Royal Botanic Garden at Edinburgh. Expeditions by Forrest in Western China occurred in 1917-19, 1921-22, 1924-25 and 1930-31. In September 1919 Forrest travelled to the Tengchong area and discovered the 'Giant Rhododendron'. He recorded the finding of three trees, the tallest 24m, spread over 12m and with a girth of 2.3m when measured 1.5m from the ground. He collected seed from these trees. In March 1921, on his way east from Burma, Forrest detoured, seeking specimens of rhododendrons in full bloom. He was in luck as he found big stems with 15-20 large blooms which were 6 - 7.5cm in length by 3.5 - 5cm in width. The colours were, "deep crimson or rose crimson shaded to almost white at the base with a deep crimson blotch". There are two areas where this species has been discovered, Hetou in the South and Jietou in the North. It was first described, in 1926, as *Rhododendron giganteum* and has since been reclassified as *Rhododendron protistum* var. *giganteum*.

It is documented that Forrest, in 1931, before retiring, made one final trip to Hon-to at the head of the Shweli valley to photograph *Rhododendron giganteum* and to saw a cross-cut section of the thickest part of the trunk to send home to the Garden Museum. He died of heart failure on 6th January 1932, a few kilometres from Tengchong and was buried there.

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RHODODENDRON PROTISTUM

– THE PUKEITI PART OF THE CRAIG CARROLL STORY

Graham Smith

About the end of 1991 I read the Craig Carroll story of how he retraced George Forrest's original finding of *Rhododendron giganteum* (as it was in those early days) and reproduced in this Journal. On hearing the words "seed collected" my eyes lit up and I thought perhaps there might be a chance to procure some. So I immediately wrote, as you did in those dark days, to Craig asking if he might have a pinch of seed left that he could spare. A short time later an envelope with nothing in it but a stamp pocket with a small amount of seed arrived, much to my surprise.

This was sown immediately with the hope that it had not deteriorated since collection and I was very relieved to see a month or so later small specks of green appearing on the pot surface. These might be the giants of the genus but they start off life as tiny seedlings that appear to be in no hurry to get on with the business of growing! I thought of all the large-leaf seedlings that adorned the banks at Pukeiti with no help from anyone and my precious few being pampered into life and ignoring my efforts. About 12 months later they were large enough to look like they would survive a transplant to individual pots. So with baited breath I had some 20 or so of these tiny offspring occupying the most favoured space in our glasshouse with almost 24 hour care. Three daughters were much less stress than these!

It took what seemed to be forever to get these young plants to grow away and in the first few years root growth outstrips any top growth. After about 4 years they started to make rapid progress and then we soon had handsome 1m high plants with outstanding foliage ready to think about a position in the garden where they would make a statement. I really wanted somewhere that a number of them could be seen together to have a wonderful impact when they eventually flowered. We had already selected an area adjacent to the White Walk-Giant Rata area for developing the large leaf collection and I realised that a ribbon planting right through might just achieve that goal. It was also adjacent to the existing specimens of *R. protistum*, including *R.* 'Pukeiti' itself, so should add to the experience that only Pukeiti could provide.

Rhododendron protistum var. giganteum, first flowering from seeds collected on the Craig Carroll expedition, at Pukeiti

So that is where all of them were planted and they settled in well to their new sheltered home and set about the long teenage years before the first enticing flower buds appeared. In the meantime the bush around and through them tried to take back the space and it has been a long period of having to reopen light wells and remove bush seedlings every few years. Not all of the seedlings survived with some getting root rot, others having trees fall on them in big storms and one being eaten by a goat! However it regrew better than before and is a great specimen now.

First flower buds appeared three years ago which made it 28 years since the seed was sown which perhaps makes them more like humans when it comes to maturity –or perhaps not! The flowers were fairly scattered on a couple of plants but displayed that large truss and glowing pink that we had come to expect around the original Pukeiti plantings of this wonderful species. This year they have really woken up and there is more flower than we have seen before spread across many of the plants. The big surprise was the deep crimson pink on one specimen, the likes of which we had not seen before and standing out like a beacon. For me this made it all worthwhile and it is very humbling that a number of these special species are on the later named 'Graham Smith Walk'.

The visions of the Founders of Pukeiti are realised with these ongoing plantings and it is a pity that few of them lived long enough to see what maturity brings. It is also a reminder that none of these are really permanent and the rhododendron collection needs nurturing and replenishing all the time, something that the TRC and wonderful staff recognise. Keeping an eye out for new plants and opportunities is part of the plan, even if it takes 30 years for just one of them to realise its promise. I hope Craig Carroll appreciates just what his day in the Yunnan rainforest would lead to.

Footnote: Since writing this story I have been able to make contact with Craig and Daphne Carroll at their Blue Mountains nursery, after sending them a picture of the tree in flower. They were very surprised to get this but delighted to know that the effort had been worthwhile as they failed to grow on any seedlings themselves and no other seed was shared. Daphne was able to send me some images taken at the time but conditions under the canopy made it difficult to get a notion of the size. I extended an invitation for them to visit Pukeiti in August or September in the future to see the plants Craig made happen. It would be a fitting occasion for us to recognise the gesture of sharing seed back in 1991.

RHODODENDRON MACABEANUM

Andrew Brooker

Described as a small tree, 3 - 9m in cultivation but taller in the wild - *Rhododendron macabeanum* is one of the best large-leaf rhododendrons we grow at Pukeiti.

The broad leaves, while not the biggest in the genus *Rhododendron*, have a somewhat shiny appearance to the top surface and a bistrate indumentum on the underside. It is, in fact, this dense woolly indumentum that makes it more distinguishable from other taxa within the Grandia subsection. A compact yellow flower truss of up to 30 individual flowers sits atop the handsome foliage in mid -late September and is a definite highlight in the garden. It is this combination of foliage and flower that indeed makes *R. macabeanum* a winner.

The geographic range for *Rhododendron macabeanum* is limited to the states of Manipur and Nagaland in NE India, where it grows at altitudes of 2,400 - 3,700m. While it can be common in these areas, the pressure on habitat is increasing due to forest loss and logging. As a result, it has been classified as endangered on the ICUN Red List. Unfortunately, opportunities for more field work are restricted by security concerns in one of the two areas where *R. macabeanum* is found.

It is worth noting that a more compact form has been discovered at the higher altitudinal range of 3,700m on Mount Saramati on Nagaland's border with Myanmar. This offers future potential for smaller gardens to be able to grow this wonderful species, and doubtlessly creates hybridizing opportunities as well. It also highlights the diversity within the taxa that is dictated by altitude.

We have various forms growing throughout Pukeiti, with many of the early accessions now the elder statesmen of the taxa within our large-leaf display. The best flowering is the Kingdon Ward plant, KW19082, adjacent to the Matthews Walk and the nearby Brodick form. In the interest of building the genetic diversity within the collection, we are continuing to obtain as much wild-sourced seed material as possible. Jeremy Thomson and Shashil Dayal have made several trips into India, Bhutan and Sikkim since the early 1990s. It is from one of these trips that, despite the security limitations, they were able to go to Nagaland and collect the seed of *R. macabeanum* that has now become part of our collection. Thanks to their intrepid collecting, we now have two plantings of these, one on the Richardson Walk and one on the White Walk. Both flower regularly. Seed obtained through regular subscription to international seed lists also plays a part in growing this diversity that is so important both for the collection and the individual taxa, allowing Pukeiti to give Taranaki its place in international conservation.

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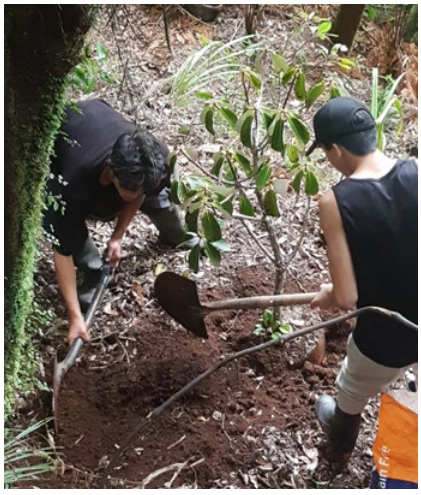
Two (Dayal & Thomson) wild collected *Rhododendron macabeanum* forms



Coastal School boys planting *Rhododendron macabeanum* on the White Walk

VIREYAS IN NEW ZEALAND

Graham Smith

R. saxifragoides, collected Mt Giluwe, PNG, 3900m, 1983 collected by Graham Smith

Vireya rhododendrons appear to be a fairly recent phenomenon but in fact they were on offer in New Zealand nurseries in the early 1900s. These offerings were new hybrids bred by the Veitch Nurseries in London, a result of their collectors being based in the Dutch East Indies. This region, which we know today as Indonesia, was one of the world's trading hot-spots in the 1800s and Java, Borneo and Malaysia were targets for anything exotic that could provide new plants for wealthy collectors. So species such as *R. javanicum, brookeanum, jasminiflorum* and *malayanum* were established and as soon as they flowered under glass they were hybridised. A huge number of named hybrids, collectively known as Veitch Hybrids, were raised in the late 1800s. Those that reached New Zealand included the still available 'Princess Alexandra', 'Ne-Plus-Ultra' and 'Souvenir de J H Mangles' which is remarkable given the lack of experience of cultivation requirements 120 years ago.

Following these introductions there was a considerable gap, due to the major world wars and the lack of staff to maintain such collections, before interest was revived. Dr Hermann Sleumer, a Dutch botanist, produced a major work on the 'Vireya rhododendrons' as they were then titled, based on herbarium work in Dutch New Guinea, Indonesia and Malaya. This brought the attention of Southern Hemisphere plant hunters and in particular Australian scientists who took on the oversight of East New Guinea, now Papua New Guinea. Hunting for gold was the major incentive for the explorations but reports of the flora and fauna soon attracted the plants people and regular trips were mounted to collect what was there. New Zealanders were not too far behind and it is well known that Felix Jury from Taranaki took himself off to PNG in 1957 for a quick visit and brought back a number of species including several forms of *R. macgregoriae* which he skilfully nurtured in his sheltered garden.

As soon as his plants started to flower Felix crossed them back and forward and soon had a number of good hybrids such as 'Buttermaid', 'Orangemaid', 'Golden Charm' and 'Queen of Diamonds' that have withstood the test of time. He did not stop there as he was aware that Australian collectors were doing the same and as he had seed available, much of it from Tom Lelliott, he grew on many new plants.

An interesting introduction at this time was *R. lochiae* from Australia, thought at the time to be the only species there. Grown from seed it was distributed as a 1960's Conference special in Dunedin. What actually happened to these I do not know and I suspect the original name to be incorrect as we now know there are two closely related species in Queensland and the most common is now *R. viriosum*. It follows that most of the so-called 'Lochiae hybrids' are in fact 'Viriosum hybrids'. Whatever, they have been excellent garden plants, often compact in habit and with reddish flowers and include 'Red Rover', 'Cherry Pie', 'Hot Gossip' and 'Rob's Favourite'.

By the early 1970s Australian growers were hybridising freely from their initial species seed and Ewen Perrott, a farmer in the Waikato and Pukeiti Board member, was getting seed from Tom Lelliott of primary crosses such as *R. laetum x zoelleri, aurigeranum x macgregoriae, javanicum x laetum* and growing on a selection of each with every seedling having a number attached to the cross. He then took cuttings of each seedling and grew on 10-20 of them to evaluate and eventually distribute. Pukeiti had a selection of these and I kept the all-important numbers to be sure in any future discussions of which clone it was. Hence 'laetum x zoelleri No 8' became 'Simbu Sunset', '*aurigeranum x macregoriae* No 9' became 'Flamenco Dancer',

R. rugosum collected by Keith Adams

R. macgregoriae collected by Felix Jury, 1957

R. 'Simbu Sunset'

'*aurigeranum* x *laetum*' became 'Gilded Sunrise' and '*laetum x javanicum*' became 'Java Light'. Os Blumhardt named his seedling of '*laetum x zoelleri* No10' as 'Tropic Glow' and all of these have become stand-out performers.

It was about the early 1970s that I also began to correspond with vireya growers on behalf of Pukeiti with the aim of getting more species into the country from seed and cuttings as we had a quarantine house set up for importation. Dr John Rouse, Graham Snell and Clyde Smith, all in SE Australia, were important connections and led to the decision to build a Vireya Glasshouse at Pukeiti to display these plants once they were established. An application to the Stanley Smith Horticultural Foundation, based in the UK via RBG Kew, realised enough funding for the project and had it built and opened to the public for our 25th Anniversary in 1976. It was the first dedicated public display of these plants in NZ and whilst looking sparse for the opening on its sloping landscaped site close to The Lodge, they must have felt at home because within two years they were crowded but flowering well.

The late 1970s through to the 1990s were particularly busy for the greatly increased rate of introduction of new species and hybrids. This was the result of individuals taking themselves off to the key areas of SE Asia where they grew and bringing back cuttings and seed. From about 1980 through to 2000 New Plymouth nurseryman Keith Adams made about 15 trips to Sabah and Sarawak in Borneo, Java, Sulawesi

Collecting seeds of *R. solitarium*, Mt Kaindi, 2800m, PNG,1986

and Malaysia, establishing himself as a familiar figure to several tribes and being elevated to having his own native name – 'Kadam'. In his own style he was a remarkable solo collector and despite the odds managed to introduce a large number of species, one or two not recorded before. Most of these came to Pukeiti where we quarantined them for up to two years sometimes, if they proved to be difficult and did not make sufficient growth.

It was also about this time that I made contact with Dr George Argent, the Vireya specialist at RBG Edinburgh where the largest collection of these, outside the wild, is still housed. George was making annual trips to the SE Asian region gathering plant material and herbarium specimens in preparation for his seminal work 'Rhododendrons of the Subgenus Vireya', published in 2006. This contact resulted in both cutting material and wild collected seed coming to Pukeiti and being part of an ever-increasing collection of International importance. It also initiated two visits by George and his wife Sue to New Zealand to see for himself how we were managing the collections.

Os Blumhardt was also busy making Asiatic trips from his Whangarei Nursery and in 1979 and 1983 went to Sabah and in particular Mt Kinabalu on collecting trips. Os was a real plantsman and anything and everything interested him and the challenge of growing them was a key part of such visits. He had an eye for selecting the most interesting plants and what he might do with them through hybridisation. The warmer climate of his Koromiko Nursery gave him licence to produce better rhododendrons for our generally warmer conditions than the traditional Northern hemisphere gardens could.

In 1983 I had a chance meeting with Australian John Womersley at Pukeiti. He had recently retired as Director General of Forests, Papua New Guinea and was organising a plant trip to PNG in August. He was seeking me out to see if I would like to join him and you can guess my answer to that suggestion! So it was with great excitement that I flew via Sydney and joined up with about 18 others to explore this remarkable island. With John's connections we were able to visit areas not normally on the tourist route and even then rather wild and woolly at times! Fellow travellers included nurseryman

Os Blumhardt collecting *R. beyerinckianum* nat. hybrid, Mt Wilhelm 3550m, 1986

Graham Snell and Clyde Smith who had been before and we made a great team collecting, identifying and generally encouraging each other. It was a friendship that lasted for many years. The results of this trip still can be seen at Pukeiti today.

Os Blumhardt had been in Borneo in 1983 and really wanted to visit PNG and so persuaded me to organise another trip from NZ and it was successfully done as a Pukeiti tour through a specialist travel agent in 1986. About 17 travelled this time including two Australians and three Americans. A similar itinerary was followed but with a few more tourist spots included for the non-botanical members. Several particular vireya species were targeted, one being *R. saxifragoides,* a very specialised species from high mountain alpine bogs growing flat on the ground. We missed finding it on the first trip so I was determined and better planned for it the second time. The PNG mountains might be near the equator but are very hard going merging from the tropical to alpine environments in short distances and the dash up is not easy in one day. I did collect it this time with better preparation but Os missed out. I collected enough bits from one bog to share with all of us.

The story of this encounter is fascinating in that Os and I took small pieces of this amazing plant back to our respective quarantine stations and got them to eventually grow. Whilst in the prop bed at Pukeiti three of the cuttings sent up a single flower bud, the presence of which I had no idea, because the narrow leaves rise up like a funnel to hide any bud, perhaps to protect from frost. Excited I rang Os to ask if he had any flower buds and he did not, but he immediately asked if I would save pollen and send it up to him. Naturally about a week later I did and Os used this pollen on anything flowering in his nursery. The short story is that he produced a plethora of tiny seedlings of a cross with his 'Hot Tropic' hybrid, and the remarkable 'Saxon Glow' and 'Saxon Blush' hybrids resulted from this saga. He gave away many other seedlings and some were also named but his two became known all over the rhododendron world, mainly as flowering pot-plants in Europe!

R. saxifragoides growing at Pukeiti, 2003

R. hellwigii collected by Graham Smith

R. lowii collected by Keith Adams

Other collectors at this time included Prof. Bill Phillipson and his wife Melva who were based near Lae, NE PNG, where they did botanical research on several plant families. They were able to send cutting material back to Pukeiti and we grew a good form of *R. rarum* from them which proved to be a great basket plant with weeping branches, narrow leaves and pendulous red flowers.

Michael Cullinane came on my 1986 PNG tour and collected most of the things I did but managed to find others that interested him. He later returned for a separate visit and collected in some areas not covered originally, which he then grew on in his Levin nursery. He later became Rhododendron Registrar for NZ and named a lot of his own hybrids, usually with interesting foliage and habit, from the original collections. 'Bellenden Coral', 'Claremont' 'Fairy Dancer' and

'Phoebe Dunbar' are just four of his hybrids that have become available.

In the 1990s David Binney from Tauranga became really interested in vireya species and centred his attention on the Philippines, Sulawesi, Sarawak and Sumatra, away from the more popular collecting countries. He set up an impressive quarantine and collection house on his property and had good success in introducing rare material. He was joined on a couple of trips by David Brown, formally Head Gardener at Pukeiti and jointly they were able to eventually spread new material around. David, with his wife Pauline (also ex Pukeiti) had set up a commercial vireya nursery near Tauranga and with some Pukeiti raised plants going to them for security, another important outlet was created.

The Tauranga area must have something going for it with vireya cultivation and breeding because a young nurseryman, John Kenyon, set up a specialist nursery for all things tropical and vireyas were the prime draw. John was passionate about them and a great advocate for the hybrids in particular. The nursery itself was a highlight to visit with vireyas centre-stage and in flower every day of the year. In 1997 he produced a great little book on the subject called 'Vireyas for New Zealand Gardens' and it is as relevant today as it was 23 years ago. It was a great pity that exceptional circumstances forced John to close the nursery because it lifted the vireya profile as never before.

Another character in this story is Richard Currie, an accountant from Auckland, who became an enthusiastic grower of species who then hybridised from them. Richard began collecting from all the growers in NZ and in particular Pukeiti and was most keen on wild collected material. He gardened on a small Lynfield section and his propagation unit was a small growing house under the deck. Richard corresponded with George Argent and other collectors and was able to source seed from them and

R. womersleyi on tree fern, Mt Giluwe, PNG, 1983

proved to be a good propagator. As his species collection grew, mostly in containers, it filled most of the garden and was probably the second most comprehensive in the country. Richard had a good eye for form and unusual colour in the species and began measured crosses to improve both foliage and colour depth in his hybrids and he did this well. He named some but before this developed into a business family changes brought a halt to his work and he quickly disposed of most of the collection, much of it coming to Pukeiti.

Behind the scenes several other people were becoming interested in hybridising, particularly of the large flowered, highly scented, epiphytic species and hybrids. They only flower once a year but are stunning when they are in bloom. Some that have become well known are 'Cameo Spice', 'Silken Shimmer', 'Hot Gossip', 'Rio Rita', 'Solar Flare', 'Big Softie' and 'Satan's Gift'. One couple who loved these were Brian and Jan Oldham in Auckland and they produced some classy plants. Another was Eddie Lyon in Taranaki who in retirement took up growing plants and breeding big vireya hybrids. Many were given names but few, as is often the case, were registered. I understand that is happening now but it is a slow process getting international naming rights. Eddie has now retired –again, but the bulk of his seedlings have gone to Pukeiti for evaluation and name registration with the best being planted in the new display houses.

Vireyas have become common-place these days and many parks and public gardens have a representation. In Auckland, Eden Garden has a long-standing collection which is added to regularly when space allows. It is

Dorham *R. blackii*, 2014

an excellent example of how to blend these exotics with our native flora to achieve a stunning, all year display. It can be argued that the climate makes the difference but not always. I have never forgotten the sight of seeing a wonderful specimen of *R. lowii* in flower in a tiny garden in Dunedin City! Gavin Clark got this as a small seedling in 1997 and it took until 2004 before it flowered with just one truss of 30 individual flowers in bright yellow. This is a plant found on Mt Kinabalu, Sabah at reasonable altitude growing in moist ravines amongst tall trees and granite rocks. It can reach up to 6m in such sites and they are usually tall and skinny with huge leaves. One flower truss is all you need in such a position and nobody was more surprised than Mr and Mrs Clarke were when they realised they had a flower bud. By carefully manoeuvring the plant in its large pot around the garden to the warmest site everyday they achieved a spectacular first! Dedication indeed.

The number of new introductions seems to have slowed but the stock plants of most of the excellent hybrids are still being produced by good wholesale growers and are available throughout the country in the major garden centres. They are not too difficult to grow if you accept that they are only light frost tolerant and often, because of the naturally epiphytic nature of the parent species, have relatively small root systems. Many are good container plants and baskets or ponga stumps are great options for the smaller varieties. New Zealand has played a big part in the evolution of vireyas in cultivation and hopefully will continue to do so.

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R. solitarium, Pukeiti, 1998

THE NEW ZEALAND RHODODENDRON *EX-SITU* CONSERVATION PROJECT: REPORT TO THE END OF OCTOBER 2020

Dr Marion Mackay

The New Zealand Rhododendron *ex-situ* Conservation Project has been underway for several years now, so how are things going? In this article I will summarise activities for the last year; however, before I start, let's first look at the aims that are set out in the project strategy (Pukeiti Rhododendron Trust 2020). Our overall vision is that the New Zealand Rhododendron *ex-situ* Conservation Project will develop:

- A set of documented New Zealand collections, replicated where possible, that hold a wide range of *Rhododendron* species, emphasising taxonomic groups for which New Zealand has a cultivation advantage, with some (but not total) emphasis on Red List[1] taxa, and using wild-source material where possible,
- Connections to international networks and conservation programmes where holding, propagating, distributing, cultivating, and researching plant material is part of an international activity,
- New Zealand conservation expertise, with contributions to international activities to the benefit of the project.

We will achieve the above aims by:

- Collaboration among a project team *(see Appendix 1)* comprising representatives from Pukeiti Rhododendron Trust (PRT), Taranaki Regional Council (TRC), New Zealand Rhododendron Association (NZRA), Massey University, and other participants as appropriate, using a project plan with a 5-year timeline,
- Building the 'New Zealand collection' through re-discovering or re-importing taxa that have disappeared from cultivation in New Zealand, and by increasing the diversity of accessions in New Zealand by acquiring new accessions of permitted taxa from overseas,
- Developing a national network of collection sites, with guidelines for participation of partner sites.

To implement the above aims we have set ourselves several categories of activities and milestones over a five-year period; below I will outline what has taken place under each category in the year since the last journal article (MacKay 2019).

Doug, Mark, Sue and Andrew study a plant in the Leonie Day collection in Dunedin.

[1] Red List taxa are those deemed, by expert conservation assessment, to have a conservation issue. In decreasing order of threat the categories are: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), and Data Deficient (DD) for taxa with insufficient data to allocate a category. Species with no conservation issue are Least Concern (LC). The most recent summary of conservation assessments for Rhododendron are found in MacKay et al. (2018).

Project activities

Search, propagate and distribute priority plant material (Red List species, species uncommon in New Zealand). Distribute overseas where/when appropriate.

Following the initial data gathering phase (largely completed in 2018) we used the dataset to determine species and accessions that are a priority for propagation (species that are scarce in New Zealand collections, with an emphasis on wild-sourced accessions, particularly of Red List species) and this has taken the team all over the place to gather propagation material. Our goal is to propagate all taxa (both Red List and common) that are held on three or fewer New Zealand sites, with particular emphasis on wild-sourced accessions.

A primary focus of the 'propagate and distribute' phase has been the project, led by Sue Davies, on a privately owned Dunedin collection that has about 1500 plants and many rare species. Documentation from the previous owner shows that there are some very interesting species indeed on this site (including Red List species), all unlabelled, and the focus of Sue's project is to identify all species and propagate high priority species. In October 2019 Sue, Andrew Brooker and I travelled to Dunedin and were joined by Doug Thomson and Mark Joel for a session on identification. Sue, Andrew, Mark and Doug did the identification while I followed along and took photographs. Around 800 photos were collated in a dropbox repository and about 532 of the 1500 plants in the collection have been identified.

In a second visit in March 2020, Sue and Andrew gathered propagating material and attached labels to 475 plants. Grafts and cuttings from this trip were grown on at Sue's propagation facility with some being planted at her property as stock plants, some being planted at Heritage Park, and some being distributed to other conservation sites. Joy and Bernie O'Keefe had also visited Dunedin and have propagated 25 species (some unidentified) from this collection. (Our five-year goal is to identify 75% of the plants in the collection and propagate 50% of plants that have high conservation or horticultural value.) In November 2020 we will meet again at this site and do a second round of identification work; figuring out unknown plants (some still have the team stumped!) is intriguing and fun and we are grateful to the owner for providing access to the collection.

Also in the South Island, in January 2020 Sue and Lindsay Davies visited the site of a former nursery in Ashburton and, with the agreement of the current owner, harvested cutting material from 40 taxa on that site (old catalogues indicated several species of interest). Twenty-nine sets of cuttings were successfully grown and most, but not all, of 15 grafted accessions were successful. (Rodney Wilson of Cross Hills has kindly provided stock for grafting.)

Meanwhile, in March 2020 Andrew Brooker went on a road trip to collect cutting material in the North Island and acquired material from a Waikato collection, a Taupo collection, a collection at Tokoroa, and a collection near Taihape. In August, Graham Smith also visited the Taihape collection and noted a number of big-leafs and *Maddenia* species as well as many NZRA introductions. Unfortunately, this collection is not labelled either so the team must test their skills to identify any plants of interest.

Propagation is also taking place at other sites. Doug Thomson organised propagation of *R. spilotum* and *R. fletcheranum* from a Dunedin site, while Andrew harvested seed from several Red List taxa at Pukeiti (*R. auritum*¸ *R. suoilenhense* AC448¸ *R. nuttallii*). There has been some 'distribution' with plants taken from the Davies site to Heritage Park and Pukeiti (in June Andrew picked up 189 young plants that Sue had grown from the Dayal/Thomson seed and the ARS seed). Plants have also been distributed from Pukeiti to Heritage Park. In due course when plants that

Seed was gathered from *R. auritum* (Critically Endangered) at Pukeiti this season.

Two partner collections will hold components of the vireya collection, such as *R. himantodes*.

R. primuliflorum is one of the alpine swarf species that will be held in a partner collection.

are presently being grown on are large enough, species will be made available through Plants for Members.

Although our major 'search' phase is over, we are still acquiring collection lists – this is most important, as every addition improves my oversight of the 'national collection'. Andrew Brooker acquired a list from a Waikato collection; I suggested several taxa that should be propagated and Andrew gathered material in February 2020. Sue Davies acquired a list from a Wairarapa collection; I reviewed that list and suggested several taxa that should be propagated. In late October I received a list from a New Plymouth collection. Contributions from collection owners all add to our knowledge of what is present in New Zealand and are much appreciated.

instances where an accession is noted as wild-collected, but where and when has been lost from the records.

I will not say much about seed obtained from overseas as this is being covered in the article by Sue and Andrew on propagation. In summary, wild-source seed lots have been acquired from the Dayal/Thomson expedition to Sikkim in 2019 (23 taxa), a Jonny Larsen expedition to China in 2019 (18 taxa), an order to Index Seminum in 2019 (5 taxa), the ARS 2020 seed list (18 taxa), and the RHS list in 2020 (15 taxa). The species acquired include Red List species, but also common species for which we have little or nil wild-sourced material in New Zealand. Our end goal here is to have at least three different wild-sourced accessions of each species in the 'New Zealand collection'.

five-year goal is to achieve four partner sites. Thus far, Gordon Bailey, Andrew Brooker and Sue Davies have initiated discussion with five sites where vireya species, triflora and irrorata collections, alpine dwarf species, and cool climate species could be held. Andrew Brooker has developed a draft protocol for managing the relationship between those sites and the project and we look forward to working with the managers of those sites.

Maintain oversight of the 'national collection' through analysis of the MacKay dataset.

Decisions on propagation, selection of seeds for purchase, and allocation of plants to different sites are driven by discussion among the project team, but also by analysis of the MacKay dataset. This dataset, which was developed

R. campylogynum is another alpine dwarf species that will be held in a partner collection.

R. ciliipes K56 (Data Deficient) is only on one site in New Zealand and has never been offered for sale. It is a high priority for propagation.

Acquire new accessions from overseas (purchase seed, contribute funding to expeditions, participate in expeditions).

The previously described activities focus on existing New Zealand collections; however, to improve the conservation value of our collections we need to acquire new accessions that are different to what we already have and, most particularly, acquire wild-sourced material. What is quite apparent from examination of the national dataset is that, for many species, we lack wild-sourced material. Or, more precisely we lack 'known' wild source material – there are many

Develop a network of participating sites which will hold segments of the 'national collection'. For participating sites, develop protocols for maintaining plants, distributing plants, identifying plants, labelling, data management and record keeping, with regular reporting on each collection.

As readers will appreciate, one site cannot hold all the rhododendrons that are present in New Zealand collections, so collaboration among sites is needed to allocate components of the national holdings over a range of sites (and have duplicates of priority species). Our

for the workshop in Virginia, USA, in 2018 (MacKay et al. 2018) is likely to be the most comprehensive description of rhododendron species in cultivation globally and the presence and frequency of species in cultivation informs what we do here in New Zealand.

For example, thus far the only recorded accession of *R. ciliipes* (Data Deficient) in New Zealand is the K56 accession held at Pukeiti. According to current data, this species has never been offered for sale in New Zealand. In contrast, *R. griersonianum* (Critically Endangered) is present in nine collections and has been offered for sale 15 times in New

Zealand. For conservation priorities, propagation of *R. ciliipes* is urgent because it is so scarce in New Zealand collections, whereas there are more holdings of *R. griersonianum* and it can wait for a second phase.

The database also informs decisions about priorities for wild-source material. *R. niveum* (Vulnerable) is present in 12 New Zealand collections and there are 3 wild-sourced accessions present. In contrast, *R. scopulorum*, which also has a Vulnerable conservation assessment, is present on only two sites and there are zero wild-sourced accessions present. *R. scopulorum* takes priority for acquisition of wild-sourced material while *R. niveum* would be in the second phase. (Fortunately, we can obtain more material of these species as they are listed on the Plants Biosecurity Index and new seed lots can be imported.)

As mentioned earlier, the database shows that we lack properly documented wild-sourced accessions. It is also apparent that more wild-sourced accessions have been present in the past but are no longer reported in any collection; I suspect some of these are still out there, if we could but find them. To this end, one of my tasks in the project is to do an analysis of wild-sourced material that is and was in New Zealand and publish that analysis.

As resources allow, research and submit Section 26 applications to the Environmental Protection Authority (EPA) for taxa not presently on the Plants Biosecurity Index (PBI).

Everyone in the New Zealand plant world is aware of the difficulties of the New Zealand Plants Biosecurity Index (PBI), which is used to control plant importation into New Zealand, and that it lacks taxonomic rigour, is incomplete (Carver et al. 2007; Dickson 2009) and does not adequately describe the approximately 40,000 introduced species that are in cultivation in New Zealand (Dawson 2010). The inability to import new accessions of taxa that are already present in New Zealand (and have been for years), but which are not on the PBI, is an impediment to our conservation programme. (The PBI lists 470 rhododendron taxa; not all are valid though. At the same time, the PBI omits more than 100 rhododendron taxa that are already present in New Zealand.) However, solving this problem is not easy as there are complex legislative hoops to be negotiated. A key process is to make a Section 26 application to the Environmental Protection Authority (EPA), with a suitable body of evidence, to have a species declared 'not new' to New Zealand (i.e. already here).

R. niveum (Vulnerable) is present on 12 sites and there are three wild-source accessions in New Zealand. Compared to *R.* scopulorum it is a lower priority for acquiring more wild-source material.

With this process in mind, the rhododendron team has been working for months to build the body of datable, locatable, citable evidence that is needed to demonstrate that various rhododendron species not presently on the PBI have been continuously present in New Zealand since before 1998. Peter Catt, Heather Robson, Andrew Brooker, Graham Smith and I have been trawling through old catalogues and sales lists, seed lists, bulletin and journal articles, old Pukeiti records, old NZRA records, and New Zealand herbarium listings, to document when each species was acquired, propagated or sold. Having amassed many pages of evidence, the next step was to meet with the EPA and learn about the Section 26 process and how we should proceed.

In the meantime, however, there had been a significant development. Murray Dawson of the Royal New Zealand Institute of Horticulture had obtained funding for his 'Taking Stock' Cultivated Plants Project and we decided to join forces as the goal of Murray's project is to do what we are doing for rhododendron, but on a much broader scale. Murray is managing a collaboration among several horticultural groups in New Zealand, to search and collate evidence for and check the names of 10,000-15,000 plant species that are in New Zealand but are not on the Plants Biosecurity Index. Having collated the names and suitable evidence, those species will be entered into the New Zealand Plant Names Database *(https://nzflora.landcareresearch.co.nz/),* managed by Manaaki Whenua Landcare Research,

which automatically feeds those names through to the New Zealand Organisms Register *(http://www.nzor.org.nz/)*. These two databases are official records of plants in New Zealand, but both are weak in cultivated plants (e.g. there are only six rhododendron species on the Plant Names Database), which is of course the issue that Murray is addressing in his project.

In our project we aim to get all rhododendron species in New Zealand that have sufficient evidence loaded onto the Plant Names Database (those already on the PBI plus at least another 100 species). To do this we will have to provide Murray with a spreadsheet of species names, with taxonomic authority and synonyms (all carefully checked to ensure correct taxonomy), along with a citation to either a New Zealand herbarium specimen, or a New Zealand nursery catalogue. Once loaded and accepted these species will then have the New Zealand biostatus of 'present in cultivation, exotic', and achieving this status is the first key step in the documentation process (and the Plant Names Database is first place the EPA will check when we make a Section 26 application).

For 600-800 selected species in Murray's project, the next step in the process will be undertaken with development of Section 26 applications. Because the rhododendron data is well developed, as many rhododendrons as qualify will be included in those applications (we are aiming for 100 rhododendron species). Readers may recall items in recent journals or newsletters seeking old newsletters or plant lists, well, this is why, it is the search for evidence for those Section 26 applications.

R. griersonianum (Critically Endangered) is held on nine sites in New Zealand and has been offered for sale 15 times. Compared to *R.* ciliipes it is a lower priority for propagation.

Anyway, having joined forces with Murray, in October 2019 Murray, Peter Catt and I travelled to Wellington to meet an official from the EPA to discuss how the Section 26 process works and whether our body of evidence was appropriate for use in applications (we had sent an example application for her consideration). We learned that while the process itself is relatively straightforward, the evidence must be precisely documented; finding, scanning, and organising the evidence for each species is going to be time consuming. Taxonomy must be precisely reported and have appropriate citations. Any evidence that cannot be accessed online must be scanned and submitted with the application.

Overall, the meeting with EPA was very interesting and productive and the representative was very helpful. Now we just have a huge pile of work to do to prepare the Section 26 applications to the level required! I have an extra-large pile of work to do as I have also agreed to be project chair for the Cultivated Plants Project; however, it is rewarding work as this is one of the most worthwhile pieces of work on cultivated plants to be done for years and it will seriously advance the rhododendron cause.

Integrate the New Zealand activities with international activities such as the Global Consortium, the Rhododendron Species Foundation (RSF) in USA, Royal Botanic Garden Edinburgh (RBGE), and Chinese connections.

Ex-situ rhododendron conservation is not just about what is happening in New Zealand – we must integrate with other interested parties internationally. We are fortunate in the *ex-situ* project because, between the team, we have several key international contacts and associations. Pukeiti has a long-time friend in Professor Guan Kaiyun who has key roles in the botanic garden world in China (it was hoped that Gordon Bailey and Sue Davies would visit Prof. Guan in China in 2020; however, this plan was scuppered by the pandemic). Sue Davies is also on the Board of the Rhododendron Species Botanical Garden in USA. Between them, Graham Smith, Lynn Bublitz, Gordon Bailey and Andrew Brooker know just about everyone (!) and can facilitate contacts all over the rhododendron universe.

Indeed, during April Andrew corresponded with a representative from Logan Botanic Garden in

Scotland who was seeking taxa from subsection *Maddenia* that have been lost from Logan and which they hoped to find in other collections. Several of those taxa are at Pukeiti (*R. ciliicalyx*, *R. ciliipes*, *R. coxianum*, *R. fletcheranum*, *R. iteaphyllum*, *R. pachypodum*, *R. taggianum*, *R. taronense*) and, even better, Pukeiti has a wild-sourced accession of *R. ciliipes* (K56) which is particularly important as there are very few wild-sourced accessions of this species in international collections at present.

International linkages are also facilitated by my role as Vice Chair of the Global Conservation Consortium (GCC) for Rhododendron *(https://www.bgci.org/our-work/projects-and-case-studies/a-global-conservation-consortium-for-rhododendron-gccr/)*, working with Dr Alan Elliot from Edinburgh Botanic Garden. The Global Consortium was formed in 2018 following the conservation workshop in Virginia (see MacKay 2018) and in 2019 Royal Botanic Garden Edinburgh agreed to be the lead agency for that consortium, with Alan Elliott as consortium chair. I have met with Alan several times by zoom, to figure out a programme of work to advance the cause of rhododendron conservation. Some initial tasks are to update the list of taxa described in the Global Update document (MacKay et al. 2018) – there are new species being described every year along with changes of view on synonyms and lumps and splits – and to prepare data for the Red List assessment of some 150 taxa that were not considered in the 2011 assessment (Gibbs et al. 2011). Next will be a gap analysis where the presence and absence of wild-source material is considered in collections world-wide, followed by conservation plans for the 45 Critically Endangered taxa. There is plenty to do!

Contribute to, or participate in, research into (i) diversity, taxonomy, biogeography, and other relevant matters using appropriate morphological or molecular methods and/or (ii) ex situ conservation management.

A key characteristic of the New Zealand project is that it is aligned with and informed by scientific research, in which team members participate in various ways. Our project goal is to support one research activity each year.

Hu Ling and Lindsay Davies

A very exciting piece of research was completed in November 2019 by Sue Davies and her research team at The New Zealand Institute for Plant & Food Research who examined the two Australian species (*Rhododendron lochiae* F. Muell. (syn. *R. notiale* Craven), and *R. viriosum* Craven) and determined that they are indeed two separate species (Gardiner et al. 2019). This had an immediate and critical conservation outcome, with the Australian Plant Census being changed within days of Sue presenting the results to the Australasian Systematic Botany Society conference in Wellington in November 2019. Sue's team used the molecular method 'genotyping by sequencing' which generated a much more robust data set than has been used in rhododendron research to date; a version of this method will be used in the PhD research by Hu Ling in her study of the *Maddenia* subsection.

Massey University PhD student Hu Ling arrived at Massey in January 2020 and will be doing her research under the supervision of Sue Davies, Marion MacKay and Jennifer Tate (Associate Professor in Plant Systematics and Evolution, Massey University). Ling will be addressing some of the key weaknesses of *ex-situ* conservation; insufficient numbers of accessions in cultivation including wild-sourced accessions, inadequate genetic diversity among those accessions, taxonomic complexities with uncertain species boundaries which confound the setting of conservation priorities, and insufficient coordination between *in-situ* and *ex-situ* programmes. Ling will be focussing on subsection *Maddenia*, a subsection with almost no published research to date, and her three research objectives are to:

Examine the range of wild-collected material that is in cultivation, including the number, location and origin of accessions that are present,

Use molecular methods to examine the genetic diversity of accessions that are in cultivation and consider the relationships between species, particularly species that have been 'lumped'.

Undertake case studies on aspects of *in-situ* and *ex-situ* conservation, using two Chinese and two other species as examples.

Thus far Ling has undertaken eight sessions of field work, visiting the Davies Omahuri collection, Cross Hills, Heritage Park and Pukeiti. In that work she has tagged *Maddenia* plants, gathered herbarium samples and taken suites of photographs of each plant for her morphological study, all in preparation for her molecular study in 2021.

R. scopulorum (Vulnerable) is only on two sites and there are zero wild-sourced accessions in New Zealand. It is a high priority for obtaining more wild-source material.

Maintain contact with external parties through writing, speaking, visiting, and other suitable communications.

We are keen to tell people about the project, so writing, speaking and visiting are important for outreach to the world at large. Our goals under this category are to have at least two articles in *The Rhododendron* journal each year, make at least one domestic oral presentation each year, and make three international presentations over the five-year time frame.

Several activities have taken place in the last year. First up was Andrew Brooker who gave a presentation to the Pukeiti AGM in October 2019 on rhododendron conservation where he outlined some of the excellent field and practical work that is underway. Next was Doug Thomson's keynote address "Fighting *Rhododendron* Extinction" at the NZRA 2019 conference in Rotorua in which he gave an excellent overview of the importance of conservation.

Andrew Brooker was on the stage again in November 2019 when he gave a presentation on the rhododendron project to the general public at Puke Ariki museum (New Plymouth) as part of their exhibition on "Pukeiti the living museum". At about the same time Sue Davies was to have given a presentation on her Australian species project to the 2019 Australian conference, which of course had to be cancelled due to the pandemic; however, we expect that Sue will give that talk another day.

On 15 March 2020, only a few days before travel started to be restricted in New Zealand, I attended the annual meeting of the New Zealand Gardens Trust held in Palmerston North. There I gave the presentation "Plants in your garden: why recording matters" where I outlined the importance of recording individual gardens, which can support national datasets, which in turn supports overall management of introduced species in New Zealand. The key relationship there is to the Cultivated Plants Project where records from individual gardens, or catalogue archives held by individual gardens, can provide the evidence needed to establish presence in New Zealand.

Lockdown in New Zealand cramped everyone's style; however, by October we were all on the move again and on 6 October I gave a presentation to the New Plymouth chapter of New Zealand Plant Producers Incorporated on the rhododendron project and the Section 26 process.

We are all busy writing too. There were four articles in the 2019 journal and there are several articles in this journal. Andrew has written articles for the Taranaki Rhododendron and Garden group, the Heritage Park newsletter, and the Manawatu newspaper.

Maintain (internal) communication with suitable reports to Pukeiti Rhododendron Trust, NZRA and project associates.

To meet this criterion reports have been made to each meeting of Pukeiti Rhododendron Trust (MacKay 2020a, 2020b, 2020c) and these reports are shared with NZRA.

Conclusion

The New Zealand *ex-situ Rhododendron* Conservation Project is an interesting and challenging project and we have a great team of people. The variety of talents among us means that we can cover everything from propagation, field work, public outreach, through to international relations and science. Our 2020 strategy document sets out the range of activities and required milestones; aside from travel restrictions imposed by the pandemic, we are achieving those milestones and I look forward to more great developments in this exciting project.

Acknowledgements

This project succeeds because of the valuable and varied contributions of many people and Institutions. I gratefully acknowledge the contributions from the project team, Pukeiti Trust Board and its associates, the 2016-2018 funding provided by Pukeiti Trust Board, Taranaki Regional Council and the staff at Pukeiti Gardens, private collection holders in New Zealand, the New Zealand Rhododendron Association, Dunedin Botanic Garden, Botanic Gardens Conservation International, members of the Global Rhododendron Conservation Consortium, Massey University and the New Zealand Institute for Plant & Food Research Limited.

Appendix One: The Project Team

Dr Marion MacKay, Massey University and Pukeiti Rhododendron Trust. *Ex-situ* conservation specialist. New Zealand Project leader, researcher for the Global Consortium and member of the Consortium steering committee.

Dr Sue Davies/Gardiner, Principal Scientist, New Zealand Institute of Plant & Food Research Ltd., and Past President of the New Zealand Rhododendron Association (NZRA). Molecular DNA and genetic diversity analyst, chair of the NZRA Species Subcommittee, rhododendron propagation specialist. Board member of the Rhododendron Species Foundation (USA) and the Pukeiti Rhododendron Trust.

Doug Thomson, Dunedin Botanic Garden and Pukeiti Rhododendron Trust. Rhododendron curator at Dunedin Botanic Garden, expert in rhododendron cultivation, propagation, identification and collection management.

Graham Smith, former Director of Pukeiti gardens. Global expert in rhododendron cultivation, propagation, identification and collection management, with particular expertise in subgenus *Vireya*.

Andrew Brooker, Taranaki Regional Council and Pukeiti Gardens, expert in rhododendron cultivation, propagation, identification, collection management.

Associated New Zealand partners include Pukeiti Rhododendron Trust (Chair, Gordon Bailey), the New Zealand Rhododendron Association (Chair, Joy O'Keefe), Taranaki Regional Council (Daniel Harrison, Greg Rine) and the Pukeiti Garden Forum (Alan Jellyman, Graham Smith, Lynn Bublitz, Peter Catt, Greg Rine). International connections include the Kunming and Xizang Botanical Institutes through Professor Guan Kaiyun, the Rhododendron Species Foundation in USA, the Global Consortium (Edinburgh), Botanic Gardens Conservation International (London), and Royal Botanic Garden Edinburgh.

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Dr Marion Mackay, Hu Ling and Dr Sue Davies/Gardiner

THE VALUE OF THE VIREYA RHODODENDRON COLLECTION AT PUKEITI

Andrew Brooker

Reading about *Rhododendron bryophilum*, one of the smaller species that populate the Vireya Walk at Pukeiti, I was struck by this comment:

"I have gotten the chance to enjoy the reserve's beauty. But I'm worried that the next generation will only be able to see forest, birds and other wildlife in pictures. For that, they will blame us for being irresponsible."

Poignant words from Amos Ondiikeleuw, the Headman for Mount Cyclops in West Papua (Western New Guinea), in a news interview in 2017.

In 1995 some 36,800 hectares of the Cyclops Mountains were officially given National Park status in an effort to protect flora and fauna as well as the water catchment for a growing city, Jayapura. This area includes the habitat of *Rhododendron bryophilum*, an attractive but not very flamboyant species. One might have thought this act of protection was sufficient, job done in effect. But not so.

If anything, the threats to of our precious rhododendron and other species have increased over the years, with a number of factors to blame:

- Encroaching urban spread – the population of Jayapura alone has grown by 47%, according to the 2015 census, and continues to grow.
- Increased recreational use of the National Park, with no thought for environmental impacts.
- Illegal logging, along with traditional charcoal burning for fuel.
- Local gardening, resulting in the clearance of habitat, encroaching as far up as the 700-metre altitude mark.

So Amos certainly has cause for concern. His comment above came in an interview about his resistance to urban and agricultural spread. Read it in full here: *https://news.mongabay.com/2017/06/papuan-clan-leader-laments-influx-of-migrants-to-sacred-cyclops-mountains/*

Mount Pulag, Philippines habitat of *R. taxifolium*

R. bryophilum

Rhododendron bryophilum has the Red List classification of Data Deficient (DD). This means we do not know enough about its habitat range and the populations within to clearly identify the conservation status. The described growth type and habitat in Argent's *Rhododendrons of the subgenus Vireya*, second edition, is epiphytic in tall forest. This suggests that the habitat type is certainly under great pressure, which is why the Botanic Gardens Consortium International for Rhododendron is planning more fieldwork to get a more definitive view.

In a presentation to the NZ Rhododendron Association conference last year, Dunedin Botanic Garden Curator Doug Thomson noted that the recurring theme with conserving species is to support the local communities and ensure that our efforts do not jeopardize their livelihoods or values. Within the Cyclops Mountain National Park, this must include supporting the stance of elders like Amos Ondikeleuw to ensure not only a future for his people, but an environment in which they can prosper and grow. Gaining this balance would also guarantee a security for our treasured rhododendron and others.

Other species within our collection share the same struggles in the

R. taxifolium

wild due to habitat loss. Another for which that struggle is now very serious is *Rhododendron taxifolium*, endemic to Mount Pulag, Luzon in the Philippines. It is classified as Critically Endangered (CR) with a very limited altitudinal range. Argent notes that it is restricted to montane forest but "the mountains viewed in all directions are devoid of montane forest."

As with the Cyclops Mountains the 11,500 hectares of Mount Pulag (noted as the local dialect name for Pulog) is a National Park. This protection was initially put in place to protect flora, fauna and ancient burial sites. Yet the threats continue, with some alarming similarities to what's occurring in West Papua:

- Commercial forestry continues.
- Farmland incursion to lower altitudes.
- Tourism impacts. On Trip Advisor, Mt Pulag is listed as one of the best sites to view the Milky Way Galaxy at night. Subsequently hundreds hike this area daily for this purpose.

In 2018 a grassland fire was reportedly started by a hiker's butane stove exploding resulting in habitat damage. More recently, in February 2020 Mount Pulag National Park was closed to the public due to forest fires. CNN Philippines reported some 600 hectares were damaged over an eight-day period until a fortuitous change in the weather brought heavy rain.

What can we do as conservationists and gardeners? Our influence in these regions seems limited. But we do have a part to play.

In 1972 Doctor George Argent, Royal Botanic Gardens Edinburgh, had an opportunity to collect wild seed of *Rhododendron taxifolium* on Mt Pulag. He sent some if this seed to Pukeiti, where it has germinated. Some years later seedlings were distributed around New Zealand to help save the species. An example of making a decision on the spot that might have just secured its future by growing it in an *ex-situ* habitat, and possibly provide a chance for it be to returned to its homeland.

Pukeiti has an important collection of vireya and other rhododendron species which are protected by a Collection Strategy. This ensures regular propagation of each as well as education to ensure others know their value. Occasionally, surplus plants are offered through the Plants for Members scheme as they become available. This coupled with The *ex-situ* Conservation Project, looking to disseminate material to other sites will ensure that the plants will continue to have a future in cultivation.

For the best way to conserve a plant is to share it.

References:

Argent G (2007) - - Rhododendrons of subgenus Vireya Second edition

Thomson D (2019) - Fighting Rhododendron Extinction – International efforts to save species and New Zealand's input.

Lestori-indonesia.org - Papua: Cyclops landscape

News.mongabay.com - Papuan Clan Leader laments influx of migrants.

2018/07 sugapa.ord - Report of a Entomological collection trip on Cyclops Mountain

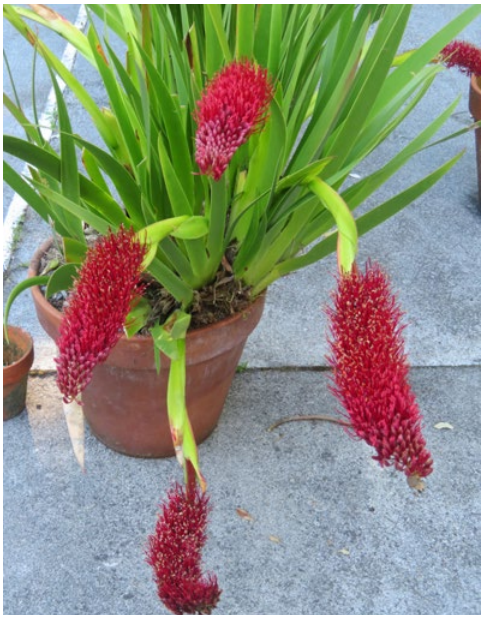
CNN Phillipines - February 25 2020 Mount Pulag closed to forest fires.

Michael Smither's 'A Play House' sculpture, Puketarata

2021 TARANAKI CONFERENCE GARDENS PROGRAMMED TO VISIT

Photos by Lynn Bublitz

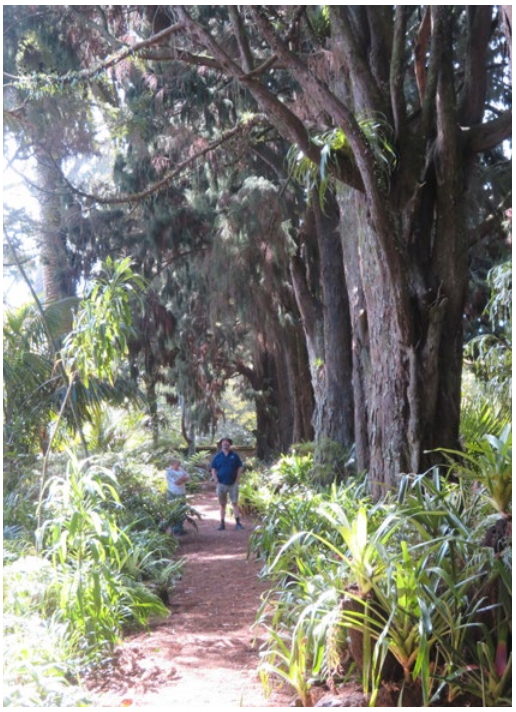
R. 'Dorinthia' and 'Princess Alice', Puketarata



Xeronema callistemon, Oakley Garden

R. 'Winsome', Puketarata

'Grass Mountain', Gravetye Garden



Rimu at Jury Garden, Tikorangi

Hippeastrum papilio, Jury Garden

R. 'Lemon Lodge', Cairnhill Garden

Flowering Cherry, Oakley Garden

Deciduous Azalea, *R.* 'Louie Williams' Puketarata

Maunga Taranaki from Oakley Garden

Cairnhill Garden

A modern garden featuring grasses and associated plants at Jury Garden, Tikorangi

NEW REGISTRATIONS 2020

Brian Coker

The following hybrids have been registered with the Royal Horticultural Society as registration authority for the genus Rhododendron and added to the New Zealand Rhododendron Register.

377 *R.* 'Something Special'

R. 'Lem's Cameo' x unknown

A rhododendron hybridised and grown by Bernard O'Keefe and named by Joy O'Keefe, both of Woodbury, Geraldine.

A compact rounded ball-shaped truss of 22 pink open funnel-shaped flowers with faint orange spotting at the base of the upper lobe. Flower colour is unusual. Small green calyx. Plant is compact with typical bronze new growth reflecting the *R.* 'Lem's Cameo' parentage.

379 *R.* 'Angel Aimee'

R. fortunei x unknown

An open pollinated seedling of *R. fortunei* selected, grown, named and registered by Andrew Brooker of New Plymouth.

Lax trusses of 9 widely funnel-shaped campanulate flowers. The flowers are white with Persian rose stripes and yellow throat inside the corolla with the outside Persian rose fading to white from fuchsia-purple buds.

Oblanceolate matt green leaves on a plant growing 3m x 2m in 10 years.

378 *R.* 'The Beacon'

R. 'Kilimanjaro' x unknown

A rhododendron hybridised, grown and named by Bernard O'Keefe of Woodbury, Geraldine.

Distinctive red rhododendron with a long flowering period from mid-season. Hardy but dappled shade is ideal. Lax trusses of 8-11 funnel-shaped flowers each with prominent red calyx. Flowers have faint red spotting on the upper lobe and red in the base of the throat.

380 *R.* 'Gordon Collier

R. protistum var. *giganteum* X unknown

The selection was made and named by Graham Smith of New Plymouth, grown to first flower by the Pukeiti Rhododendron Trust and registered by the Taranaki Regional Council.

Large compact trusses of 26 flowers with corollas being 90mm in length and 50mm wide and having 9 lobes. Flower colour is magenta rose on both the inside and reverse of the corolla.

Oblanceolate leaves are extremely large (490mm x 190mm) with buff indumentum. The original plant at Pukeiti has grown 5m in height by 6m wide in 30 years.

381 *R.* 'Mount Taranaki'

R. 'Kerry Gold' x *R. konori*

A vireya cultivar hybridised, grown and named by Edward Lyons of New Plymouth and registered by the Taranaki Regional Council.

Flat trusses of 8 funnel- shaped flowers are held in a horizontal plane. Light green buds open to pure white flowers with no marking or spotting. The scent is described as soft vanilla gardenia. A tender cultivar flowering 2-3 times per year.

Leaves are elliptic and 120mm in length by 65mm wide on a plant which in 5 years will grow 1m high by 0.75m wide.

383 *R.* 'Rosy Comet'

R. praetervissum x *R. tuba*

A vireya cross made by Keith Adams of New Plymouth, named by Mia Edmonds of New Plymouth and grown and registered by the Taranaki District Council.

Lax trusses have 4 fuchsine pink flowers 70mm long by 50mm wide opening from purple buds. Fragrance is described as a subtle scent of watermelon. Oblanceolate leaves are 90mm long by 45mm wide on a plant growing 1m high by 0.5m wide in 10 years.

382 *R.* 'My Cherished One'

R. solitarium x *retivenium*

Andrew Brooker of New Plymouth made this vireya cross which was grown to first flower by Stephen Brooker and subsequently named and registered by Andrew Brooker.

Trusses in a loose umbel are comprised of 7 flowers with each flower being 50mm wide with 5 lobes and wavy margins. Each corolla is apricot on the inside with a chrome yellow throat and flares of chrome yellow from the centre of the lobes to midway on the tube and apricot on the outside of the corolla. Flowers have a light scent of subtle carnations.

Broadly elliptic leaves are 120mm long by 55mm wide on a plant which will grow 2m high by 1m wide in 10 years.

384 *R.* 'Ruby Belle'

R. laetum x *wrightianum*

A vireya cultivar crossed by David Binney of Tauranga, grown to first flower by Browns' Nursery and named and registered by David and Pauline Brown of Tauranga.

Lax trusses of 3-5 dark red tubular bell- shaped flowers. The corolla is 45mm long by 40mm wide and having 5 lobes. Stamens are distinctive being dark tending to black and the pinky-red and green calyx is 20mm in length.

New growth is tinged pinky-red and develop to shiny leaves 65mm in length by 37mm wide. The plant grows to 0.8m high and 0.5m wide in 5 years.

Registering new rhododendrons

There has been a revised registration form issued in November 2018. The major changes are to incorporate some sections relating to the registrant (or other person) owning the copyright of any images supplied, and a section concerning the use of personal information with consent to publish in the Register the name and abbreviated address of the registrant.

The revised registration form has been up-loaded to the NZRA website and is available either from there, *www.rhododendron.org.nz* or direct from the Registrar *b.hcoker@xtra.co.nz*

In future, information of only the registrant will be published in the International Register. The names of the hybridiser, grower, person who named the cultivar and commercial introducer, if different from the registrant will not be published although it will still be included on the form and therefore retained as part of the official registration. This change is to ensure that privacy rules are not breached where specific consent has not been given by any of those parties when they are different from the registrant.

Anyone contemplating naming a rhododendron (even if it is not certain whether formal registration will follow) can have the Registrar check whether the name is available and acceptable for registration and arrange for the name to be reserved. This will then avoid any difficulty further down the track and ensure that the name will be accepted should formal registration be completed at a later date.

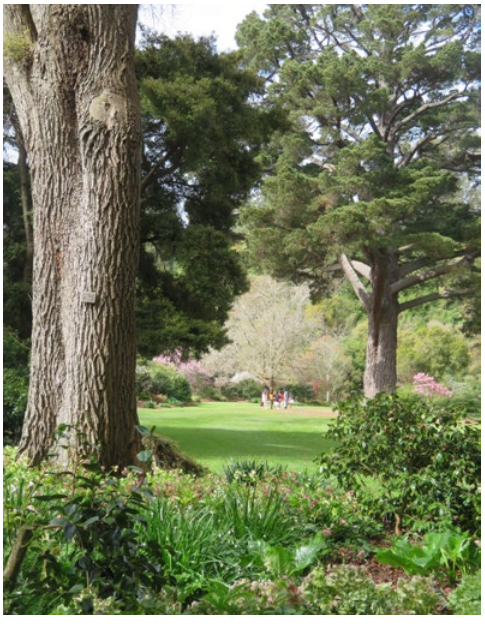
The Registrar holds a copy of the RHS Rhododendron Register and Checklist (together with all updates) which lists all formally registered rhododendrons together with other named but unregistered rhododendrons. You are welcome to email the Registrar if you have any queries relating to parentage or formal description of any rhododendron.

Cherry Walk

DUNEDIN BOTANIC GARDEN

Photos by Lynn Bublitz

R. arboreum collection



Elm: *Ulmus procera*

R. 'Ed Hillary' (*R. williamsianum* x *grande*) at Tannock Glen

The New Zealand Rhododendron Association INC

Rhodenza

26-29 October 2021, New Plymouth centered at The Devon Hotel

This Annual NZRA Conference will be held in association with the Taranaki Rhododendron and Garden Group, Pukeiti Rhododendron Trust and Taranaki Regional Council.

Programme includes

- Pre Conference Garden Visits
- Welcome Dinner
- International Guest Speakers - Steve Hootman and David Millais
- A day at Pukeiti - tours and Workshops
- Conservation, Propagation, Plant Husbandry and DNA Analysis of Rhododendrons highlighted
- Tours of prominent Taranaki gardens
- Conference Dinner celebrating legacy
- NZRA AGM
- Farewell luncheon

Registration

Registration forms and conference details will be available early next year. All members of the Association, Pukeiti and the Taranaki Rhododendron Garden Group are welcome to attend part or all of the event.

This will be a memorable event in a region like no other.

Mark this in your diary now!

Taranaki Regional Council

Pukeiti
Pukeiti Rhododendron Trust Inc.

Plan to stay a little longer?
Taranaki Garden Festival follows.

PUKEITI RHODODENDRON TRUST INC.

www.trc.govt.nz/gardens/pukeiti/pukeiti-rhododendron-trust/

Postal address	PO Box 1066, New Plymouth 4340
Location	2290 Carrington Rd. RD4
Secretary	Anne Howard Email: pukeiti@pukeiti.com
Chairperson	Gordon Bailey Email gordon.bailey@codc.govt.nz
Members' Committee Chairperson	Heather Robson

New Members Welcome **Subscription $40 per household.**

TARANAKI REGIONAL COUNCIL

www.trc.govt.nz

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

The New Zealand Rhododendron

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R. lanigerum at Tannock Glenn