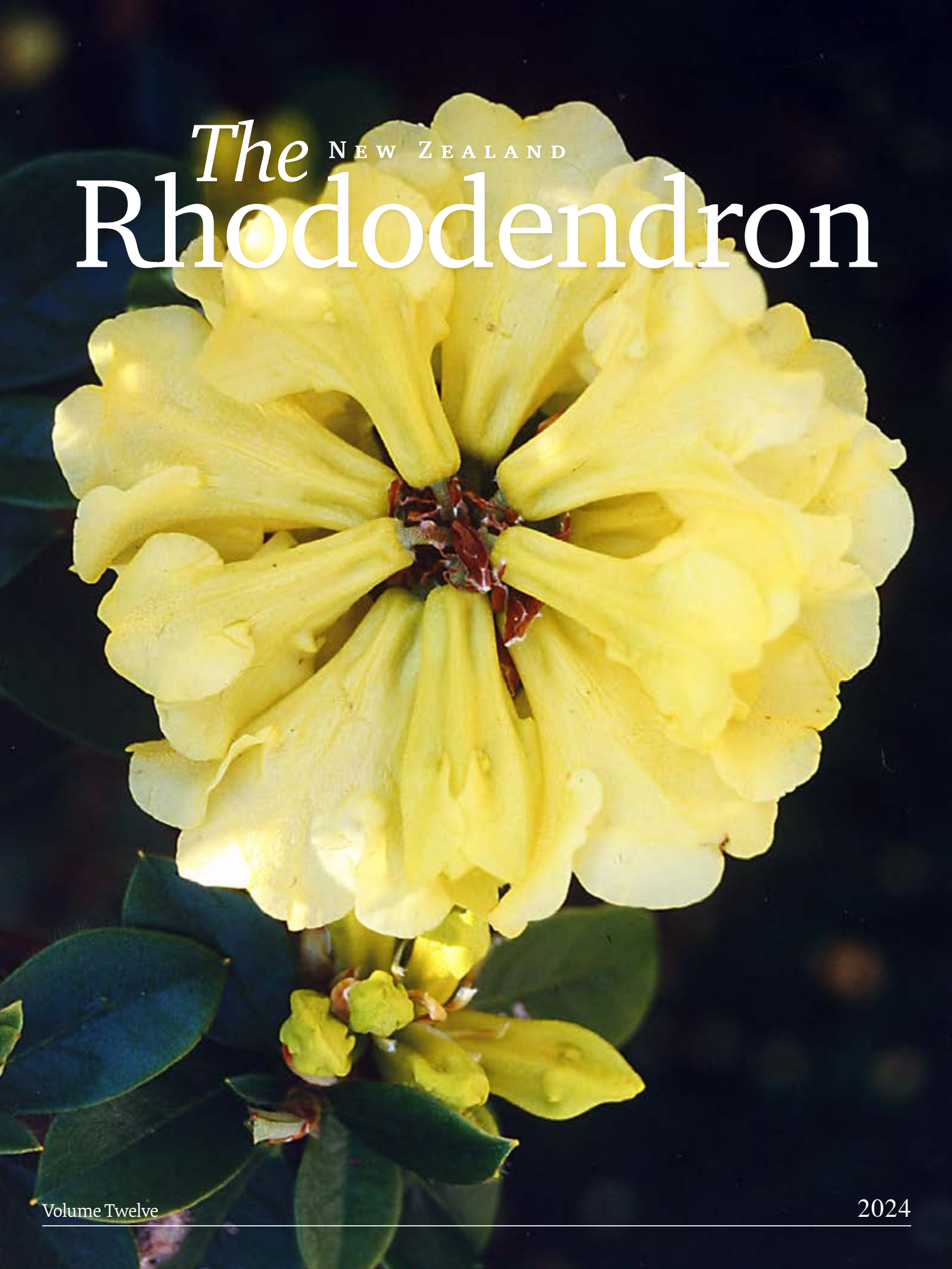

The New Zealand Rhododendron

Volume Twelve 2024

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New Zealand Rhododendron Association

FOREWORDS

The last twelve months have been productive for the Board.

The *Ex- situ* Rhododendron Conservation Strategy continues to be a major focus for the Board and make progress.

Andrew Brooker and I spent two weeks in China in July with the aim of renewing our relationship with the Kunming Institute of Botany. We had good discussions with Professor Weibang Sun, the Head of the Institute, who indicated that they would like to develop a meaningful and long-lasting relationship that was quite flexible, rather than a formal MOU or similar document. The Board and the Ex-situ Rhododendron Strategy

R. sinogrande

sub- committee will further work on developing this relationship.

The Board has spent the last year or so revising our Constitution, which was required under changes to the Incorporated Societies Act. The new constitution was passed unanimously at our October 2024 AGM. We have a slightly smaller Board now called a "Committee" to comply with the terminology set out in the Act.

The main change is that there will now be sub-committees to which a Committee (Board) member will be appointed who's job will be to report back to the Committee (Board) on the sub-committee's activities. While the exact number of sub- committees is still to be decided there will be the following.

- *Ex -situ* Conservation
- Finance
- Membership
- TRC liaison
- Garden Advisory Group.

TRC's Gardens' Manager Stuart Robinson and his team have worked hard over the year to ensure the garden keeps looking great. I hope members can support the cafe when visiting, as it does add a pleasant and useful dimension to the garden.

Our Facebook page continues to grow. So, sign up and keep up with our activities while tagging in as many friends as you can. This complements our new website ***www.Pukeiti.com*** which is full of information for members and has lots of great photos.

Thank you for continuing to support the Pukeiti Rhododendron Trust. Your support is valued and appreciated.

Gordon Bailey

Chairman Pukeiti Rhododendron Trust

It seems only yesterday that we were having a fantastic Rhododendron Conference in Woodbury, Geraldine. It was great to meet up with our members at the conference and to hear about their wonderful gardens and how much they enjoy not only rhododendrons but many other plants that go with them.

It has been heartening to hear about the increase in gardening over the past few years, partly due to Covid having kept people at home but also to an increased awareness of the benefits of gardening on mental and physical wellbeing. A renaissance in home- grown produce is also apparent in the current cost-crisis environment. A generation of potential new members awaits!

While I am a new member to New Zealand Rhododendron Association (NZRA), many of you may know me through my work. I have spent the last 29 years working as Wholesale and then General Manager of our family business, Blue Mountain Nurseries. After growing up following mum and dad around the nursery, I spent several years studying horticulture and traveling before returning to the nursery that I love. My father, Denis Hughes, and I enjoy growing, breeding and supplying a wide range of hardy plants including the famous rhododendrons and azaleas.

Since becoming President, I have been talking to and listening to as many members as possible. This year the Council has been focused on maintaining membership and providing a fun and exciting Rhodenza to recruit more members. From talking to people, it is about having fun enjoying other likeminded plant and garden enthusiasts.

This year we have developed a new Constitution that was ratified at the AGM in October 2024. This Constitution will bring us up to date with changes to the Incorporated Societies Act and also modernise NZRA's structure. As many wards have become inactive it has become difficult to get representatives from each ward area. We have also seen a reduction in the number of members prepared to stand for Council. With an ageing membership we need to become more efficient in our operations. The new Constitution proposes to have representatives from the North Island and from the South Island but not from each ward. This will still give a strong New Zealand wide representation but without the requirement to have people from each area.

Our focus is a back-to-basics approach to create a welcoming, fun and entertaining association with a relevant and enjoyable conference, interesting and informative newsletters, an engaging website to support the ongoing success of NZRA and in conjunction with Pukeiti Rhododendron Trust the Rhododendron Journal. I am extremely keen to hear from members with ideas for increasing membership and ways to operate the association in a modern membership-driven environment. We need to enthuse our members to encourage others to join NZRA. All of us can play a part in that.

Chris Hughes

President

New Zealand Rhododendron Association

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The New Zealand Rhododendron

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Financial assistance has been provided by the Taranaki Regional Council through the partnership agreement with the Pukeiti Rhododendron Trust.
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Editorial

RHODODENDRON GARDENS

Lynn Bublitz

This year's edition of the Journal features Tannock Glen, its history and its association with the Dunedin Botanical Garden. Martin Wilkie, the author and photographer, has published the history of Orton Bradley and Heritage Park in earlier Journals. These gardens and Pukeiti were established to show-case rhododendrons in the middle of last century, the heyday of their popularity.

Their establishment followed the success of displays in public gardens and parks, notably the Dunedin and Christchurch Botanical gardens and Pukekura Park in New Plymouth, among others particularly in the South Island. Most of the early plants were imported. Enthusiasts soon used these as parents and hybridisation endeavours produced a new range of off-spring of which many were registered. The rhododendron gardens were ideal to display them. Other than roses no other ornamental plant has had gardens specifically established for display. The founders of these gardens were often landowners who had developed their own personal collections which still grace their properties.

Pukeiti in the mist

There was a status in owning them too, and one had to be nominated to join the New Zealand Rhododendron Association and other organisations promoting the genus. Collections expanding new plants were coveted, particularly those grown from seed which was collected in the wild. Hard to propagate, usually grafted, plants were expensive. Modern propagating methods however, using hormones and mist propagators, have enabled nurseries to produce rhododendrons from cuttings, increasing their availability and reducing their price. They became popular, home gardens displaying at least one or two often chosen for their colour. Display gardens in the height of the flowering season attracted thousands of visitors and offered the opportunity to see and select the most favoured. Catalogues listed hundreds of varieties that were available at the time and there were at least twenty-five nurseries which offered them for sale. Even today new varieties are still being raised. Two new display gardens have more recently been added, the Awa Awa Reserve tucked in the foothills of the Alps near Mount Hutt, and in Geraldine where rhododendrons grace streets and open areas, a walkway along the Waihi River has been extended and filled with many hybrids, particularly the deciduous 'Mollis' azaleas. But despite a flicker of new interest the popularity of rhododendrons has waned.

Now climate change is spreading its shadow with the increase in winter temperatures, fewer frosts, and increasing droughts. Pests and diseases, particularly thrips and mildews enjoying the warmer conditions, turn the leaves silver and black spotted, leaving the plant bedraggled and unthrifty. As well, if the winter is too warm the flower buds do not open. In warmer northern areas they are no longer plants which every year can be guaranteed to give a spectacular display. House-hold gardens are also now smaller and growing rhododendrons too large for the site.

There is however a group, the vireyas, tropical in origin, which are gathering more adherents. They enjoy the warmer climate of the north and more sheltered places (even greenhouses) in the south. Over eighty-five hybrids have been produced, a process started as soon as suitable parent plants became available, and many are produced commercially. They are easy to grow from cuttings, flower at an early age and are small growing. Like all rhododendrons some are more robust than others and types should be chosen carefully. Good displays in which hybrids predominate are features of the Eden Garden in Auckland and the Quarry Gardens in Whangarei. Pukeiti holds the greatest number of species, which make up one of the largest housed collections in the world.

Like Pukeiti, none of these special rhododendron gardens, all established and financed by enthusiasts, would have been developed and maintained without the keen support of an army of volunteers. They will continue to be the cornerstone of the gardens' continued existences. Even in Pukeiti, now owned and managed by the Taranaki Regional Council, volunteers provide support, maintaining and enhancing the collections and their conservation and have initiated the *ex-situ* project. Advice and help, through working bees, are given voluntarily and the Pukeiti Rhododendron Trust contributes financially to the gardens. Over $1,000,000 has been granted over the last decade.

In this edition of the journal two stalwart volunteers, David Harrop and Robyn Bridgman, write about their involvement and contribution to the rhododendron world. They are two examples among the builders, planters, weeders, dead-headers, machinery drivers, mowers and pruners, advisors, governors, tea makers, cleaners, donors, advocates and even critics who have over the years collectively made the gardens so successful.

The volunteers are the gardens' mainstay, and always will be, but unfortunately as is happening in most organisations, the pool of them continues to evaporate. Without them what is the future?

The present Pukeiti model is one of the answers.

TANNOCK GLEN: AN AIR OF QUALITY

Martin Wilkie

Scented flowers of *Rhododendron dalhousiae* at Tannock Glen, 25 October.

This compact rhododendron collection in a woodland setting is just a few streets further up the ridgeline from the much larger Dunedin Botanic Gardens (DBG) – the two are independent but have also been symbiotic to a greater or lesser extent over the years. Tannock Glen was in large part a response in 1973 by the Dunedin Rhododendron Group (DRG) to the perceived decline in fortunes of the celebrated Rhododendron Dell, established in the main Botanic Gardens during 1914. This year 2024 the Dell and the Glen are both in good heart at 110 and 50 years of age respectively, give or take a year. It seems a particularly good opportunity to explore the development of Tannock Glen and the Rhododendron Dell, and their ongoing association; and highlight the large community of keen plantspeople who have continued to support and enjoy both of these special collections.

SEALS, WHALES AND THE NEW EDINBURGH

Dunedin is a smallish city of around 130,000 people built around the hills at the head of Otago Harbour. The city is known for its first-class university and medical school, high-performance sport facilities (including the covered stadium), a wealth of historic Victorian and Edwardian buildings, ecotourism and wildlife (the albatross colony on the peninsula is a highlight), the Botanic Gardens, and rhododendron culture. It has been recognised since the early days of planned European settlement in the mid-1800s that the local climate is particularly suitable for the culture of temperate climate rhododendrons. Around 223 miles/360 km down the east coast from Christchurch, Dunedin is relatively cooler, more cloudy and humid, and with a higher average annual rainfall (30 inches/750 mm compared to 25 inches/650 mm in Christchurch) spread more evenly through the year. Of course this is not a uniform environment: it has a variety of landscapes with different microclimates plus the usual seasonal extremes, and periods of prolonged wet and dry conditions. Like Banks Peninsula, Otago Peninsula is an eroded volcano with a similar structure of loess over basalt, but it is older and more weathered. The soil is fertile, but prone to drainage issues due to the heavy underlying clay, which has been an ongoing problem to overcome for rhododendron growers at both the Botanic Gardens and Tannock Glen.

The harbour area had a population of several thousand Southern Māori living in small settlements before European arrival, harvesting the rich local sources of seafood *kai moana*, seabirds, and inland plants and wildlife such as snowberries, eels and ground-dwelling birds. Other than fern root, the climate was too cold for large-scale cultivation

of crops like taro or sweet potato *kumara* as practiced by northern tribes; Banks Peninsula seems to have been the southern limit for growing kumara. Many Southern Māori were quick to adapt to new technology once European and American whalers and sealers arrived in the late 1700s, soon after James Cook's first landing on Otago Peninsula in 1770. Potatoes and pork became popular and were soon farmed and traded by Māori for tools, tobacco and sugar, from visiting ships and shore stations along the coast and within Otago Harbour, which by the late 1830s was a busy international whaling port. It's thought that the earliest potatoes selected by Māori here (cold-hardy, smaller than those from Europe, and sometimes with purple flesh) came directly from the west coast of South America, on ships provisioning before the long trip west across the Pacific Ocean to New Zealand's sealing and whaling grounds. The crews of whaling ships, sealers, shore-based sealing gangs and flax traders were a cosmopolitan bunch included lascars (sailors from India or South Asia), African Americans and Europeans. Inevitably in such a cut-throat commercial and cultural environment there were clashes between the new arrivals and Māori, particularly in the years after 1800. Some sailors settled amongst local Māori and raised families, and some Māori joined the whaling and sealing fleets to seek their fortunes.

The area of what was to become Dunedin City (and the Botanic Gardens) had significant Māori settlements in 1785, and another village nearby had around 600 whare in 1817. Northern hemisphere arrivals built timber dwellings in the 1820s, and by 1850 their population had increased to around 590. Large-scale settlement began after the 'New Edinburgh' migrant scheme was proposed by Scotsman George Rennie in 1842. This idea of a planned Scottish settlement was taken up by the Presbyterian Free Church of Scotland. Dunedin still retains a distinctly Scottish flavour of oatcakes, bagpipes and whiskey from its settler origins, for good reason. In 1848 Dunedin was officially founded, and planned settlement began at the head of the harbour, increasing to over 12,000 residents by 1860. My own father's people arrived here from Perthshire in Scotland later in the century. *Dùn Èideann* is the Scottish Gaelic name for Edinburgh, Scotland's capital, and official surveyor Charles Kettle was instructed to imitate the characteristics of Edinburgh. He achieved what has been described as both a grand and quirky town layout across a rugged landscape – including a site for a "Botanical Garden Reserve".

SCOTTISH HORTICULTURISTS, RHODODENDRONS, AND A WEALTHY COLONIAL CITY

Rhododendrons had arrived in New Zealand at least as early as 1854: imported by Thomas Potts as plants into Canterbury that year from the Royal Botanic Gardens (RBG) Kew, where there had been a rhododendron dell since 1834. Seed of *R. arboreum* was brought from India to Christchurch in 1860 by Sir John Cracroft Wilson, and in 1876 Canterbury nurseryman William Wilson's stock-list included 5000 rhododendron plants. Notable horticulturists arrived in Dunedin with the first settlers: for example George Matthews, Thomas Allan in 1861, and also William Martin in 1848. Many of these professional gardeners had been apprenticed on Scottish and English estates, and brought valuable experience to Otago.

Born in Lanarkshire, Scotland, William Martin had worked and trained at the Royal Botanic Garden (RBG) Edinburgh, and taken papers in botany, mathematics, Hebrew, Greek and surveying at Edinburgh University. For a time he was also head gardener at Chilwell Hall, England. He brought plants and seed with him in 1848, and soon set up his 10 acre/4 hectare nursery and garden 'Fairfield' near Dunedin, which prospered. Many of his early stock of trees, shrubs, fruit trees, pines, hedging and herbaceous plants were imported from California in 1850, the first significant importation of exotic tree species into Otago, and in 1872/1873 his first nursery catalogue offered over 600 different kinds of plants. By 1880 the nursery offered 1400 different plants, including 10 rhododendron species with *R. campanulatum, R. ciliatum, R. dalhousiae, R. edgeworthii, R. thomsonii* and *R. veitchianum*; and several early hybrids: 'Countess of Haddington' (*R. ciliatum* x *R. dalhousiae*) plus Martin's own hybrid (and New Zealand's first named rhododendron) 'Marquis of Lothian' (*R. thomsonii* x *R. griffithianum*). "Both of these parent plants were first introduced by J.D. [Joseph] Hooker in 1850, i.e. only two years after Martin's arrival in New Zealand." (Joel)

In its heyday, 'Fairfield' nursery and garden "...contained one of the largest and most eclectic private collections of plants in Australasia... and for a time it was more widely known and respected than the Dunedin Botanic Gardens". (Glenside 1) Thomas Allan's 16 acre/6 hectare 'Allandale Gardens' in South Dunedin was also noteworthy: a visitor in Spring 1878 described "...a fine collection of hybrid rhododendrons, comprising about 50 varieties and hundreds of plants, and being all in flower, they were very showy and imposing, the colours ranging from pure white to yellow, pink, scarlet, and very dark purple, while some varieties were beautifully fringed". (Glenside 2)

By 1863 a promising start had been made with landscaping the Dunedin Botanic Garden site, New Zealand's earliest. The Garden's first curator Alexander Begg had sent overseas more than 30 collections of native seed, each with more than 70 different varieties, and was "receiving ample returns" from offshore plant sources. However by 1866 there was some frustration locally about the lack of rarities and ornamental exotics to be seen in the Gardens, there being no on-site resident to protect such plants from theft. A damaging flood in 1868 made it clear that a new site was needed, and by the winter of 1869 the Botanic Gardens were being re-established on the much larger Acclimatisation Society's grounds nearby, to widespread public approval. This site had a level part (now the lower garden) next to

Wellingtonias (*Sequoiadendron giganteum*) and rhododendrons along the top boundary at Tannock Glen, 22 October.

Rhododendron 'Marquis of Lothian', Dunedin hybrid introduced 1880 (Reg. RHS 1977) 22 October.

Lindsay Creek, and a warm hillside leading to the upper garden. The many different aspects and microclimates across the 69 acre/28 hectare site have subsequently accommodated a remarkable community of plants from different habitats: including sun-loving Mediterranean species, plants from the South African *fynbos*, alpine and wetland species, and of course rhododendrons. The warm aspect, woodland conditions and good frost drainage allows some quite tender species to thrive, such as *R. genestierianum*, *R. dalhousiae* and *R. nuttallii*.

Despite being on the opposite side of the world from Great Britain, Dunedin was no backwater. Several global events coincided in the middle years of the 19th Century, helping to transform this growing colonial settlement into New Zealand's most wealthy and cosmopolitan city for nearly five decades. First, in 1844 China was forced to open her borders, one consequence of which was a flood of botanical discoveries, including many new rhododendrons. French missionaries had laid the groundwork for this process beginning in the 18th Century, and later expeditions from Europe were often led by Scottish botanists and plant hunters associated with the RBG Edinburgh. Second, the Irish Potato famine (beginning in 1846) and ongoing Highland Clearances made more devastating by failure of the Scottish potato crop provoked mass migration to many parts of the British Empire. Third, gold was discovered in Central Otago in 1861, attracting prospectors from North America, China and Australia in a new gold rush.

Dunedin's building boom arrived with the gold from Central Otago, quickly replacing earlier timber structures with brick, ironwork, ornate plaster and stonework, plus luxury imports such as Minton tiles and Carrara marble. Beginning approximately a decade before Christchurch and its picturesque Gothic Revival style (now much diminished following the Canterbury earthquakes of 2010 / 2011), Dunedin's English, Scottish and Italian architects and associated skilled craftsmen and artisans (many recruited from Europe) created elegant structures of monumental scale: the First Church of Otago spire at 185 feet/56.4 metres, completed in 1873, is still the city's tallest building. Ironically for a city with such conservative roots the prevailing styles were anything but sober: exuberant Dutch Renaissance revival, Roman baroque, Venetian

Rhododendron genestierianum in the Rhododendron Dell DBG, showing the characteristic glaucous bloom on the outside of the flower buds, 14 September. Courtesy of DBG facebook.

Contemporary architect's watercolour by George O'Brien from 1865, of the New Zealand Stock Exchange/ Post Office in Dunedin; built with no expense spared 1864 – 1868, and demolished in 1969.

gothic, Florentine palazzo, Palladian and Neo-Classical, with touches of Scottish Baronial. Dunedin's population reached around 30,000 in 1874, twice that of Christchurch or Wellington; 6000 people attended the opening of the luxurious Grand Hotel in 1883, designed by architect Louis Boldini and which boasted the first electric elevators in Australasia. A worldwide economic recession from the mid-1880s curtailed building activity for over a decade, but there was a late flowering early in the new century: Dunedin's spectacular Dutch-Renaissance style railway station circa 1910 is the finest example from that period. A significant proportion of this architectural richness survives, including grand mansions (such as Olveston and Larnach's Castle), villas, and terrace houses in older residential suburbs. One of the city's grandest public buildings was completed in 1868: built to house the Post Office and other government departments, it was soon occupied by the University of Otago during the 1870s, and then became the Stock Exchange; this part of Dunedin on Princes Street is still called 'The Exchange'.

This was a society of unbridled market forces – extremes of poverty and wealth existed side by side, and for individuals their social and financial position could suddenly rise or fall, literally 'on a dime'. Infrastructure such as roading, water reticulation and waste disposal failed at times to keep up with Dunedin's rapid growth; international arrivals expanded the city's thriving Scots, Italian, French, Irish, German, Chinese and Jewish communities.

SEEDS AND PLANTS ON THE MOVE

The Botanic Garden was developing along with the city, establishing an area of pleasure gardens on the lower flats well to the north of the central business district. However in the early years the Garden's focus was primarily towards "favouring the introduction of plants of utility" – useful advice from Victoria, Dunedin's sister colony in Australia: trees for fruit, nuts, timber and shelter. The Botanic Gardens also acted as the central production nursery for many hundreds of thousands of trees and shrubs sent throughout the Otago province for the grounds of schools, churches and hospitals. Botanically Dunedin was now a part of the vigorous global plant trade of seeds and seedlings. It had direct access to inner circles at RBG Kew and RBG Edinburgh via a network of eminent New Zealand-based and international scientists, botanists and plant explorers, including Sir Joseph Hooker, Sir Charles Darwin, William Colenso and Sir James Hector. Contemporaries who visited horticulturist William Martin at his 'Fairfield' property included notable botanists, such as the Scottish physician Dr William Lauder Lindsay in 1861, Sven Berggren, an eminent Swedish botanist, explorer and university professor in 1875, and botanist Thomas Frederic Cheeseman. (Glenside 1)

New Zealand indigenous plants and seeds (which were widely grown and appreciated in the gardens of Dunedin's early settlers) were exchanged with Melbourne and Brisbane Botanic Gardens, and were also regularly sent by individuals and organisations to Australia, North America, England, Scotland (where conditions were particularly suitable); and of all places, to Venice: *La Serenissima*, where Sir James Hector noted in 1880 that he "had been pleased to find a very interesting collection of New Zealand vegetation."

By the 1890s the Botanic Gardens had reduced nursery production to mainly supplying Dunedin's local parks and reserves and continuing experimental trials, and was enjoyed as a place for public recreation and education. The country was moving out of economic recession (although Dunedin was now being overtaken by the industry and population of cities further north) and the Gardens were benefitting from plant donations from other parts of New Zealand, and offshore, such as *Paeonia* species from a London nursery. There were also regular plant contributions from local nurserymen such as George Matthews and other private individuals, reflecting the public atmosphere of horticultural enthusiasm at the time. Seeds continued to be exchanged with Kew, Edinburgh, Capetown, Jamaica, Lagos and Melbourne Botanic gardens. There was as yet no formal collection of rhododendrons at the Botanic Gardens, but this was about to change with the appointment of David Tannock as Superintendent in 1903.

DAVID TANNOCK ESTABLISHES THE RHODODENDRON DELL

Here was a young man of formidable energy, born in Ayrshire, Scotland, just 30 years of age and trained at RBG Kew, with first-class botanical qualifications and wide international experience in horticulture and management of botanic gardens. He was well aware

Rhododendron Dell DBG coming into flower, 12 October. Courtesy of DBG facebook.

of those primary features of a botanic garden which extend it beyond a pleasure ground: development of plant collections to become as extensive as possible, properly arranged and identified specimens; teaching, education and training; opportunities for experimental trials, research and testing; and development of communication and exchange with similar institutions nationally and overseas. During the 37 years of his legendary tenure as Superintendent of Parks and Reserves he had a major influence on the Botanic Gardens, Dunedin City parks and reserves, and New Zealand horticulture generally. Rhododendrons were a particular interest. He would have been familiar with the Dell at RBG Kew, and had been apprenticed to gardens at private estates near Glasgow with their fast-growing collections of new species from Asia. Development of the Dunedin Rhododendron Dell became a significant part of his activities.

We can follow the process through his annual reports. A border of rhododendrons was planted in 1913 (there is a group of large old plants in the lower garden that is possibly from this time) but it was a deep gully on the southwest side of the upper garden which became his focus. Existing native bush was thinned out, leaving native fuchsia trees *Fuchsia excorticata* with their peeling cinnamon-coloured bark to provide ideal woodland conditions. In June 1914 hundreds of rhododendron hybrids which had been ordered the previous year from local nursery 'Bennetts and Sons' were planted out. A year later there were 500 plants of approximately 50 cultivars growing well on both sides of the gully alongside a 300 yard/280 metre long pathway between two rustic bridges – the first such large-scale collection in any public garden in New Zealand.

By 1917, 140 more rhododendrons and 90 other ornamental shrubs had been added, and a Japanese Flowering Cherry avenue established along a ridgeline above the Dell. New rhododendron varieties, hybrids and rare species were added each year: Tannock's international connections could quickly secure plants from the flood of new arrivals from Asia at Kew, Edinburgh, Boston's Arnold Arboretum (where his friend and one-time fellow trainee at Kew and plant hunter Ernest H. Wilson was now based), Royal Horticultural Society (RHS) Garden Wisley, and from collections in Darjeeling, India. New Indian and Chinese species were sourced during a return visit to Sir John Maxwell's estate 'Pollock House' near Glasgow, where Tannock had been apprenticed two decades before. Still more species collected from the wild in China and Tibet by American botanist Joseph Rock were planted in 1930. The Dell continued to expand during this period, and after 1925 the original older hybrids such as 'William Downing' and 'Sir Charles Lawson' were periodically shuffled further down the gully to make room for new arrivals. A new azalea collection was established on a higher site just north of the Dell in 1922, initially with older plants moved from elsewhere on site plus 400 Ghent azaleas ordered after a visit to Belgium during Tannock's 1921 European trip. The azalea garden continues to provide spectacular spring flowering and fine autumn colour, in association with

The Azalea garden sheltered by maples, above the Rhododendron Dell DBG, 11 October. Courtesy of DBG facebook.

bulb plantings and Japanese maples as we will see. There are now also Ilam and Exbury hybrids, Mollis varieties, and plants from notable plantsman and hybridiser Denis Hughes at 'Blue Mountain' Nursery in Tapanui, founded by his father Stanley in 1931/32.

Rhododendrons for the Dell also arrived from private enthusiasts, such as the 100 species plants (including new kinds of *R. arboreum*) in 1938 from James Speden, a keen collector from Gore in Southland. By the time David Tannock retired in 1940 there were over 1000 azaleas and 2000 rhododendrons, many being mature plants, in the largest and most complete collection in New Zealand at the time.

MID TWENTIETH CENTURY: FRESH LOCAL HYBRIDS AND MAKING ENDS MEET

This was a hard act to follow for the new DBG Director Maurice Skipworth, who also had to manage with lower staff numbers due to World War Two. Maintenance standards inevitably declined even with volunteer labour, but seed and plant exchanges continued. Staff numbers rose again after the war, although the entire rhododendron and azalea collection continued to be maintained by just one person, Robert Kinnear, which by any measure seems a very tall order. The Dell was expanded in 1944 and again in 1957. Skipworth and his deputy director (for the period 1946 – 1969) Robert Balch were both fascinated by rhododendrons, and were particularly keen to explore the collection's potential for breeding. Together they had the expertise, plant material and facilities to trial many different untried crosses. They met with some success including *R.* 'Lovelock' (*R. chrysodoron* seedling), *R.* 'Maurice Skipworth' (*R. edgeworthii x burmanicum*), *R.* 'Robert Balch' (*R. zeylanicum x elliottii* KW 19083) and a superior selection from British sourced *R. leucaspis* seedlings named *R.* 'Alpine Meadow'. The area of the Gardens known as 'Balch's Island' is a modern border for growing these and other local Dunedin hybrids.

Many of the original rhododendrons planted by Tannock's team were maturing and in some cases starting to encroach over pathways. Skipworth explained in 1952 that this was a development to be encouraged: "It is fully the intention that these plants should encroach on the track and eventually arch overhead; no attempt is made to convert this area into a formal trimmed garden as it is essential for the character of the various plants... that the woodland atmosphere of the area be further developed". This is a familiar discussion I have with some of my own garden clients: to encourage the natural form of plants if possible without unnecessary pruning, appropriate to the garden's style.

The basic layout of the Rhododendron Dell had now been in place for around 40 years and although there had been those two recent expansions (and four extensions of the azalea garden in the late 1930s, plus a 1954 redesign where smaller beds were combined) the initial plantings had been static for a considerable time and needed refreshment. By the late 1960s and early 1970s maintenance issues in the Dell were becoming more evident, eventually leading to the establishment of the independent 'Tannock Glen' collection, as we will see. Dunedin itself had become a little worn and shabby during this period – an indifference to, or reaction against its grand Victorian and Edwardian past was gnawing away at the city's fabric, resulting in the demolition of several landmarks. Perhaps the greatest loss at this time was the Dunedin Stock Exchange, demolished in 1969 after a period of unwarranted neglect; a hundred years earlier this graceful Palladian structure "was regarded as the finest building in New Zealand's principal city." (Galer)

A group of knowledgeable Dunedin plantspeople had become active during this time – propagating, breeding and promoting rhododendrons while developing fine gardens which included choice species and local hybrids. Nan and Reg Medlicott created a superb garden with a particular focus on rhododendrons during their 20 years at Ashburn Hall, a Dunedin private psychiatric hospital where Reg was medical director. *R.* 'Mrs. Percy McLaren' named for his mother-in-law ('Loderi' x pink seedling unknown) is one of his hybrids and the original plant still grows in the garden. Phillip Barling helped the Medlicotts with their garden – he had planted rhododendrons extensively at Glenfalloch (meaning 'Hidden Glen') on the Peninsula, after purchasing the historic property in 1917. David and Liz Sumpter began planting rhododendrons at their Doctor's Point property in 1960 – *R.* 'Dainty Lass' is one of David's registrations. Nurseryman Bruce Campbell raised many good plants including *R.* 'Rothesay' (*ciliicalyx* open pollinated seedling), *R.* 'September Snow' (*R. edgeworthii* x *R. leucaspis)* and *R.* 'Waireka' ('Lovelock' x *R. ciliatum*). Likewise Charles (Chas) and Bess McLaughlin bred *R.* 'Stonelaw' (*R. edgeworthii* x *R. burmanicum)* and selected the fine-textured 'Dalkeith' (*R. uniflorum* series, with some *triflorum* characteristics). Plantsman and writer Ralph Markby and several of these rhododendron enthusiasts formed the Dunedin Rhododendron Group (DRG) in 1970, New Zealand's first regional rhododendron group; most who joined were already members of the national New Zealand Rhododendron Association (NZRA) established in 1944. A yearly plant distribution of choice rhododendron species, hybrids and associated plants to members was quickly launched and still continues; the catalogue is always eagerly awaited.

TANNOCK GLEN ESTABLISHED

Ralph Markby became keen on plants in the 1960s when walking regularly through the Botanic Gardens to and from his work, and now as first President of the DRG he was particularly concerned by the decline of the Rhododendron Dell which had once so impressed him. From mid-1970 there were contacts, a report, and discussions between Ralph Markby and Gavin Henderson the Botanic Gardens' Director, when assistance was offered by the DRG for guiding visitors around the Gardens and helping to

Rhododendron 'Waireka', Dunedin hybrid (Reg. RHS 1990) 31 July. Dell DBG, 11 October. Courtesy of DBG facebook.

maintain the rhododendron and azalea collections. Both men agreed on the importance of the collections, and the DRG did help with significant planting and identification in 1971. Accurate labelling and record keeping was also an issue. However the DRG's proposal for a full time skilled plantsman to care for the plant collections, and the rhododendrons and azaleas in particular (the previous gardener had retired about two years before) gained little traction. Ralph Markby advised the Council Reserves Committee in 1972 that if the situation continued the Dell would eventually be reduced to a state where only the fittest survived. This was the catalyst for starting Tannock Glen, where a trustee structure would hopefully develop and maintain a quality woodland garden in the long term, and where "continuity of skilled management ...essential to keep this kind of garden in good heart" (DRG Bulletin 2, 1974) would be possible.

Accordingly, in 1972 Ralph Markby and his good friend Bruce Campbell approached the Society for the Prevention of Cruelty to Animals (SPCA), regarding a lease on about 3 acres/1.5 hectares of the Society's 25 acre/10 hectare property in the nearby hill suburb of Opoho. The site was mainly clear pasture sloping southeast towards the harbour, with some shelter trees around the edges and a line of massive old Wellingtonias *Sequoiadendron giganteum* along the top boundary. After a positive response from the SPCA, an area was cleared for a growing-on nursery and in early 1973 the site was fenced. Field drains were laid later that year and approximately 100 different ornamental conifers and broadleafed trees were planted, such as cedars, oaks, *Sorbus*, birches and maples. Mrs D. Tannock approved of the proposed name for the new collection commemorating her late husband, and the basic trustee control (P. Campbell, C. Mclaughlin and R. Markby) and accounting structures were put in place. Ralph Markby and trustees were "under no illusions about the amount of work and careful planning needed to make a success of Tannock Glen" (DRG Bulletin 2, 1974) and expected the first five years to be crucial.

The Tannock Glen Report prepared annually since then – crisp, practical and a mine of information – is an unbroken record of how the garden has developed. It appeared in the DRG Bulletin until this publication was discontinued after 2019. The DRG noted recently that "today enthusiasts and novices are among our members but, above all we are enthusiastic gardeners" and this was equally true in 1974.

GETTING TO GRIPS WITH THE SITE

The first major problems were weed growth, poor drainage, and exposure to southwest gales, so the early rhododendron arrivals were initially settled in the nursery area until they could be safely planted out. Quick growing Tree Lucerne or Tagasaste *Chamaecytisus palmensis* was planted for temporary shelter while the other trees became more established. Grass cutting took a lot of time, along with spraying docks and thistles, so it was planned to plant more trees sooner rather than later, to fill in and cover the open ground. Trees such as birches could also potentially help to pull excess moisture from waterlogged soils during the growing season. There was obviously some impatience to get the rhododendrons and other shrubs accumulating in the nursery area planted out, but also recognition that they had to wait until there was sufficient shelter, and maintenance could be managed. Some part-time paid labour was needed in 1976 in addition to the regular voluntary working bees. This became part of the overall maintenance process.

A gentlemen's agreement rather than a formal lease is still in place today. The SPCA is required to maintain some land between its kennels and nearby homes, and the

DRG achieves this with the Tannock Glen site – an arrangement that suits both parties.

By June 1976 new borders had been prepared with plenty of semi-rotted sawdust incorporated into the soil, and a new timber shed was ready for storing tools and the lawn mower. Most

importantly, the first rhododendrons to be planted out were in the ground by the end of August. Nurseries and individual growers from the DRG were generous with plants, and for hybridisers such as Bruce Campbell this was both an opportunity to contribute, and to grow on the results of his selections. Great progress was achieved in that year with about 40 rhododendrons of all sizes planted out from the nursery, and the arrival of mature transplants from the Fitzgerald family's garden at 'Stoneleigh' which included a tall *R. nuttallii* in full flower transported through the central city! Forty more young plants were chosen from Charles and Bess McLaughin's collection, and some were trialled to see how they would cope with full exposure. Existing ornamental and shelter trees were growing well, with new additions such as *Nyssa sylvatica* which would complement the other autumn colouring trees (and enjoy the wettish soil). More rhododendrons were set out in early 1977 ahead of a much-anticipated visit in late October that year by the NZRA, which was having its annual conference in Dunedin. This visit went extremely well, and the garden was looking at its best during a period of beautiful weather. Shelter was improving all the time and the Tannock Glen Report noted that "the day slowly approaches when effective natural shelter will enable us to plant rhododendrons more freely". (DRG Bulletin 6, 1978)

A MATURING GARDEN LANDSCAPE

Eighteen months later there is in the Report a sense of the garden's growing momentum. It is "…beginning to look more like the woodland garden it may become some day. Some of the trees are putting on several feet of height each year and consequently the landscape is now undergoing rapid change". (DRG Bulletin 7, 1979) Dwarf rhododendrons were received from Canterbury nurseryman Heaton Rutland, and more species plants from Bruce Campbell. Two significant overseas sources are mentioned, indicating how Tannock Glen was developing a useful external network. In 1978 some cuttings of notable species (including *R. wightii*, *R. pocophorum* and *R. cremastum*) and hybrids unavailable in Dunedin had been sent to the DRG by the Director of RHS Garden Wisley. These were now ready for the nursery after propagation by long-standing local nursery 'Bennetts and Sons'. Important dwarf species from the Anthopogon, Uniflorum and Lapponicum series were already growing in the nursery, originally sourced from RBG Edinburgh in 1976 by New Zealand botanist Dr Melva Philipson and propagated by the McLaughlins. Drainage problems were still an issue, and it was hoped that the maturing trees would increasingly take up excess water. In the wettest areas of the top border rhododendrons were re-planted into a 12 inch/300 mm layer of rotted sawdust and woodchips built up above the waterlogged layer. Plants were generally healthy overall, taking a season to acclimatise to full exposure after the nursery conditions; more species were purchased from Peter and Louise Salmond's nursery 'Hokonui Alpines' in Gore.

By 1980 flowering was obviously becoming a colourful event, as a monthly record of blooming times was kept, beginning with *R. leucaspis* and *R. dauricum* in August/September and ending in November/December with a "…very fine *R. litiense*… open campanulate lemon flowers with red eye, which last for up to five weeks". (DRG Bulletin 9, 1981) Rhododendron growth was such that in early 1980, for the first time, large numbers of cuttings could be taken for propagation and eventual sale to members of the DRG. The early 1980s marked a distinct shift from primarily development and maintenance to more specific work with the plants. Some of the 1978 RHS Garden Wisley cuttings were nearly 3 feet/0.9 metre tall and almost ready to plant out. Controlling the size of trees and shrubs was becoming necessary, along with transplanting crowded rhododendrons to give them more room. A new permanent water supply to the nursery made maintenance a lot easier. The flowering season had extended further, from May (*R.* hybrid *R.* 'Lovelock') to February (the scented *R. auriculatum*).

In June 1984, for the first time, a detailed catalogue set out all the plants growing at Tannock Glen: around 140 different *Rhododendron* species, 74 different hybrids, and 80 different ornamental trees and shrubs. There was a sense that a younger team could begin to take on some of the Trustees' responsibilities. Sadly Bruce Campbell died in August of that year – as a source of experience and constant supplier of new rhododendrons his absence was a great loss. A bequest of rhododendrons from the late Ethel Johnstone needed a large team, including staff from the Opoho nursery, to transplant the 14 large specimens from her garden. The team was assisted by Mick Reese, the new Curator at the Botanic Gardens, and Brent McKenzie, the upper garden foreman at that time. An approach was also made by the DRG to the Botanic Gardens regarding a possible transfer of Bruce Campbell's precious seedlings and cutting stock, and subsequently 100 rhododendron plants including 36 species were purchased by the Botanic Gardens. These collaborations were a positive indication of how times had changed in the decade since the founding of Tannock Glen.

BOTANIC GARDENS REVIVAL

Back in 1974 the DRG had been convinced of the need for a skilled specialist plantsperson with staff oversight to manage the rhododendron collections at the Botanic Gardens, and started a consultation process which included themselves, the Dunedin Horticultural Society and the Botanic Gardens. It would be fair to say that Gavin Henderson the Gardens Director felt challenged and somewhat defensive, but soon prepared a job description for the position of a curator. This new position was approved by the City Council after a combined presentation from all parties. The position was advertised, and in November 1975 Norman Richan from the existing Botanic Garden management team was appointed. Maintenance of the Rhododendron

Dell soon improved noticeably and new plants were added more regularly.

Richan retired in 1982 and major changes during the next two years saw Curator Mick Reese take up a redefined role at the Botanic Gardens, which were repositioned within the City Council structure, and made subject to a clearly defined and widely accepted management plan. People were to be responsible for different areas, and the rhododendrons would be looked after by an upper garden foreman who would pay particular attention to them. In 1986 Doug Thomson (recently emigrated from Scotland) was appointed as the new Plant Collection Curator for the Rhododendron Dell. For over 36 years he and his team were to maintain, refresh and develop the collection to a superb standard, providing exactly the continuity of skilled management Ralph Markby was hoping for; Doug retired in November 2022. Other collections (such as the Geographic Collection) at the Gardens have been fortunate to enjoy similar (but not quite as extended) continuity of management: the Geographic Collection for example, with Curator Dylan Norfield.

RHODODENDRON DELL RECOVERY

By 1986 the Dunedin rhododendron scene was looking very different than 10 years earlier. The Botanic Gardens and Rhododendron Dell were experiencing a renaissance under the leadership of Mick Reece and Doug Thomson respectively, and the growing collection at Tannock Glen was flourishing.

Waterlogging in the Dell had unfortunately not improved – David Tannock had believed that "black bush soil overlying clay" was ideal rhododendron country, but in Dunedin's environment the underlying dense loess clay on basalt was a major problem during wetter periods. This remained an issue at Tannock Glen too, which has areas of persistent seepage like small springs. On steeper slopes at the Rhododendron Dell the drainage was better, but by 1982 some older plants were beginning to die and public access during spring had become difficult along the soggy paths. In response to these issues the drainage system across the whole 10 acres/4 hectares of the rhododendron and azalea collections was renovated, improving soil conditions generally and allowing extensive replanting throughout the area. This included a rich variety of pink, blue, and lemon-yellow flowering herbaceous perennials which would enjoy similar conditions to the rhododendrons. Loose drifts of *Meconopsis betonicifolia*, *Primula japonia* and *Hosta sieboldiana* grow abundantly with rhododendrons in the wild, so the combination would also give a better sense of those attractive natural plant communities. Spring bulbs were planted with the azaleas, including *Scilla* and *Narcissus* which would preview the main azalea flowering, and extend seasonal colour. (The team at the Dell in 2024 led by Steph Sinton their new Curator continue to have a sensitivity to and awareness of effective combinations of texture and colour). Another beneficiary of the improved drainage was the original Japanese Cherry Walk above the Dell. Dips and hollows were filled with new topsoil, and after the levelling process many of the original trees from 1916 which had become diseased were replaced by a mix of new varieties. The remaining older trees were still problematic, so in 2000 the whole avenue was successfully replanted with *Prunus* 'Accolade', a healthy and versatile pale-pink hybrid between *P. sargentii* and *P.* x *subhirtella*.

Soon after his arrival in 1986 Doug Thomson and his team carried out a major refurbishment of the azaleas, which had become very leggy. I remember as a child in the late 1960s/ early1970s seeing them in flower: great scented masses of salmon pink, coral, scarlet and lemon, and they were tall even then. A hard cut back and supplementary feeding reduced their height and much improved leaf and flower quality within a couple of seasons, but there were some sharp letters from members of the public to the local Otago Daily Times about the dramatic changes at the Gardens ! With the prospect of a NZRA annual conference for Dunedin in 1989, "regular consultation with the DRG began. Emerging from this was the recognition of the Dell's failing as a whole to deliver any clear botanical insight to the Genus *Rhododendron*... [It] had been planted purely in accordance with horticultural principles. Consequently, although attractive in many ways, the collection lacked the educational benefits of having related plants in groups where their differences and similarities could be appreciated". (Thomson, DRG Bulletin 41, 2013)

Accordingly, during a 21 month period prior to the conference, more than 400 mostly mature or semi-mature rhododendrons (root balls could weigh up to 1100 pounds/500 kg) were transplanted and trundled to their new locations and 3000 perennials were added to existing underplantings. Doug Thomson again: "Specific sections were created for representations of subsections *Arborea*, *Maddenia* and *Triflora* plus one for *Arborea* hybrids and two scented theme borders. Progress continued after the Conference with areas for *Campanulata*, *Campylocarpa* and *Pontica*." The whole massive process was completed in 1993 with guidance and encouragement from the DRG, in time to take advantage of a new irrigation system for the upper garden which came on line post-1990. Drought conditions in Dunedin are not uncommon every few years, and although waterlogging can often be a problem in wet weather, additional watering in the Dell is vital when the soils dry out in late summer/ early autumn. There is seepage along the bottom of the main gully which increases after significant rainfall (bridges and boardwalks are a necessary part of the access network) but there is not a permanent flow of water.

The old rhododendrons in the heart of the Dell have a dramatic presence with their spreading canopies arching overhead, and winding trunks. I'm reminded of author Jane Brown's description 20 years ago of another mature rhododendron collection in Surrey, England: "This woodland of nineteenth-century hybrids has a patina, a delicate

Winding trunks of mature rhododendron woodland in the Rhododendron Dell DBG, 30 July. Courtesy of DBG facebook.

refinement... and emphasises the longevity of rhododendrons; after more than 100 years most of them are genetically in their prime, and the scars of physical damage from storm and drought [or poor drainage, in Dunedin] are alleviated by constant gardening." (Brown)

WILD SEED COLLECTING AND CLIMATE CHANGE

Increased rhododendron numbers at the Botanic Gardens after this fundamental refurbishment gives some idea of the positive results. The rhododendron collection in 1983 had over 1000 plants made up of around 80 different species, 200 different cultivars and many unnamed hybrids (in total much fewer than in 1940). In an accurate stocktake by Doug Thomson in 1995 there were 120 different species comprising 676 plants (no tally for the hybrids). His next stocktake in 2014/2015 recorded 128 different species, 223 different named hybrids, and 518 un-named hybrid plants, for a grand total of 2221 plants in the ground.

It was still relatively straightforward to import seeds in the late 1980s and after a significant lowering of border controls by China, the DBG organised plant expeditions in 1992, 1995 and 1996. This last trip was a four-month visitor exchange by Doug Thomson to the Shanghai Botanic Gardens, which included seed collecting in the wild from Mt. Cangshan near Dali in West Yunnan. "Amongst the seed collected were 13 species of *Rhododendron.* One of the invaluable aspects of being able to collect the seed personally was the opportunity to observe their natural growing conditions... all but one of the 13 species grew in a relatively thin humus layer over solid or broken gravelly rock in mixed scrub and pine forest. The exception was *neriiflorum* growing in deep loam in pine forest with bamboo understory." (Thomson NZGJ). The other species collected were *R. cyanocarpum, R. decorum, R. edgeworthii, R. heliolepis, R. maddenii, R. racemosum, R. rubiginosum, R. scabrifolium, R. taliense, R. trichocladum, R. virgatum*, and *R. wardii*. By 2005 vigorous young plants from nine of these species had been planted out in the Dell, and their flowers, habit and new growth were observed with keen interest. The others were planted out in due course.

Doug Thomson noted that *R. racemosum* collected during the 1992 expedition by Alan Matchett (DBG Team Leader) was quite distinct from the 1996 material. Collected on the Zhongdian Plateau in north-west Yunnan "...from the margins of a dry stream bed, within the competitive root zone of adjacent birch trees [the rhododendrons] have rose pink flowers, and stems of deep burgundy of which not only are the buds infused with this colour but also the newest leaves. The foliage in general is darker than the Cangshan accessions and more glaucous underneath". (Thomson NZGJ) The leaves were significantly smaller too: this natural variation would suggest an adaptation to the comparatively drier conditions. Having the opportunity to see these truly wild forms of rhododendron species growing in New Zealand is a privilege, and is a great credit to everyone involved at the time, not least the propagation team. One of the results of these expeditions was a new rhododendron border specifically for plants grown from seed collected in the wild; as Doug Thomson and David Tannock would agree, this aspect remains a vital part of the authenticity of a true botanical plant collection.

The stability of the curatorial gardens management structure, so vital to Ralph Markby's "continuity of skilled management" was maintained during major restructuring by the City Council in the late 1990s and in 2000. He publicly congratulated the collective Botanic Gardens and City Council team in 1995 for "... bringing the gardens to their highest standards ever." A new border for New Zealand-raised rhododendron hybrids was added in 1998, and more species arrived from Pukeiti in Taranaki. Doug Thomson initiated ongoing

soil renovation in 2005: base soil was broken up, gypsum applied, and coil drains installed. Raised beds could then be built up with compost and fine gravel or sand, improving areas which formerly had "…all the natural drainage qualities of an estuarine mud-flat." (Thomson, DRG Bulletin 34, 2006).

In 2007 the rhododendron collection was offered something in the order of 3000 species rhododendron seedlings by local businessman, Brent Murdoch, who was moving north. The original seeds had been collected from the wild by contemporary plant explorers including Alan Clarke, Peter Cox and Steve Hootman. Some of the plants were around 1 foot/300mm tall, tightly packed but still healthy in their original seed trays. Around 1500 plants were subsequently grown on and the planting out process continued for some years – as Doug Thomson noted this was a great opportunity to introduce an even wider range of species, and renovate previously uncultivated areas. One fresh area was planted with *R. auriculatum*, *R. leptocladon*, *R. mallotum*, *R. pachysanthum*, *R. souliei* (particularly temperamental), and *R. scopulorum*, all from Brent Murdoch. These new plants "…are being fitted into the Dell where we can make space for them by opening up new areas, but the opportunities for that are quite limited given the well-established nature of the plantings. So although we have a potentially large number of species, the actual Collection is increasing only incrementally where space and time allow". (Thomson, email MW 2014)

Without 'hybrid vigour', species can often be harder to grow. This was the process of preparing planting spots for some particularly skittish seedlings from Murdoch's stock (including *R. sphaeroblastum* var. *wumengense* and *R. sikangense* var. *exquisitum*): place gravel/shingle in the bottom of the hole first, then a layer of compost for the root ball to rest on; backfill gravel right up around the sides, a layer of compost on top and finish with pea straw. These plants were, not surprisingly, looking very happy indeed when Doug and I checked in on them in 2014. Other Murdoch seedlings were grafted on to rootstocks by plantsman Denis Hughes, for growing on.

Another major project led by Doug was the development of a peat garden near the Cherry Walk, for smaller, fussier rhododendron species – this was completed in 1992, and subsequently renovated several times. The most recent redevelopment was in 2013, when the area had 50 metres of new drains installed, 10 cubic metres of heavy clay removed, and a free-draining but moisture-retentive mix of 20% soil and 80% mix of peat, ground bark, sand and compost backfilled. "There wasn't the luxury of using a mechanical digger, because the only access to the area was via the grassed Cherry Walk. So my apprentice and I did all the work by hand and although I do enjoy digging, I have to say that I had had more than my fill of Dunedin's dense volcanic underlay by the end of that phase." (Thomson, 2017)

Doug's in-depth knowledge and experience of the Botanic Garden's microclimates and their influence on the rhododendron and azalea collections led him to suggest that distinct ongoing changes in seasonal temperature and rainfall patterns were affecting some plants, outside of the natural attrition one would expect.

Rhododendron sinofalconeri flowering at Tannock Glen

Flowering was becoming much less seasonally defined than twenty years previously: a vigorous single flush of flowering over a relatively shorter period was now spread out over a longer time with several flushes. This was becoming particularly noticeable with spring flowering trees such as the well-known pink deciduous magnolias (*M. campbellii*) near the azalea garden, and the trees seemed to be under stress because of it. During a visit in 2014 Doug and I also took a careful look at one of the magnificent old *Rhododendron arboreum* trees near the upper bridge in the Dell. Part of the plant's canopy was bare, and under its cinnamon and purplish-coloured bark the trunk felt spongy – not a good sign in a tree that Doug would normally expect to have more years of life; it later had to be removed.

Drought and downpours are not unknown in Dunedin, but climate change will likely make these events more extreme, and more frequent. Recent examples of this tendency included a severe drought in February 2023: curator Dylan Norfield commented at the time that the subsoil contained virtually no moisture, which was particularly damaging to evergreens (such as rhododendrons) and that such dry conditions were usually a feature of autumn. The complete opposite occurred in 2024 when in the 48 hours to Friday morning 4 October, Dunedin City and the hill suburbs received between 160 - 180mm of rainfall: the wettest day in more than a century.

Rhododendron lanigerum at Tannock Glen

TANNOCK GLEN 1984 - 2014

Tannock Glen is of course a different and smaller collection than the Rhododendron Dell, but one which also regularly adds quality hybrids and rare species grown from wild seed to its plantings. In the 1990s the garden became better known and more associated with the Rhododendron Dell due to shared promotions locally and internationally. In addition it became a regular part of Dunedin's annual Rhododendron Week celebration in mid-October, when up to 900 people have visited. There were 132 different rhododendron species in 2003, identified both by the bed they were planted in and as part of an alphabetical list of all plants on the site. Numbers of hybrids reached 94 in 2005. A circuit of gravel paths was laid in 2003/2004 with the help of offenders from the Justice system serving their community service. More plants arrived throughout the late 2000s, including some new species from Brent Murdoch, and a *R. excellens* from the Botanic Gardens. A generous grant from the NZRA in 2010 allowed the process of upgrading labels to start. I first explored the Glen in mid-spring 2011 (DRG Bulletin 40, 2012: *Tannock Glen Snapshot*) and was reminded again of the great variety of form and colour in Genus *Rhododendron*. Many plants were coming into bloom, including *R. sinofalconeri* and *R. formosum* var. *inaequale*. This, plus the dramatic contrasts between leaf size and form in such close proximity made the garden well worth visiting.

Rose coloured bracts on young plants of *R. irroratum* ssp. *ningyuense*, *R. protistum* and *R. clementinae* contrasted vividly with their apple-green new foliage, and silvery new growth on *R. denudatum* stood out particularly well in the misty conditions. Tall older plantings of *R. davidsonianum* 'Exbury Pink', *R. formosum*, and *Pieris* with cinnamon bark all leaning out over the

pathways created a distinctly sheltered and enclosed atmosphere, compared to the more recent beds with seedling rose-pink *Primula japonica, Meconopsis betonicifolia* and young rhododendrons such as *R. sphaeroblastum* var. *wumengense*. Some species' dormant flower buds were a conspicuous feature (*R. falconeri* and *R. lanigerum*) with touches of red or pink on an intricate geometry of overlapping scales, and intense reddish indumentum. In addition to the insulating effect of dense indumentum against cold temperatures and wind chill, this multi-purpose layer is often water-repellent, keeping ice away from direct contact with the plant surface. It also reduces water loss from evaporation by trapping a thin layer of moist air, and reflects the glare of intense visible light at high altitudes with pale silvery colours. Other rhododendron species protect their tender buds and emerging leaves through the use of reddish pigments called anthocyanins in the indumentum hairs. These pigments selectively absorb harmful blue and ultraviolet light (particularly medium wavelength UV 'B') like a furry sunscreen.

Major drainage work had been in progress across the lawns at Tannock Glen in 2011, but by autumn 2014 the drainage work was complete, the ground firm and the garden looking very polished ahead of the much anticipated NZRA Dunedin International Rhododendron Conference in late October, which was a resounding success. Established rhododendron plantings along the top boundary had been integrated with other plants around the massive *Sequioadendron* trunks. Drifts of the native herbaceous perennial *Arthropodium cirratum*, hydrangeas, ferns and the fine texture of tall ornamental grasses complemented the rhododendron foliage particularly well, as the grasses' tall flowerheads swayed in the slightest breeze.

Labelling is an ongoing process for both Glen and Dell, and computer records are held for both collections and updated regularly. Numbers for Tannock Glen plantings in 2014 were an impressive 150 - 160 different rhododendron species and 120 - 130 different hybrids, including azaleas.

Rhododendron adenopodum was one of several new species to arrive in 2014, and extra outdoor seating had been completed. Allowing for the usual process of deaths and replacements, and the finite area of the site, rhododendron numbers a decade later in 2024 are very similar; plus the abundant plantings of choice trees, shrubs and herbaceous perennials.

The Tannock Glen Report from 2013 welcomed new arrivals such as *R. kesangiae* and *R. hodgsonii* from the late nurseryman Alistair Blee, *R.* 'Dainty Lass' and an un-named hybrid *R. souli* x *R. dichroanthum* from David Sumpter. There was also a mix of quality species and hybrids from Denis Hughes at Tapanui; he remains a great supporter of Tannock Glen. Four of his most successful varieties of deciduous azaleas were blooming in the garden in 2014: the scented double cream-flowered azalea 'Pavlova' was particularly noteworthy. Drainage culverts had been upgraded and a new path installed, which completed the main circuit of the garden. Many members of the DRG were (and are) adventurous travellers, and along with collection curators at the Botanic Gardens and notable plant hunters such as Peter Cox, they regularly contributed their practical experiences and photographs to the DRG Bulletin, which had developed both a cosmopolitan and specialist flavour; its final edition was in 2019.

TANNOCK GLEN 2014 - 2024

Reports prepared each year for the Dunedin Rhododendron Group's AGM continued to chart steady progress at Tannock Glen during the decade. Typical matters appearing each year have included: steady levels of donations at the gate, installation and upgrading of steps/pathways, seating and drains somewhere in the garden, participation in Rhododendron Week and the Dunedin 'Open Gardens' scheme (usually held during three weekends in late October/early November), and general maintenance of the garden by DRG members. They schedule regular working bees on the first Monday morning of each month (attended by at least four or five members), as well as the autumn and spring Saturday sessions. "Postponement due to the weather has happened only occasionally, and then we have been successful the following day or the following week. It is a very sociable time with a leisurely morning tea."

Rhododendron charitopes at Tannock Glen

There have been significant new plantings nearly every year, along with an increasing public visibility for the garden, and fresh links to other local organisations.

In 2014, clean mulch from was regularly provided by a local arborist from his chipper. Permanent labelling of plants was a priority, and the majority "...have now been set on strong

wooden mounts with durable labels which are easy to read". Tannock Glen was part of the NZRA International Conference as noted earlier; delegates much enjoyed visiting the garden, and made many generous compliments. New plants included *R. adenopodum*, *R. argyrophyllum*, *R. ferrugineum* (double form), *R. lacteum*, *R. mallotum*, and *R. pseudochrysanthum* 'Komo Kulshan'.

A third-year apprentice from the Botanic Gardens assisted with maintenance during 2015/2016 as part of her training and work-planning experience. A relationship was also established with Otago Polytechnic, "...for their arborist class to gain work experience on trees that we have identified for them". This proved to be "...a win-win situation for them and Tannock Glen as there were quite a few trees that needed to be removed (some of the old shelter conifers) and others that needed remedial work in the way of pruning. The work has been done to a very high standard". The Dunedin 'Open Gardens' scheme prompted "... enquiries from couples wishing to hold weddings in the garden. It is good to see the public, as well as our members, appreciating the garden". New plantings included *R.* 'September Snow', *R. erosum*, *R. excellens*, *R. siderophyllum*, *R. vernicosum*, and also *R. smirnowii*, gifted by Denis Hughes. A largish plant of *R.* 'John Bull' was rescued from a private garden, and the "...very special *R. tsariense* [was] donated by Alan and Helen Edwards".

In 2016/2017 plants variously donated and purchased included *R. aureum*, *R. williamsianum*, *Astelia*, *Coprosma* and Titoki. Other plants purchased from the DRG plant list were *R.* 'Glenfalloch Blue', *R. nakahare*, *R. griffithianum* (double form), *Cercidiphyllum japonicum*, *Enkianthus campanulatus* var. *sikokianus*, and a *Magnolia kobus*. Doug Thomson was able to identify two previously unknown species, and "...we have been pleased to have the assistance of Carla de Boer, an apprentice from the Botanic Gardens, [who] is using our garden as a management project for her qualifications and is working half a day per fortnight".

New plantings in 2018 included *R. calostrotum* subsp. *riparium*, *R. campylogynum*, *R. dalhousiae* var. *rhabdotum*, *R. decorum*, *R.* 'Ember Elf', *R. fulvum*, *R. griersonianum*, *R. hirsutum*, *R. megeratum*, *R. smirnowii*, *R. taliense*, *Leucothoe* sp. and *Nyssa sylvatica;* and in 2019 *R. arboreum* ssp. *zeylanicum*, *R. oreotrephes*, *R. ririei*, *R. charitopes* ssp. *tsangpoense*, *R. campanulatum*, *R. nuttallii*, *R.* 'Ed Hillary' and *R.* 'Daisy Fitchett'.

New foliage of *Rhododendron campanulatum* ssp. *aeruginosum* at Tannock Glen

The Covid virus lockdown in 2020 may have encouraged more visitors to walk through Tannock Glen: one person expressed their appreciation at being able to do so by making a special donation of $100.00. There was also a donation of a fastigiate *Liriodendron*, planted below the main driveway. Plants sourced from the DRG plant list included *Rhododendron calostrotum* 'Gigha', *R.* 'Cinnkeys' (*R. cinnabarinum* x *R. keysii*) and *R. xanthostephanum*. New macrocarpa timber steps in the 'bush' part of the garden were completed, and a new fence, gate and 'Tannock Glen' sign were built at the entrance to the garden off Opoho Road.

In 2021 five new rhododendron species were purchased from the DRG's plant list: *R. desquamatum*, *R. fictolacteum*, *R. hippophaeoides*, *R. hirsutum* and *R. moupinense.* A *Nyssa sinensis* was also planted overlooking the lawn to the south, in memory of one of the active supporters of the DRG.

The garden was in particularly good order in 2022, and had several visits by local garden groups, plus one outdoor wedding. "For the first time, we are paying someone to mow the lawns. We have employed a local Opoho school girl to do the mowing, using our mower and fuel. This is more economical than using a contractor with their own equipment, as long as our mower is in good condition." New plantings that year included: *Rhododendrons arboretum* subsp. *zeylanicum*, *R.* 'Birchfield', *R.* 'Stonelaw', *R. montroseanum*, *R.* 'Mrs Percy McLaren' and *R. johnstoneanum* 'Double Diamond'.

A local teenager was employed again 2023 for lawnmowing, successful both in terms of time and costs. A battery-

(14): Fiery autumn colours on Acer palmatum above the Rhododendron Dell DBG, Dunedin Botanic Gardens, 28 April. Courtesy of DBG facebook.

powered leaf blower was bought for the garden – with an extra battery unit it was capable of efficiently clearing the paths and driveways, saving a lot of time and effort previously spent raking. The following rhododendrons were purchased from the plant list: *R. alutaceum* ssp. *Taliense*, *R. apodectum*, *R. campanulatum* ssp. *aeruginosum*, *R. crassum*, *R. decorum* 'Best Pink', *R. elliotii*, *R. irroratum* 'Polka Dot', *R. recurvoides*, *R. lepidotum* var. *eleagnoides*, *R. dalhousiae* var. *rhabdotum*, *R. mallotum*, *R. polyandrum*, *R. roxianum* var. *oreonastes*, and a David Sumpter selected seedling as yet un-named. "It is good to be able to report that we now have what we believe to be the 'Real' *R. mallotum*, after having had 'Not Mallotum' for many years." Most of these new plants were installed in the lower areas of the lawn where they could be viewed from the main access driveway.

The following rhododendrons were purchased from the DRG plant list in 2024: *R. aberconwayi*, *R. burmanicum*, *R. oreotrephes*, *R.* 'Alcesta', *R.* 'Birchfield', *R.* 'Floral Dance' and *R.* 'September Snow'. Gifts from Canterbury nurseryman Ken Jordan were also received: *R. basilicum*, *R. macabeanum*, *R. protistum and R. rothschildii*. Donations were significantly higher for the year largely due to support from the Taieri Rotary Club, which organised a heritage festival nearby and encouraged people to visit Tannock Glen.

CHANGING OF THE GUARD AT THE DUNEDIN BOTANIC GARDEN, AND RHODODENDRON DELL

Mick Reese retired in 2015, and Alan Matchett is currently the DBG Manager. Following Doug Thomson's retirement a new collection curator for the Rhododendron Dell, Steph Sinton, was appointed in February 2023. Steph has very kindly contributed an update of recent activities in the Botanic Gardens collection, abridged as follows:

'Balch's Island' is the border which displays Dunedin-raised rhododendron hybrids and selections by local nursery folk and rhododendron enthusiasts. New plants are currently being added, with most recent additions including: *R.* 'Lovelock', *R.* 'Stonelaw', *R.* 'Alpine Meadow', *R.* 'Blue Mist', *R.* 'Birchfield', *R.* 'Kotuku' and *R. augustinii* 'Medlicott form', all sourced from Dunedin propagator and grower Geoff Markby. Rotting timber edging around this bed is being replaced with rock edging, and herbaceous perennial underplantings bulked up, reminiscent of those earlier plantings of *Meconopsis betonicifolia*, *Primula japonia* and *Hosta sieboldiana* in the mid-1980s. Larger drifts of herbaceous underplantings are currently being established in several different areas of the collection, creating a leafy secondary layer under the shrubs which more closely mimics their natural plant communities, and provides a greater seasonal variety of foliage textures and colour repetitions to draw the eye.

An ongoing seed exchange program with other Botanic gardens and plant collections expands the range of existing rhododendrons and herbaceous perennial species, including sourcing rare species. Raising new plants at the Botanic Garden's plant production and nursery facility is a vital part of maintaining succession planting throughout the collection. Regular pest and weed control continues throughout the rhododendron and azalea collection, and bush areas. Rhododendron and deciduous azalea pruning classes are held annually for the Dell's apprentices; hard pruning is occasionally necessary to reshape and rejuvenate old rhododendron specimens. Ongoing recordkeeping has included accurately (digitally) re-mapping the various borders, updating the Dell's existing plant database (which includes an increasing variety of herbaceous perennial plants) and refreshing/ replacing existing plant labels.

Many existing pathways throughout the Dell have been upgraded, and their rotting timber edges replaced with rock edging: for example along the existing woodchip track connecting

the South African Garden pergola to the Dell, making this more user-friendly, and pram/wheelchair accessible. A gazebo was also completed recently to provide covered seating in the Dell, based on a design by retired local landscape designer Don Barham. Six new *Prunus* 'Accolade' have been added to the Cherry Walk, so that the avenue spans the whole length of the available space. Overhanging native bush has been trimmed back where necessary, to reduce shading of the rhododendrons and thereby encourage better growth habit and flowering.

Some of the older and unhealthy maples in the azalea garden have been replaced with more upright cultivars to reduce excessive shading of the deciduous azaleas, and to provide winter interest; for example *Acer palmatum* 'Senkaki' (syn. 'Sango-Kaku') with bright coral-red new stems. Other new maples include *A.* 'Red Emperor,' *A.* 'Seiryu', and *A.* 'Osakazuki' with fiery scarlet autumn leaves. An existing maple *Acer palmatum* var. *dissectum* 'Viridis', over a hundred years old and thought to be one of David Tannock's original plantings, was successfully transplanted last year from from its original site in front of Tannock House to become a feature at the main Dell entrance, where it could be better appreciated.

Rhododendron 'Alison Johnstone' at Tannock Glen

LOOKING AHEAD

The Rhododendron Dell and Tannock Glen both have something of the quality described by Ralph Markby in his 1995 comment referring to the revitalised Botanic Gardens: "...one only has to walk in the gate to know that this is a garden controlled by people who know about plants and how best to cultivate them". These high standards have been reached after years of hard work and attention to detail, and are maintained by the commitment and enthusiasm of everyone involved. In the early Tannock Glen Reports, Ralph Markby described particular rhododendrons as having "an air of quality", a phrase which seems appropriate for the title of this article, 50 years after the establishment of the garden.

The long history and generous public spaces of the Botanic Gardens for recreation and enjoyment have made them a trusted part of the community and a strong piece of Dunedin's identity, sited where the main highway from the north sweeps down directly towards the lower Gardens; a kind of green gateway to the city. Being relatively close to the Rhododendron Dell makes Tannock Glen well-placed to contribute to rhododendron and gardening culture in Dunedin, and to benefit from its own niche as a compact specialist collection and the 'family garden' of the DRG. "Tannock Glen continues to receive the support of the public as well as [DRG] members... Photos and articles about the garden and its many treasures continue to be published ... and this encourages members of the public to visit." (Tannock Glen Report 2019)

Tannock Glen and the DBG Rhododendron Dell are part of an expanding network of collections around Aotearoa/ New Zealand which together help to conserve rhododendron species from Asia and other regions, and associated plants from the same habitats. The New Zealand Rhododendron *Ex Situ* Conservation Project plays a vital role in this process. Some of these rhododendrons and their associated plant communities are in an increasingly fragile position in their natural habitat, as China, India, and nearby countries develop land for food production, power generation and living space. Dr Marion Mackay noted in *The Rhododendron* 2023 that "...in [their] wild habitat, 726 of 1232 (59%) assessed [*Rhododendron*] taxa have some form of conservation issue; only 502 taxa were judged to not have an issue." New Zealand collections (including those in Dunedin) "...hold a substantial number of taxa... about 538 taxa in cultivation [in 2017] which ranks us about 4th globally. This means ...we have a useful role to play in international *ex situ* conservation". Other useful conservation features are our relatively mild climate allowing tender species to be grown outdoors; our duplication of important collections down a long landmass crossing several latitudes and climate zones, and being in the southern hemisphere "...when (at present) most of the large collections are in the northern hemisphere". (Mackay)

Dunedin has actively maintained its historic links with China, with one result being the elaborate *LanYuan* Chinese Garden near the central city, an authentic example of a late Ming/ early Ching Dynasty Scholar's Garden. In 2013 Doug Thomson was asked if he could provide some rhododendrons which which would be suitable for the Chinese Garden (he chose *R. forrestii* Repens Group, and a pink form of *R. campylogynum)* – just one of many positive examples through the years from Dunedin's special rhododendron community – plants and people – demonstrating the old adage: 'what goes around comes around'.

Rhododendron 'Alison Johnstone' at Tannock Glen

ACKNOWLEDGEMENTS

Many thanks to Rhododendron Dell curator Steph Sinton for her 2024 update of recent developments in the Dunedin Botanic Gardens collection; and to DBG (facebook) for use of images; and many thanks to John Henderson and Alan Edwards (DRG) for recent Tannock Glen Reports and additional information.

Not all individuals and organisations associated with the Rhododendron Dell and Tannock Glen could be mentioned in the scope of this article; their talents, energy and contributions are in no way forgotten.

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Dunedin Rhododendron Group website: www.rhodogroupdunedin.org.nz

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Dunedin Gardens to Visit: https://dunedingardens.co.nz/tannock-glen/

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Dunedin's Historic Buildings: http://builtindunedin.com

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THE AWA AWA RATA RESERVE

Ian Soper and Linda Clarke

The Ashburton District soils are well known for growing quality grain and seed, but two very different parcels of land are helping nurture some very special rhododendrons.

Seventeen species of rhododendrons, including one classified as near-threatened and four considered vulnerable, have been planted at Awa Awa Rata Reserve, in the Mid Canterbury foothills, and at the Ashburton Domain, as part of the New Zealand *Ex-Situ* Rhododendron Conservation Project.

Both locations are cared for by the Ashburton District Council's Open Spaces team, led by Ian Soper and a passionate team of horticulturalists.

"We are delighted to be part of this national and global programme to save rare and endangered rhododendrons, and our horticultural team is definitely up for the challenge.

"Some of these rhododendrons have come from China, where they grow naturally on mountains or sub-alpine rocky slopes, but also where climate change and habitat loss and degradation are taking their toll.

"Luckily we have quite a wide range of similar habitats in our district and they will adapt and grow well here."

Awa Awa Rata Reserve is already widely known for its spring display of rhododendrons. The first shrubs were planted there in 1968 and over the decades, enthusiastic volunteers of the Awa Awa Rata Reserve Society have continued planting and maintaining the reserve, with Council's help.

A new garden bed has been built recently to accommodate the *ex-situ* rhododendrons and they will spend the next few years adapting to the temperate climate and elevation – at 400 metres above sea level, there are some very hot days in summer and sometimes snow in the winter.

The reserve is a short drive from Methven at the end of McLennans Bush Road and, backed by virgin native bush on the hillsides, the rhododendrons are a brilliant sight.

Ian said the members of the Awa Awa Rata Reserve Society were also thrilled to be part of the conservation programme.

"They have embraced it, doing whatever work they can. September, October and November are some of the best months to see the spectacular hybrids in flower, and soon the new arrivals will be adding their own colour."

Some 40km west on the Plains is the Ashburton Domain, considered the jewel in Ashburton's crown. At an elevation of 200 metres above sea level, and proudly occupying 37 hectares on the corner of State Highway 1 and Walnut Avenue, it provides a very different but no less varied climate for the new, protected rhododendrons.

The domain has its own established rhododendron area, which is a popular spot for wedding photographs. It also has a beautiful rose garden, and many mature exotic trees, some planted to mark extraordinary people or a time in history.

Council's Open Spaces team is based from a depot at the domain and from the office staff can see some of the newly-planted *ex-situ* rhododendrons.

The rhododendrons here are being cared for by Craig Paterson, who joined the Open Spaces team in 2021. From his time working at New Plymouth's Pukeiti gardens, and knowledge about the rhododendron conservation project, he was the ideal man for the job.

Ian and Craig have incorporated the care of the *ex-situ* rhododendrons into the Open Spaces team's regular work programmes, making sure they remain healthy and well-managed in what is a very public space with many visitors.

One plant was lost during a recent community event at the domain, when 40,000 people visited for Glow in the Park – some unfortunately walked across gardens.

It was a lesson learned and the new bed will be well taped off to discourage off-path pedestrians at future events.

"But we think the domain is a great venue, providing the sort of climate and space that will help ensure these species are not lost," Ian said.

He first learned about the rhododendron project while in charge of Gore District Council's parks and reserves and brought the knowledge with him when he moved to Ashburton in 2021.

"I knew Ashburton would also make an ideal alternative location too, especially with Awa Awa Rata Reserve. As someone who has spent almost 50 years learning about plants, it's a privilege for our team and Council to be involved in the conservation of these rhododendrons."

Some of the rhododendrons planted in the Ashburton District are:

R. denudatum, considered near threatened and at a very high risk of extinction. The rose-coloured flowered shrub is close to *R. coeloneurum* and is found in thickets and on mountain slopes in a restricted area of Guizhou-Sichuan-Yunnan in China, near the Vietnam border.

R. noriakianum, a low shrub endemic to central Taiwan in sub-alpine rocky slopes and open grasslands, considered vulnerable because of habitat loss and degradation.

R. hanceanum, considered vulnerable. It is a common pale yellow or white-flowered shrub species an occurs at a single known restricted locality on a mountain cliff in central Sichuan, China.

R. aberconwayii is from China and considered vulnerable. It grows on slopes in thickets, but is only known in a few localities.

THE WAIHI RIVER TRAIL VOLUNTEER GROUP

Jan Finlayson

Rising in the Four Peaks Range between Tripps Peak and Mt Francis, the Waihi, a small lowland braided river, bubbles southeast and through central Geraldine midway on its journey to meet the Opihi River near Temuka.

Alongside that heart-of-Geraldine reach, the Waihi River Trail Volunteer Group nurtures an extensive woodland including rare rhododendron species and endangered New Zealand hybrid rhododendrons. With a legacy of 45 years worth of work by volunteers, the project is a labour of love for plants, wider nature, and the active community it's integral to.

Initially called the Geraldine Community Trust, the project was instigated about 1980 to restore the riverside's native vegetation and create trails for public enjoyment. Rhododendrons and specimen trees came into its scope after it was re-titled in 1989 as the Geraldine Environmental Trust (to avoid confusion with the newly established Geraldine Community Board). More recently, it became the Waihi River Trail Volunteer Group.

The group works under a Memorandum of Understanding with the Timaru District Council, which in turn has MOUs with the land's administrators, the Department of Conservation and Land Information New Zealand. The Taranaki-based Pukeiti Rhododendron Trust and the Taranaki Regional Council recently chose the Waihi site to plant and protect rare and endangered rhododendrons.

Fuelled in large part by their project's beauty and increasing botanical significance, and by the pleasure it gives locals and visitors, the Waihi River Trail Volunteer Group also receive plant donations and occasional financial grants. Local rhododendron nurseryman Ken Jordan recently gifted around 50 plants. Successful grant applications in the last year have enabled purchase of an irrigation system, storage, and tools, as well as further rhododendrons and specimen trees.

The volunteers of the Waihi River Trail Volunteer Group warmly welcome you to the botanical gem at the heart of our place.

R. 'Azalea Mollis' collection

MY ASSOCIATION WITH PUKEITI – A PERSONAL RECOLLECTION

David Harrop

It was 1969. Pukeiti. What was this place? I was about to find out. My godmother, Moyra Todd from Wellington, was a keen gardener and if I tell you she was a good friend of Russell Matthews from *Tupare*, you will make the connection.

We had just moved from South Taranaki to a run-down sheep farm near New Plymouth which we were converting to a dairy farm so, as you can imagine, although we were really interested, gardens were not high on our agenda. However Moyra, together with Russell, made a persuasive pair and my wife Margaret and I soon found ourselves members of the Pukeiti Rhododendron Trust which had then been running for 18 years.

Moyra and her sister Kath had a garden, *The End House*, at Melling, on the hills above Wellington's Hutt Valley, which featured in Mary Burnard's splendid 1984 book, *Garden Heritage of New Zealand*. This book also included Russell and Mary Matthew's *Tupare*. There was also another link; my mother, then Hilda Valentine, taught Mary Matthews, then Brodie, at New Plymouth Girls' High School, from 1923-1926. After school they remained friends for the rest of their lives.

The Todd family had arrived in Otago from the lowland area of Scotland in 1870 and soon established themselves as astute business people. They were among the first importers of motor cars to New Zealand and from 1959 were part of the group developing New Zealand's first natural gas field at Kapuni in South Taranaki.

My godmother was a special person in my life and I saw a lot of her in my early years. Moyra and Kath were born at Heriot in Otago and in 1926 they embarked on an extensive OE to Europe so Kath could extend her studies as a doctor. The sisters set up house in London and there they met my parents, also recently arrived from New Zealand. Later I regularly spent time with Moyra at their house in the Hampstead Garden Suburb, right next to Hampstead Heath. The following photo shows Moyra encouraging my early gardening efforts.

After the war, in 1947, Moyra and her sister returned to New Zealand and were early supporters of Pukeiti. In 1967 they donated £100 a year

Moyra Todd and DNH London 1938

Moyra Todd and Rob Hair Pukeiti 1959

for three years to the Summit Road Project, one of the schemes Russell Matthews was especially promoting.

This is not the place to set out full details of Pukeiti's early years but some explanation is required. Pukeiti Rhododendron Trust was set up in 1951 by a group of 25 rhododendron enthusiasts from all around New Zealand. They contributed the initial funds to get the place going and along with other volunteers, many of them were involved in the physical work on the property. The early days were not easy, goats, possums and rabbits had to be dealt with, access was difficult, there were no buildings and the rain seemed endless. However, the number of members of Pukeiti kept increasing and by 1960 some 2,400 people had joined. A planting plan was drawn up, a water wheel was installed to both pump water and generate electricity and the original Members' Lodge was built. Unbelievable today, thanks to volunteer labour and donated material, this cost only £4,189.

So things were looking up and the Trust was able to employ a curator. Les Boisson, then Rob Bayly were first, and in 1960 Rob Hair, ably supported by his wife Ina, was appointed. Prior to this time the basic layout of the garden had been established and Rob Hair's stewardship was a time of consolidation. A count showed some 800 varieties of rhododendron had been planted with around 8000 plants in all.

Attention was now turning to looking after visitors and Ina Hair was a particularly skilled hostess, who set a high standard which was later followed by many others.

1969 saw the appointment of Graham Smith, which really was a turning point for the garden and for the Trust. He was a young Englishman with a five-year Regent's Park apprenticeship and a three-year Kew diploma behind him, so he was very well qualified, although gardening in the New Zealand rain forest was a new experience for him. It is fair to say that for the next almost 40 years Graham became the driving force behind Pukeiti and an international figure in the world of rhododendrons. A remarkable achievement.

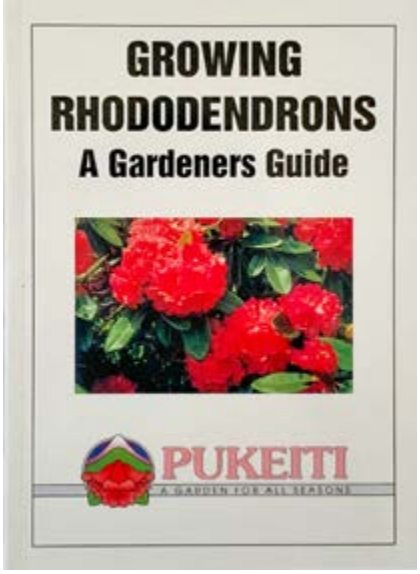
Andrew Brooker is another who should be mentioned. Andrew has shown his ability by rising through the Pukeiti ranks from garden labourer to garden manager, and now Collections and Projects Officer. He has a great knowledge of the plants at Pukeiti, and in conjunction with the New Zealand Rhododendron Association, as well as working at Pukeiti, his main task today is tracking down and saving endangered rhododendrons through the *ex-situ* programme.

As I said earlier, Margaret and I also joined Pukeiti in 1969, but apart from visiting from time to time and helping with the Cyclone Bola clean up in 1988, we took little active part. I retired from my job as a Farm Appraiser with the Rural Bank in 1991 and then, from 1992-2008, became more involved at Pukeiti, serving on the Members' Committee, the Board and as newsletter editor.

I then eased off, and in 2010 came the most significant event in Pukeiti's 60-year history. From being a self-supporting private trust, Pukeiti formed a partnership with the Taranaki Regional Council who took over full management of the garden. Negotiated by Pukeiti stalwart, Lynn Bublitz, this has proved to be a happy arrangement, with Pukeiti developing into a wide-ranging community facility, while still working with Pukeiti Rhododendron Trust's original aim, 'to encourage the cultivation, the study and the improvement of rhododendrons'.

From my active years at Pukeiti, I have selected four topics to expand:

- Growing Rhododendrons: A Gardeners Guide 1993
- Cardiocrinums 1993-94
- The Carvings, Te Whare Taonga 1996
- The Jubilee Rimu 2001



Growing Rhododendrons: A Gardeners Guide 1993

Although I had determined to spend more time with Pukeiti when I retired, I quickly realised that I really knew very little about rhododendrons, so I came up with the idea of asking all the knowledgeable people connected with Pukeiti to contribute to an easily understood book about the plant. There were some doubters, but after answering some searching, mainly financial questions from the Board, I was given the go-ahead. All 17 people I asked to help really did contribute willingly. In 1993 the book had a spectacular launch in the Penthouse of the Richmond Estate, then just re-built by Willie Still and his team. Willie was always a passionate supporter of all things Pukeiti.

The book was well reviewed in a number of publications with the *New Zealand Herald* writing: 'they have assembled an array of information with a fine economy of words.' The book sold well and many people found 'Growing Rhododendrons' useful. In 2019 it was re-printed by the Taranaki Regional Council to support a Puke Ariki (New Plymouth's Museum, Library and Information Centre) exhibition. This was 'Pukeiti - The Living Museum', featuring Susan Worthington's botanical paintings of Pukeiti's large-leaf rhododendrons and the conservation efforts of the garden as a living museum.

Cardiocrinums

Cardiocrinum giganteum at Pukeiti

Gerry Paulin preparing for export

These amazing plants, *Cardiocrinum giganteum*, or as Graham Smith tells us, 'the Giant Lily' from the Himalayas, have been a feature of Pukeiti since 1963. In that year, Michael Hudson, a founding member from Hawke's Bay, introduced the seed to Pukeiti, where the spectacular plants soon flourished. In 1993 Gerry Paulin was chair of the Members' Committee. Among his other interests he and his wife Beryl grew proteas for export to Japan. At this time Pukeiti was particularly short of funds and Gerry came up with the idea of including cardiocrinums with his proteas to send to Japan. For one year this worked very well and useful dollars were earned, but the next year MAF biosecurity found insects in the flowers and they were returned to us. We were left with some 70 of these beautiful blooms - what could we do? After a rapid ring round the Members' Committee we decided to distribute them to shops around New Plymouth. The flowers were very well received and acted as a promotion for Pukeiti.

Today cardiocrinums are not seen so much at Pukeiti. Andrew Brooker explains, *'Over time it was observed that the cardiocrinums were spreading into the forest margins beyond the garden beds.... To manage this Graham had us removing the seed heads before they ripened to slow the spread. This practice continues today and we only allow a few key clumps to set seed. Unfortunately this has been perhaps too successful, thus explaining the lack of a display.'*

Te Whare Taonga 1996

For some years the Board had been looking at ways to mark the work of our Founder Members and the Maori contribution to Pukeiti. It was decided that carved panels telling the story of creation through the eyes of the Maori cultural tradition would be a fitting tribute. Robin Mason and others had found a suitable totara tree in the bush near Lake Taupo. With the required consents they broke the timber down and brought it to Taranaki. The panels were designed and carved by Rangi Bayley and his team in the traditional Taranaki style.

In November 1996 the unveiling and blessing of the carvings was led by Archbishop Paul Reeves, Governor-General from 1985-1990, in a most impressive ceremony. A large number of us had gathered well before dawn and the darkness was palpable. As

Te Whare Taonga

Governor General Dame Patsy Reddy with the panels now at Pukeiti's main entrance

the light strengthened the outline of the bush appeared, and the birds' dawn chorus began. Flood lights were turned on and the beauty of the carvings became apparent. It was an awe-inspiring moment. Speeches were made and my over-riding memory of the event came in the words of the kuia who said, 'If only the people could grow up in harmony as the trees do'.

In 2017 the new Rain Forest Pavilion was opened by the Governor General, Dame Patsy Reddy. At this time the carvings were moved to Pukeiti's main entrance and are now placed to welcome visitors as they enter the garden.

The Jubilee rimu

When Pukeiti was established in 1951 the land had been owned by the New Plymouth Sash and Door Company. By 1931 that company had milled all the suitable timber trees, particularly the rimu, to go towards building houses in New Plymouth. They had even removed trees suitable for firewood, leaving the land to the mercy of goats and rabbits.

Accordingly, as the Pukeiti Rhododendron Trust got going, planting rimu became an ongoing task. Many were planted in the early days and these trees are now mature enough to provide a seed source for ongoing re-generation. In 2001 it was decided planting more rimu trees would be a suitable 50th Jubilee project. Members were asked to donate a tree and it would have the name of the donor or the person for whom it was planted on an engraved label placed beside the tree. Members mostly planted their own tree but in some cases the Pukeiti staff did it for them. John MacIntyre contributed a coil of yellow gas piping to mark the small trees. Originally 100 trees were planned but in the end the scheme was so successful that 426 rimu were planted.

David Harrop at the 2014 Rhododendron Conference

Margaret, in 2001, planting her Jubilee Rimu which is now well established

A planting plan is available so that families can find their trees. Some release maintenance has been carried out by students from the Coastal Taranaki School, but most of the trees are now big enough to look after themselves.

My wife, Margaret, planted her tree in 2001 and these pictures show how well it has grown.

A LIFETIME LOVING GARDENS

Robyn Bridgman

I was born in 1934 so am no spring chicken. My father died when I was 14, and being the eldest of four children I took over the garden of our home. So you could say that I have been gardening for quite some time.

In 2010 I was elected to succeed John Meyer as the President of Rhododendron Auckland. John Meyer had been a remarkable President of Rhododendron Auckland and our membership at 72 was strong. Many of our members had lovely gardens and were very good gardeners. Now regrettably, our membership is down to about 30. A sign of the times perhaps.

My first Conference for the NZ Rhododendron Association was held in Rotorua, under the Presidency of the late Dr John Commons whose delightful garden at Kawaha was the first we visited. We then visited Mt. Ngongataha, going up in the cable car. Next I was on a bus where we had a volunteer courier to let us know where we were going and what to look out for. As I did not know anyone I did not worry and walked around the area and sat in the sun for a while. As many visitors were enjoying the view I spent a while also looking and eventually went down to the waiting bus. There I found all my fellow travellers were waiting for me and had been for some time. Of course they were not best pleased! I had not heard what our host on the bus had said, as his speaker contraption was not working, so I did not know about the timing. I was really mortified and when next we visited the Redwood Forest, I just got out of the bus and stayed close by. I was not going to be caught again.

Since then I have had truly wonderful times at our Conferences each year. All the Conference attendees have been so very friendly and I have made many good friends. Also I have become much more knowledgeable about this genus.

My first garden was in Portland Road, Auckland, where I grew, amongst camellias and roses, about 20 rhododendrons, some of which did very well while others not so. A steep learning curve. In 2000 my dear husband John died and after about two years I decided to sell and eventually bought my present house in Victoria Avenue, Remuera, where I have gardened ever since. It is much smaller and I have only one large rhododendron – *R.* 'Kaponga'. But I also have the various gifts of rhododendrons given to us each year at the conferences. These include *R. rigidum* – a species, and vireyas - *R.* 'Kisses', *R.* 'Aleksandr' and *R.* 'Gwenevere'.

These days I have a much smaller committee but they are very supportive. We usually have a meeting early in the year to discuss our various ideas for speakers for our winter meetings, and the garden visits we wish to make. Last year we visited the Auckland War Memorial Museum and were shown some pressed botanical specimens, some collected by Cook and Solander.

As I belong to three different garden clubs, I have many friends who visit a variety of gardens in places as far north as Whangarei, south to Hamilton and east to Coromandel. I find that the NZ Gardener magazine is a good source of information about gardens to visit. We have a 'Show and Tell' at each of our indoor meetings and as all our members are enthusiastic gardeners we have

Robyn Bridgman

much to talk about. When Conference time comes around we usually have about six members attending.

In my earlier years as President we were financially able to be generous with our gifts of rhododendrons to the Maungaturoto Beautifying Society project with donations of five 'White Pearl' rhododendrons and five 'Alice' rhododendrons. This little village is in the north of Auckland where my mother grew up. Later we again also gave gifts of ten rhododendrons – *R.* 'Robert Peel' - to Kawau Island (in the Hauraki Gulf.) It is a great holiday place and very popular with boaties. We continue to financially support Heritage Park and in the past have also donated to Pukeiti.

Gardens where I am a volunteer include the Nancy Steen Garden within the Parnell Rose Gardens. We are a really large group and work there twice a month under the special care of Martin Keay - my own gardener, whom I have the pleasure of seeing at work at my home one morning a month. Martin attends twice a month at the Nancy Steen Garden – once for financial consideration and once a month entirely as a volunteer. We workers are very appreciative of his efforts, and so some of us propagate plants which we sell at various locations around our city to make enough money to buy the various roses and companion plants with which to replenish the beds. Gwenda Umbers and Stephanie Scott are stalwarts bringing the morning tea, and I occasionally help with this.

A smaller group of gardeners work at St. Stephen's Church in St. Stephen's Avenue, Parnell, which has been planted out in heritage roses. This garden is under the care of a St. Stephen's parishioner, Rosie Cormack. The little church is designed in the form of a Greek cross and seats only 47. I have had the pleasure of worshipping there in the evening. The church is historically interesting in that the Constitution of the Anglican Church in New Zealand was signed there in 1857.

I also help with the gardening at my own church of St. Aidan's in Remuera.

Another one of my passions is the Anglican Trust for Women and Children, which has been in existence for over 160 years, and is based in Otahuhu. The Trust cares for the poorest of poor children and mothers, and has many social workers in schools. There is a residential wing, within the area, where up to 9 women and any of their children below the age of 5 can be accommodated. They live there for up to 2 years, and we hope that they have their lives turned around, with lessons on budgeting, health care, household work, keeping themselves healthy, cooking etc. The children attend a Day Care facility within the grounds. After they leave they are granted a state house.

This Trust has had wonderful success in the past, but the property is a constant concern. There were gardens originally but they had become overgrown, so I have taken it upon myself to regenerate them. All the plants come from my own garden, where I take cuttings and grow them on. Very satisfying. The Trust originally was known as St. Mary's Homes, so I have done the garden nearer the Reception area in blue and white, usually a colour used for the Virgin Mary. A nearby garden is in cream and green and yet another in pink and white. The newest groundsman has been appointed to help where needed as his work description stipulates. This is invaluable as he assists with the watering. All these gardens have an early dose of Garden Mix, kindly donated by a local fertilizer company.

A much smaller commitment sees a few of us gather to prune the roses in the Symonds Street cemetery twice a year. On Saturdays I attend to my own garden and I have list of jobs which Martin can do, but he always finds other things which I have missed. I am so fortunate to have his assistance.

When you live on your own, you must not expect your family to provide your social life and while my family are of the utmost importance to me, I do not expect them to be forever at my beck and call. I do enjoy having the odd lunch or dinner party and getting the silver all clean. I have, inevitably, several dear friends in retirement homes and I do try to visit them every so often. I have a great interest in politics and host regular meetings at my home. And another of my greatest passions is reading and I am never short of library books from the Remuera Library.

In 1990 I was awarded the 1990 Commemoration Medal by Sir Douglas Graham. On 15th June 2004, I was awarded a "Good Citizen Award" by the Mayor, Sir John Banks QSO, and I also received an award when Rotary International made me a "Paul Harris Fellow". On 21st November 2015 I was appointed an Honorary Canon of the Cathedral of the Holy Trinity and on 2nd January 1997 I received the Queen's Service Medal for Community Service.

Rhododendron 'Kisses'

KOWHAI - THE MAKING OF A 5 STAR GARDEN

Neil Tapsell

It was late summer 2005 when Neil & Linda decided their 1950s California bungalow was no longer suitable for their changing lifestyle and future plans. So they engaged local real estate agent Jenny and said, "Sell this one and find us a 4-to-5-bedroom home in the CBD. If there is no lawn that would be a good thing."

We are Neil and Linda, and little did we know our bungalow would sell well before the advertising went up. We are talking hours not days. This precipitated the obvious necessity of finding somewhere to live!

Now, for reasons unknown, Jenny took us to a rural property on the edge of New Plymouth. Jenny did recall the gardens and outdoor spaces created at our previous address, and agreed wryly that it was a postage stamp compared to this, a large part of which was so hilly that we could not see to the top of the steep, winding driveway. I asked to be dropped at the bottom so I could walk up and get a feel for the entrance before looking through the rest. Yes, my plan was to nitpick and point out how unlike our brief this place was.

How right I was, overgrown from bottom to top, significantly narrowing an already tight driveway. Some native scrub but too much wattle, gorse, nightshade and other inappropriate plants blocking out anything behind them. Once at the top of the drive, and compiling my list of negatives, I saw part of a house. Yes, plenty of growth up against that as well! Then I turned around to be greeted by hundreds of pine trees, not big but 30m as a starting point was big enough, then sheep..... My personal nightmare was complete!

However, amazing how ideas change – or get changed!

After we agreed on a buy-now price, we moved in 2 months later. Jenny knew, Jenny got it right.

Neil and Linda Tapsell and *R.* 'Anna Rose Whitney'

Original overgrown driveway

Now what? As a boy that had a deep displeasure for mowing the lawns, I needed to become a hobby farmer. We can do it, Linda gently advised, this will be interesting. And the rest of that is history. We do have the pleasure of growing our own food and eating off the land, not bad if you get the opportunity.

After knocking down all the driveway overhang, which was substantial, you could see into a gully section. Then a few months later, during our first spring there was a pinch of colour at the bottom of the driveway. Struggling through the endless kawakawa, wattle and whiteywood were a couple of small struggling unknown rhododendrons. Someone had been here before and had a vision. The now uncovered small hinged wooden gate at the bottom of the drive was confirmation of that. With the first of a few chainsaws in hand the thought was to cut away non-essentials and see what could be found in the small flat area of the bush- clad hillside. We now had an area to utilize, with established pohutukawa, pukatea & kamahi. Linda suggested we make a small garden at the bottom where a small running stream was appealing. Good idea.

To give you an idea of the early landscape of this nearly 2ha property, half is grazing and the balance is hillside, some steep, including a spring fed gully, a lot of naturalized natives and, remember, the pine trees! Too many pine trees. Like it or not we had to address at least some of these before they couldn't be removed without destroying everything underneath them, including our only power lines, all the way back to the stream.

Queue local arboricultural team High Frontiers. To watch what was essentially a large pest plant be cut and swung uphill in a single movement, using a large standing tree as a pivot is a thing of beauty. (This view is probably a man's perspective.) So - the first set of pines went giving an open hillside, once again. Now what?

When you may or may not have undiagnosed OCD, with time on your hands you start thinking about

Pines and a sheep paddock

Pines

Neil and Linda Tapsell

Arborists at work

developments that you sometimes can't see the end of, but jump into, saying "it can't take that long". That probably sounds familiar to many gardeners out there. Is the job ever done?

Having lived in our semi-secluded rural setting now for a couple of years, bird life is increasingly noticeable, and with space to plant out we decided that all native and exotic planting had to be a food source or shelter provider. So, in went kowhai, kotukutuku, cabbage tree, flax, coprosma, rata, puriri, putaputaweta, magnolia, pittosporum, karo, nikau, camelia & ferns aplenty. All growing splendidly. Taranaki is a grower's Garden of Eden.

What was happening in the garden at the bottom of the driveway? Well, nothing. When you live on a hill and have to walk down and then up a driveway to get to a small garden you will find something else to do. This therefore was no good. 'Why not cut a path through the native bush' was an awakening dream thought. Away we went, chopping down more obstructions, cutting and edging a path and back planting as we went. The gully previously mentioned was in the way, due to a continuously running freshwater spring. It was not ideal to walk through that, so in went a bridge. Then another. Then a boardwalk.

It was about now our gardening bug had fully set in and we had gleaned much inspiration from iconic Taranaki gardens such as Pukekura Park, Pukeiti, Tupare & Hollard Gardens.

If you have sloping topography our advice would be not to fight it, work with it and flow along the horizontal, it will make working easier and

Clivia, maples & natives line a path

the garden will evolve as you go.

Taranaki is awash with splendid garden centres and nurseries, and with our aforementioned inspiration we found ourselves seeking out acers, weeping maples, both of which are great for spring and autumn colour and foliage, clivia, hosta and yes, rhododendrons. The full spectrum, azaleas deciduous and evergreen, vireya and rhodos large and small, a total of 1030 at last count. Remember that OCD, yes over one thousand!

You would be right to question - is there really the space for that many plants? Even after much removal of non-desirables, probably not, but we aren't fans of weeding and you can always deal with clutter later.

As you all would have experienced or may experience in the near future, building and maintaining a garden of any size isn't all blue-sky days and candy floss. There are always trip hazards along the way. We have had several extreme weather events, the wind made even more ferocious as we face the southeast; flooding, both downhill and across the lower sections, and then those pesky pine trees snapping and crushing our and mother nature's hard work. You just must get on with it. Thick mulch is our weapon of choice against drought and a plus is that we hardly water and never fertilize.

New Zealand has a large cross section of microclimates, not all conducive to rhododendrons, but there is something for everyone and not all plants need to be terrestrial. Many variants are bred from or are species that are epiphytic. These will grow happily in pots or even hollowed out punga stumps.

Even with Taranaki's ideal loamy soils our moist and temperate climate can come with a frustrating side. When soil or other conditions aren't sufficiently beneficial, we can see phytophthora impact some rhododendrons quickly. Certain

First bridge construction...

Completion!

R. 'Spiced Honey'

species are fickle, even supposedly robust hybrids. We have given up on *R.* ' Kokardia' after our third try, what a shame, it is a nice plant. I probably just haven't found the right place for it yet.

However, with some vigorous rhododendrons growing at 300mm +/- a year in Taranaki you can hardly sweat the small stuff. Gardening is full of "try agains", let's not say failures and for the excess growth we can fall back on our trusty secateurs.

Here at Kowhai Garden, there are plenty of easy-care thriving rhododendron options, and these include but are not limited to, beauties such as *R.* 'Anna Rose Whitney', a floriferous bright magenta pink currently at 2m x 2m after 12 years or so. The vireya *R.tuba* puts on a

Clivia in the bush walk.

Flooding run off

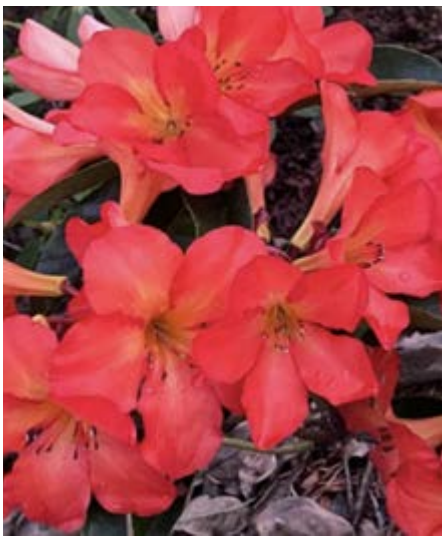
Part of the garden under water

spectacular show every year, if you can get it. A benefit of being a Pukeiti Trust member with access to their rare and unusual plant sale every year. Find their website here ***www.pukieti.com.***

The rhododendron will bring colour to your garden from mid-winter through to early summer. A plant can be very small to very large, the choice is yours. At Kowhai Garden early flowering reds such as *R.* 'Raging Bull' and *R.* 'Mt Victoria' are quickly joined by *R.* 'Cornubia', *R. arboreum*, the superb *R.* 'Rubicon' plus the never fail *R.* 'Kaponga'. Yellows, whites and pinks appear in the early spring then colours increase for the next few months, bringing purples, blues, orange, multi-colours and the Nuttallii & Maddenia whose white to cream trumpet shaped blooms are usually fragrant.

With this garden approaching the 20-year mark it would seem to be established. But is the garden ever finished? We all would have our own answer to that question.

Lastly, we can be forever busy in our lives and particularly in the garden. Remember, the jobs can wait until tomorrow, so tools down, take time to relax and just be present in it, that is your time to enjoy your hard work.



R. 'Flash Dance'

R. tuba

R. hippophaeoides

R. 'Bobs Crowning Glory'

R. elliottii

R. 'Madonna'

R. 'Double Eagle' in Kowhai Garden

THE RĀTĀ OF PUKEITI

Ross Gradwell

Metrosideros fulgens

When you walk around the garden at Pukeiti, one of the main features of the scene before you is the native bush, which can seem like a tangled mess of plants covered with other plants – a chaotic mix of textures and varying shades of green. It is said that nature abhors a vacuum, and in the case of the rainforest at Pukeiti this is clearly the case, with what seems like every possible surface having some kind of plant cover. Take a walk anywhere in the garden and you will see in profusion vines, mosses and filmy ferns happily growing on the trunks of trees, fallen logs and old stumps. Among this veritable smorgasbord of epiphytes, one group of plants stands out among the rest in their abundance – the rātā.

The climbing rātā of New Zealand are all endemic, and are the only *Metrosideros* species in New Zealand that grow as vines, the rest being shrubs or trees. The hemi-epiphytic Northern rātā is a special case in that it grows *down* and not *up* as the others do. In this article I will give a brief account of the four species of rātā that call Pukeiti home.

M. fulgens – Scarlet rātā, akatawhiwhi

The most obvious and spectacularly flowering of the climbing rātā here at Pukeiti, this vigorous liana is ubiquitous (photo above). With its distinctive glossy, dark green, oval leaves, and growth habit of almost entirely covering its host, this rātā is easily recognised.

Growing with adventitious roots on the growing tips, much like ivy, it climbs its way around and up its host, searching for light. Eventually these adventitious roots die, leaving the stems free from the trunk. On older plants the young growth is in the canopy of the host tree and the vine hangs free from the trunk, a twisted rope-like stem up to 10cm in diameter.

It flowers from the beginning of autumn and into winter, being an important food source for insects and nectar feeding birds. What a delight it is to see a good flowering specimen, appearing as a column of scarlet, standing in bold defiance against the deep greens of the surrounding bush, just as the daily temperatures are beginning to drop and the gloom of winter threatens.

M.perforata - Climbing rātā, akatea

This climbing rātā is also fairly easy to recognise, with its rather small, almost circular dark green leaves, which are covered in fine glandular spots, particularly evident on the undersides. These glands make it easily distinguished from the other species of rātā.

Young plants climb their way up trees and tree ferns, hugging the outer surface of their host very closely, often entirely enveloping the trunk, giving the tree an almost reptilian look, as if covered in tiny scales.

As the vine matures, its growth habit changes as the plant bushes out with compact, shrubby outgrowths. It is these mature branches that hold the flowers, which are usually white and are borne terminally, in dense clusters, sometimes entirely covering the plant, from late spring through summer. In the garden, there are some very lovely examples of this plant along the Valley of the Giants Loop, which provide a good chance to see the growth habit. It is fairly common at Pukeiti, though not as prevalent or obvious as *M.fulgens*.

Metrosideros perforata, akatea or akatorotoro

Photograph By Rudolph89

M.diffusa - white rātā, akakura

Of all the climbing rātā at Pukeiti, this is the most unassuming species, very easily overlooked due to its rather open and spreading growth habit (as the name *diffusa* implies) being quite different from the others. As this species climbs its host, the young growth does not completely surround the host. Rather, thin, rope-like vines creep up the trunk, only branching out with secondary, leafed branches every few centimeters or so, often quite hard to see through masses of mosses and filmy ferns.

The adult growth is very distinctive once you know what to look for: thin, woody branches up to around a meter or two long, horizontally hanging, almost languidly, from the trunk of the host. These branches are very often covered in mosses, or festooned with hanging lichens, and to the uninitiated, can appear as if they are simply branches of the host tree.

In keeping with the *diffuse* nature of the plant, the white flowers are rather unspectacular compared to the other climbing rātā, and are borne axillary on the stems, not terminally as is the case with *M.fulgens* and *M.perforata*, and often obscured by the new growth. The new growth is an attractive yellow-green and makes it fairly easy to differentiate from *M.perforata*, with its almost grey-blue new growth.

As with all the climbing rātā, *M.diffusa* is equally comfortable growing terrestrially, where it forms a rather attractive, fairly dense shrub. A healthy example of this can be found on the Matthews Walk, in front of the *Acer negundo* var. *violaceum*.

Metrosideros diffusa, akakura

Photographer: Jeremy R. Rolfe

M. robusta – Northern rātā

This tall forest tree can be seen emerging above the canopy of the forest, with its distinctive, broad spreading crown silhouetted on the skyline. Its leaves are 2.5 – 5cm long by 1.5 – 2cm wide, with a distinctive notch at the tip. In a good flowering year the brilliant red flowers can be seen from some distance, the forest patched with crimson red between November and January.

Usually beginning life high up in a bark furrow or at the union of two branches, the seedling will establish itself, feeding on the humus-rich deposits in the host tree's nooks and crannies, before sending an adventitious root down the surface of the trunk of the host tree.

Once this root reaches the ground the transformation begins, and as this main feeder root sends the newly accessed nutrients in the ground up to the sapling its growth rate increases drastically. As the sapling grows into a tree, this root will thicken, eventually lignifying into a solid 'trunk'. This 'trunk' will then grow its very own adventitious roots that girdle the trunk of the host and fuse together as they themselves lignify. As the tree grows more roots they fuse together, eventually surrounding the host tree and becoming a somewhat hollow trunk. The host tree eventually dies and the northern rātā stands proud above the canopy of the forest.

The most common host for northern rātā is rimu, but at Pukeiti they are just as content growing on tree ferns, other native trees like miro, or even on *Magnolia* 'Rob Bayly'.

Pukeiti was founded with two key objectives – to grow an extensive *Rhododendron* collection in a natural setting, and to preserve the native forest. While we might be forgiven for considering the rainforest a mere "green backdrop" for the garden's more flamboyant plants, with just a little investigation, we find that it is a dense, thriving, and dynamic ecosystem with some fantastic local plants that ask nothing of us, but to leave them be as they build the forest around us, creating the atmosphere that makes visiting Pukeiti such an enjoyable experience.

A young *Metrosideros perforata* climbing its host

The giant rata roots beginning to encircle the host

R. 'Alice'

R. 'Corronation Day'

PUKEITI IN THE PINK

Photos: Lynn Bublitz

R. 'Spicers Pink'

R. 'Bonny Doon'

NEW ZEALAND *EX-SITU* RHODODENDRON CONSERVATION PROJECT: REPORT TO OCTOBER 2024

Dr Marion Mackay

Another year goes by for the New Zealand *Rhododendron Ex- situ* Conservation project (PRT 2023), and we have been busy as usual. Highlights have been the trip to China made by Gordon Bailey and Andrew Brooker, another splendid pile of propagation, and some excellent progress in the biosecurity Section 26 work.

Last year I outlined the 'why' and the 'how' of this project (MacKay 2023a), so here I will simply summarise what we have been doing in each of our project activities. There are four categories of project activities: (i) search, propagate and distribute, (ii) the collections network and the national collection (iii) publication, communication, and external/international relations, and (iv) data and analysis.

R. stenaulum A.M. at Pukeiti. Joy and Bernie O'Keefe have propagated material from a South Island site. (Image: Andrew Brooker.)

PROJECT ACTIVITIES

Search

As the project progresses the search aspect reduces; however, from time to time we still find some treasures. In January 2024, by request of the present owners, Joy and Bernie O'Keefe of NZRA visited the site of the former Collett garden in Oamaru and noted a couple of unusual species. Neither of the two Choniastrum species *R. stenaulum* (a synonym for *R. moulmainense* if you believe some authorities) nor *R. stamineum* is common in New Zealand (NZ) cultivation. Joy and Bernie collected propagating material, and we hope that some of this material can be circulated in due course.

Another aspect of 'search' is the identification of species in the Leonie Day garden in Dunedin (the site of the former Dalebrook Nursery). The Dalebrook owners acquired many rare and unusual species (Murdoch 1994-2001), and the project team finds the identity of some plants rather challenging. So, team leader Sue Davies was pleased to have Steve Hootman, Curator of the Rhododendron Species Botanic Garden (RSBG) in USA, spend a day with her, Doug Thomson and Mark Joel in Leonie's garden in October 2023. They were going to look at a short list of plants, but they got so carried away they inspected nearly all the plants on the property!

Steve confirmed many of the identifications but questioned others. Sue will re-check some of the plants when they bloom, as she does not totally agree with all Steve's identifications, particularly of plants that lacked flowers. It is likely that the appearance of some plants may differ between the environments at the RSBG and Dunedin. Indeed, when Sue subsequently made a personal visit to the RSBG, she noted physical differences in the same species at the different sites.

A most unusual (in NZ cultivation) species they found at Leonie's garden was *R. amagianum* which is an Endangered species from Japan. It has never been offered for sale in NZ and the only presently known examples are at Leonie's garden and at Dunedin Botanic Garden (which got it from Dalebrook in 2007). The Dalebrook folk received it in about 1999 from hand pollinated seed from the Rhododendron Species Foundation in USA (Murdoch 1994-2001, p. 30). This species was a real find and will go on the priority propagation list.

R. stamineum on the Hudson Walk at Pukeiti. It is uncommon in cultivation in New Zealand.

Propagate

Propagation keeps Sue Davies and Andrew Brooker busy; gathering, grafting, sowing, pricking out, potting, starting again when the propagations of some of the tricky species fail, and so on. Between them, hundreds of plants, covering many species, have been put into the propagation process. Sue focuses on species from Leonie's garden, but she also acquires seed, usually of wild-collected material. Andrew oversees propagation at Pukeiti, but also gathers material from a range of other sites. Recall that we give priority to wild-collected material, Red List species (those threatened with extinction in their wild habitat), and species that are uncommon in cultivation in New Zealand.

Red List conservation assessment categories are: Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT), Data Deficient (DD) for species where there is not enough data to make a robust assessment, Least Concern (LC) for species that do not have a conservation problem, and Not Evaluated (NE) for species that have not been assessed.

Overseas readers may wonder why we give priority to some Least Concern species. A feature of our present biosecurity regulations is that we cannot bring in seed of species that are not listed on our Plants Biosecurity Index, even though the species may have been here for years. This means we must studiously manage what is already here, particularly if a species is uncommon in cultivation in NZ.

Some wild collected material that has been propagated includes *R. latoucheae* JN12-414 (LC), *R. calendulaceum* ARS2020-369 (LC) from wild collected seed, Hooper Bald, NC USA, and *R. xanthostephanum* ARS2019-144 (LC) from seed collected in the wild by Hans Eiberg. Some Red List species of which seed has been sown include *R. dalhousiae* var. *rhabdotum* (VU), *R. excellens* (VU), *R. trichanthum* (VU), and *R. griersonianum* (CR). At Dunedin Botanic Garden three other Red List species are growing-on: *R. dichroanthum* ssp. *apodectum* (VU), *R. cyanocarpum* (VU) and *R. sulfureum* (NT). Some species that are not common in cultivation in NZ, and for which seed has been sown are *R. araiophyllum* (LC) *and R. stamineum* (LC).

Distribute

Having acquired and grown species of interest, we have to put them somewhere! There are two main mechanisms for distribution in this project. The first is through Plants for Members schemes. Of the 21 species offered in the Pukeiti Plants for Members programme in 2024 nine were from Sue's propagations (four of those from the Leonie Day collection, e.g. *R. lutescens* LD371, a Near Threatened species), five were from wild-collected seed including two from Dayal/Thomson material (*R. irroratum* DT317, *R. lepidotum*), two were Critically Endangered Species (*R. griersonianum*, *R. formosum*) and one was a Vulnerable species (*R. hunnewellianum*).

The team at Leonie Day's garden in Dunedin when Steve Hootman visited. From left: Steve Hootman, Sue Davies, Leonie Day, Doug Thomson, Mark Joel. (Image: Sue Davies.)

The second distribution mechanism is through sharing with partner sites in the collections network. (There are two key aims here. First, to avoid having rare or unusual species on just one site – this is a current problem with the vireya species at Pukeiti, which is being gradually rectified. Second, to locate species on sites best suited to their growth requirements.) Andrew Brooker's work ute should be renamed the Rhodo-bus because several times a year he stuffs it full of plants and drives around our partner sites and delivers plants. This year he has visited three Northland sites, two in Manawatu, and four in the South Island.

Vireyas that Andrew has distributed this year are *R. alborugosum* (EN), *R. caliginis* (LC), *R. carringtoniae* (LC), *R. commonae* (LC), *R. fallacinum* (LC), *R. luraluense* (VU), *R x planecostatum* (NE), *R. praetervisum* (LC), *R. renschianum* (LC), *R. retusum* (LC), *R. searleanum* (LC), *R. solitarium* (LC), and *R. superbum* (LC). Nearly all of these species have been held only at Pukeiti, and most have not been offered for commercial sale, so they are a high priority for propagation and distribution to other sites, in this case mostly to Robin Booth's Wharepuke Garden in Kerikeri, which is one of the partner sites in Northland (along with the Quarry Garden in Whangarei, and Eden Garden in Auckland).

Andrew has also distributed some 45 non-vireya species – several specimens of each in some cases. Some of the Red List species include: *R. arboreum* ssp. *nilagiricum* (EN), *R. ciliipes* (DD), *R. denudatum* (NT), *R. erosum* (VU), *R. exasperatum* (NT), three forms of *R. formosum* var. *formosum* (CR), *R. griersonianum* (CR), *R. horlickianum* (DD), *R. hunnewellianum* ssp. *hunnewellianum* (VU), *R. kanehirae* (EW), *R. lutescens* (NT), *R. ririei* (VU), *R. scopulorum* (VU), *R. subansiriense* (CR), and *R. vialii* (VU). My 'ears pricked up' when I saw *R. erosum* on this list. It was declared 'not new' just this year and is uncommon in NZ cultivation.

Some of the wild-collected species distributed this year, all LC species, were: *R. calendulaceum*, *R. falconeri* (wild collected Dayal/Thomson), *R. keysii* (wild collected Dayal/Thomson), *R. lepidotum* (wild collected Dayal/Thomson), *R. lindleyi* KW8546, *R. parryae* Fischer146, and *R. simsii* KW22036.

Also distributed was a series of LC species of cultivated origin, and while these are of less conservation interest (in terms of threats in their native habitat) some are uncommon in NZ cultivation. These include: *R. arboreum* var. *albotomentosum*, *R. augustinii*, *R. concinnum*, *R. davidsonianum*, *R. edgeworthii*, *R. fastigiatum*, *R. forrestii* ssp. *forrestii* 'Scarlet Runner', *R. kyawi*, *R. leptothrium*, *R. lindleyi*, *R. luteum*, *R. morii*, *R. oldhamii* Red Form, *R. oreotrephes*, *R. racemosum*, *R. reticulatum*, *R. rigidum*, *R. scabrifolium* var. *spiciferum*, *R. stenopetalum* var. *linearfolium*, *R. tanastylum* var. *pennivenium*, *R. virgatum* ssp. *oleifolium*, *R. viscosum*, *R. wallichii*, and *R. xanthostephanum*.

The national collection and the collections network

All that propagation and distribution underlies the development of our 'national collection' and the collections network. We have 10 partner sites now, in both the North Island and South Islands, giving us a range of climatic opportunities. In addition, we have informal relationships (without the project MOU) with several other sites which either hold material or allow us to acquire propagating material. It is marvelous that the owners of each site are willing to engage in this work and we very much appreciate their interest and enthusiasm.

Publication and communication

A key project goal is to make our work known and we do this by writing articles and giving presentations, both in NZ and internationally. Late last year (14 October 2023) Sue Davies, Andrew Brooker and I each gave an oral presentation to the Australian Rhododendron Society conference at Emu Valley near Burnie in Tasmania. Sue and Andrew attended in person, while I presented by video link. Our presentations were well received, and good links were forged with Australian delegates.

Andrew followed on with a presentation to the Pukeiti 2024 mid-

A really exciting find. *R. amagianum,* an Endangered species from Japan, at the Leonie Day garden in Dunedin. It has never been offered for sale and the only known specimens are at Leonie's and Dunedin Botanic Garden. (Image: Sue Davies.)

R. lutescens, a Near Threatened species, was propagated from the Leonie Day collection and offered for sale through Plants for Members.

R. leptothrium is a Least Concern species (LC), but it is not often found in cultivation in New Zealand. It was propagated from Leonie's garden and distributed this year. (Image: Sue Davies.)

R. irroratum 'Polka Dot'. Wild-collected material of *R. irroratum*, from a Dayal/ Thomson expedition, was offered for sale through Plants for Members.

International relations

On 2-5 May 2024 Andrew attended the American Rhododendron Society Convention in Bellingham, Washington State, and also the preceding Research Mini-conference, where he presented a poster (which Sue and I created) on the NZ *Ex- situ* Conservation Project. (You may have seen the news item on the Pukeiti web site. In a poster presentation, one pins the poster on a stand, and the audience circulates, while the presenter chats about their work.) After the conference Andrew visited the Rhododendron Species Botanical Garden in USA and met with Steve Hootman on that visit. As they say in politics, useful discussions were held (and interesting plants were seen). Useful discussions were also held when Andrew visited the Millner Garden in British Columbia, Canada, where he provided advice on their development of a big-leaf area in that garden.

A highlight of this year has been the visit made by Gordon Bailey and Andrew Brooker to Kunming in July 2024. In the past Pukeiti has had a strong relationship with the Kunming Botanical Institute, through winter lunch on his May 2024 trip to USA. He gave a similar presentation to the Taranaki Regional Council gardens team on 5 July 2024. Then on 16 October 2024 Andrew gave a presentation on the project to the Southland Rhodo group. On 5 and 7 November 2024 Andrew will take a specialist rhododendron walk at each of Pukeiti and Hollards Gardens in Taranaki, as part of the Taranaki Garden Festival, focussing on the conservation project and its application at each property. Meanwhile, at the 2024 Pukeiti AGM on October 19, Gordon Bailey gave a presentation on the July 2024 trip to China. In addition to these oral presentations, we write too and this year you will see several articles on the project in this journal.

R. griersonianum, a Critically Endangered species, has been propagated and distributed. (Image: Sue Davies.)

R. praetervisum was one of the vireya species distributed to partner collections this year.

Prof Guan Kaiyun (now retired), and we wanted to rekindle that relationship for the furtherance of the *ex- situ* project. On their visit Gordon and Andrew met Professor Weibang Sun who leads a key conservation programme based in Kunming (the Chinese Plant Species with Extremely Small Populations Programme (Ma et al. 2013; Sun et al. 2019; Yang et al. 2020)) and toured various sites and regions to view rhododendrons in the wild. Gordon and Prof Sun discussed how to develop an ongoing relationship between Pukeiti and Kunming that will contribute to rhododendron conservation. This is still a work in progress and is likely to be based on good relationship building rather than any formal agreement.

Data and analysis: Ling Hu research

One of the project objectives is to support suitable research and over the last four years this has been the work on subsection Maddenia by Ling Hu. Ling had her oral examination for her PhD on Monday 20 November 2023, after which she completed minor emendations and resubmitted her thesis document to Massey University on 30 January 2024. She is now officially Dr Hu (Hu 2024) and last year I wrote a short overview of her work (MacKay 2023b).

Her first paper on ploidy in rhododendron was published last year (Hu et al. 2023). In recent weeks her paper on seed germination has been published in the *Australian Journal of Botany* (Hu et al. 2024). A third paper, on the extent of wild-collected accessions present (or not) in *ex- situ* collections, has been accepted for publication in *Oryx* and while we have inspected and approved the proofs, we are still waiting on the actual publication (Hu et al. in press). Her fourth paper, on phylogeny of subsection Maddenia was submitted to the *American Journal of Botany*; it has been reviewed and revised and we await the decision from the journal.

Meanwhile, in early 2024 Ling was awarded a Harold Greer Memorial Conference Award from the Research Foundation of the ARS and went to the same conference that Andrew Brooker went to. She presented a poster on her PhD research and attended all the convention activities.

Data and analysis: Section 26 biosecurity work

I have written a separate article on this work so will only make brief comments here. Having had our first Section 26 application approved in 2022, after a long haul the second and third applications were approved on 14 June 2024. In total we have now had 109 taxa (105 species and 4 subspecies) declared 'not new' under the New Zealand Hazardous Substances and New Organisms (HSNO) Act (1998).

On 11 October 2024 the revision of Application 4 (25 mixed species) was submitted for its second review. Under the terms of the subcontract between the Royal NZ Institute of

Wild-collected material of *R. calendulaceum* was distributed to partner collections this year.

R. superbum was one of the vireya species distributed to partner collections this year. The Pink Form is seen here at Pukeiti.

Horticulture and Massey University, this fourth application was to include 'species relevant to Taranaki' along with several others requested by NZ Plant Producers Incorporated. I focussed the 'Taranaki' interest on species at Pukeiti and thus we included 1 *Agapetes*, 6 *Dimorphanthera*, 2 *Gaultheria*, 1 *Heptapleurum* (*Schefflera* to the rest of us!), 1 *Kalmia*, 3 *Rhododendron*, 1 *Rhodoleia*, and 2 *Vaccinium*. The other species came from the genera *Aesculus*, *Cinnamomum*, *Engelhardia*, *Monstera*, *Piper*, *Podocarpus*, and *Quercus*. Application 5 is now in the pipeline – never a dull moment in Section 26 land!

Conclusion

In the first phase of this project we focused on 'search' as we discovered what is (and was) in collections in NZ, along with some propagation. Now we are less on 'search' and more on 'propagate and distribute', as well as a focus on national and international relationships. We believe things are going well and long may it continue.

Acknowledgements

Many parties have contributed to the success of this project. These include the project team (Marion MacKay, Sue Davies, Andrew Brooker, Graham Smith, Peter Catt, Doug Thomson) and its associates (Taranaki Regional Council, New Zealand Rhododendron Association, Massey University, Gordon Bailey, Lynn Bublitz), Pukeiti Rhododendron Trust who is the lead agency and has provided the bulk of the funding for this work, and collection holders throughout NZ who have contributed in various ways. I warmly thank them all for their contributions.

Appendix: Project Aims

The overall aim of our project is to manage the 'New Zealand' rhododendron collection so that it contributes to global *ex-situ* conservation. In our strategy (PRT 2023) we state that the New Zealand project will develop:

- **A documented set of New Zealand collections** which contains a wide range of species, that play to our cultivation advantage, with some but not total emphasis on Red List species, and with an emphasis on wild-sourced material,
- **Connections** to international networks and programmes.
- We will achieve the above through:
- **Collaboration** among a project team,
- A **project plan** in 5-year increments,
- Building the **'New Zealand collection'** with a focus on species that are scarce or 'lost from view' in New Zealand, and the need to increase diversity of accessions,
- Developing a **national network** of collections to hold the above 'New Zealand collection'.

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ANDREW'S TIME ABROAD: RESTABLISHING OVERSEAS CONTACTS

Entry to Rhododendron Species Botanical Garden

June 2023 was the first time since 2020, due to Covid restrictions in the United States, that the Rhododendron Species Foundation was able to host an in-person symposium at their home garden, the Rhododendron Species Botanical Garden, in Federal Way, Seattle, Washington. This created an opportunity for their members, plus other American Rhododendron Society members, along with two stray kiwis, to gather and share in their common passion for the genus.

An innocent email promoting the symposium arrived in my inbox with the simple question, "want to go?" and this was enough to pique my interest and set in motion the planning for what turned out to be two trips to Seattle within a year. The programme looked very interesting for the day and a half of the meeting, with two speakers plus guided tours/ workshops in the garden itself, plus plant sales and finally a panel discussion about the future of horticulture in the United States.

Our trip also made it possible for me to reconnect with Steve Hootman, the RSBG Curator, who was our guest speaker at both the 2023 Rhodenza event and the Spring Pukeiti Members' Day. Some readers may remember he was one of the guest speakers for the Dunedin Rhododendron Conference in 2014, and naturally the opportunity for Steve to revisit Pukeiti was far too great a temptation to resist. So, with the planning done and bags packed my partner and I set off across the world for our first Rhododendron Symposium.

Steve opened the proceedings with two lectures, the first of which, "New Rhododendron Species – introductions in the Second Golden Age of Plant Hunting" was chosen for our two events. His selection of pictures and anecdotes of his plant hunting trips to South East Asia, particularly Yunnan province in China and also North Vietnam, were spellbinding. It was great to hear his reference to Pukeiti when he talked about *Rhododendron suoilenhensis* which was introduced by Alan Clark. Steve had seen it flowering here at Pukeiti in 2014 long before the plants at RSBG had flowered. He highlighted trips with other plant hunters, namely the Coxes (both Peter and Kenneth) and Tom Hudson (son of the late Michael and Carola Hudson)

Panel discussion. Photo credit K Fitzgerald

and the plants that had been introduced as a result of their endeavours.

The second lecture covered Steve's recent trip to Cornwall and the garden of Tregehan where Tom Hudson lives and works, and we were all treated to the amazing breadth of Tom's collecting with a wide range of genera represented in this great garden.

The programme included the following four visits, all of which were repeated so that all could take part.

- Field Laboratory Horticulture Class with Atsuko Gibson.
- New Plantings Garden Tour with Will Clausen.
- Companion Trees for Woodland gardens tour with Steve.
- Rutherford Conservatory Tour with Dennis Bottemiller.

A day was also spent at the RSBG. The most interesting for me was the behind the scenes tour of the nursery with Atsuko and her class on propagation techniques she employed to keep the beating heart of the collection going. We learnt that the nursery produced 18,000 plants annually, both from seed and cuttings, to grow and conserve the collection. It's always good to share other people's insights and techniques and I found that the demonstrations and explanations gave much food for thought when it came to our own nursery.

Later that evening, following the meal, we were all entertained by another plant hunter, Dan Hinkley, and his presentation " Thirty-five years in the Field; Botanical highlights that changed my Garden." This one really wetted the appetite with great pictures of a large range of fascinating plants that were new to us. In fact Karyn sat with pen and paper making a wish list whilst I had the New Zealand Biosecurity Index open and kept saying "no, can't have that one" or "this one is allowed" for the duration of the talk. The last event was the open panel discussion where I was invited to participate alongside the RSBG and RSF staff as they looked to the future of rhododendron conservation and horticulture in their region.

One of the things we enjoyed most was not only the number of knowledgeable people we met up with but how warm and friendly they were. But I guess that is the world of plants and the commonality we all share.

All of this took place in the early part of the American summer with only the late flowering rhodies out in the gardens, but the appetite was well and truly stimulated for more. Fast forward to May 2024, the late spring and the American Rhododendron Society Convention. This year's convention took place in Bellingham, Washington State, some two hours north of Seattle. Once again the programme looked stimulating, with pre- and post- tour options, a day of garden visits and a day of lectures plus more plant sales and an opportunity for PhD students to share their work with the attendees. Not wanting to miss any opportunities Karyn and I booked the full Convention package and joined 165 others for an enjoyable week of garden touring and learning.

The pre- tour took in a large part of the southern Washington State area and 50 of us enjoyed a full day of bus travel around five exceptional gardens which were incredibly variable, and highlighted some garden challenges we in New Zealand could never imagine. One garden of two and a half acres, most of which was a wetland, boasted 1500 rhodos and a mountain lion! Definitely no rabbits there!

Atsuko Gibson amongst her work

Andrew, Karen and Ling Hu with the poster on *maddenia*

Whilst there were a total of nine lectures to choose from on the lecture day, time clashes meant you needed to be very strategic in your selections. The four I chose and really enjoyed were;

- **How plants use water – and why rhodos suck at it.**

  A very in-depth look at the vascular system and how restricted the vascular bundles are in rhododendron leading to poor water use.

- **Hybridisation – tips and tricks for the amateur breeder.**

  An entertaining and informative view sharing knowledge from around the room on the best and not so good approaches to creating your own cultivars.

- **Rhododendrons from climate change to Bambi.**

  This very entertaining view delivered via zoom shared accounts/ experiences from a lifetime of meeting gardening challenges head on in one man's garden. I now have a different understanding of deer and are glad we don't share this challenge in our gardening in New Zealand.

Plant sales, wherever you go in the world of plant folk, are always a hit and the convention was no exception. What a candy store for gardeners, complete with phytosanitary certificates for the Canadians amongst the attendees who needed such a document to get their purchases across the border. Our new American friends were bewildered when I explained the hoops, and expense we faced if we bought any treasures to take home. Photos and memories would have to do.

The convention had made a poster session available for PhD students whose theses related to rhododendron. Nine students, including Ling Hu, presented a range of interesting work and had the opportunity to discuss it with attendees. Alongside these inspiring young people I presented a poster highlighting the Rhododendron Conservation Programme and the gains that we have made, which was warmly received by the convention team.

The post-convention tour finished in Vancouver, Canada where we bade farewell to most of our new friends as we headed to Vancouver Island and a last few days of garden visiting. One of the many tasks undertaken in my role as the Rhododendron Collections and Projects Officer in the last year has been assisting in a small way advising on a project in Qualicum Beach, British Columbia. The University of Victoria along with local members of the ARS, Mt Arrowsmith Chapter, are developing a rhododendron species collection including large leafs at Milner Garden.

Milner Garden shares many similarities with the Regional Gardens in Taranaki. Ostensibly a private garden, it has been taken on in posterity by a public body to preserve its regional value and character. The site chosen for the large leaf collection is very similar to that of the Valley of the Giants at Pukeiti, being steep and protected by native vegetation – although in this case tall Douglas firs. Following email discussions it was an easy side trip whilst in Canada to pay a visit and see the lie of the land for ourselves, also furthering the reach of our own Rhododendron Conservation Project with increasing international collaboration.

Overall we visited 16 gardens in 19 days throughout the American Northwest and Canada and were introduced to a range of rhododendron species and cultivars that we are unable to grow in New Zealand. The strengthening of the relationship with RSBG and the team there was a definite highlight; we visited on the wettest day experienced this spring and the team were concerned that we wouldn't enjoy ourselves. Steve's response, "He works in a rainforest, this isn't rain!" summed up our enthusiasm for the garden nicely.

I would like to thank the Pukeiti Rhododendron Trust for supporting these trips. They have not only benefited me personally but enabled the goals of the Rhododendron Conservation Project to be extended through:

- Creating network opportunities with international partners.
- Raising awareness with overseas growers of potential opportunities to be involved with the Rhododendron Research network team in the future.

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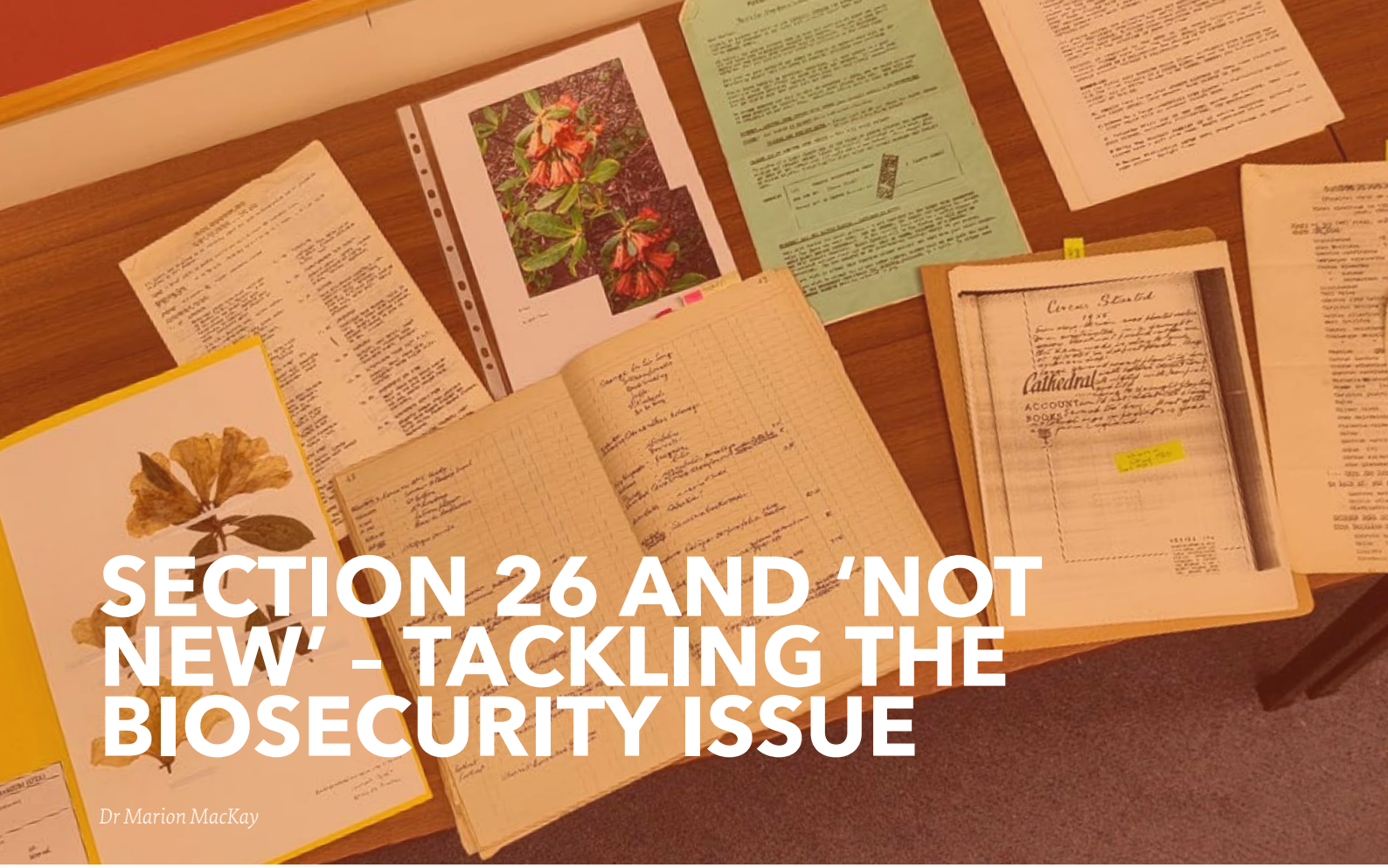
L - R 1. Garden visit to the Smith Garden 2. *Rhododendron* 'Unique' as a carpark planting in Federal Way, Wa 3. Plant sales at the Convention 4. *R. mechukae*, a species we can't grow in NZ 5. Milner House 6. Milner garden, heading down the path



SECTION 26 AND 'NOT NEW' – TACKLING THE BIOSECURITY ISSUE

Dr Marion MacKay

A range of source documents: Plants for Members Lists, an herbarium sample, some archives from Eastwoodhill, and a nursery list. (Image: Karen Hytten.)

In the last year or so readers may have noticed items in the Newsletters of both NZRA and Pukeiti about the Section 26 biosecurity work – what is that and how long is that piece of string? (Very long at times, I can tell you!).

When we started our *Rhododendron ex- situ* conservation project (PRT, 2023) it was immediately obvious that the incompleteness of the New Zealand Plants Biosecurity Index (PBI) would limit the project. Recall that the Index, held by the Ministry of Primary Industries (MPI), lists some 27,000 introduced species that are present in New Zealand and it is that list which Border Control uses to allow us, or not, to import seed of plant species. While the list is extensive, it is not complete (Carver et al., 2007; Dawson, 2009; Dickson, 2010) and my research data suggests there are some 230 *Rhododendron* species that have been in New Zealand prior to 1998, some 'for donkey's years', but which are not on the PBI. (Some of those are presently 'lost from view' and not showing up in any collection, but they will be out there somewhere.)

Indeed, many species we might consider 'common' in New Zealand were not on the PBI and so you could not import seed. *R. christianae* has 'only' been in NZ since 1971 and it had been offered for sale several times, yet it was not on the list. *R. laetum* has been here since 1975 and had also been offered for sale many times but was not on the list. *R. rubineiflorum* has been in New Zealand since 1984 when Graham Smith collected it from the wild in PNG. It has never been offered for sale on a commercial list, but it was not on the PBI either. Indeed, in theory, you could have been prosecuted for having these species in your collection.

It was obvious that we needed to tackle this problem, but getting the PBI amended is not a simple task. Before we can even think about campaigning MPI to amend the PBI, we first have to get each species declared 'not new' by the Environmental Protection Authority (EPA). 'Not new' is a statutory declaration under the Hazardous Substances and New Organisms Act (HSNO 1998) which means, in legislative terms, that the species was present in New Zealand before the passing of the Act in July 1998, and we have to prove this with documented evidence that is submitted to the EPA in what is known as a Section 26 application.

At this point I can just hear you saying, "but why can't they just update the PBI". We can wish as much as we like (!) but we have to follow the legislative process that the government requires. Tough, but that's the way it is!

Anyway, back at the start when we were trying to figure out how to tackle the problem, I had a serendipitous meeting in 2018 with Murray Dawson of the Royal NZ Institute of Horticulture and discovered that he was about to launch a similar project, but for all plants not just rhododendron. (Murray later told me it was not serendipitous at all; he came to that meeting intending to recruit me for the bigger project). Anyway, we agreed to collaborate and this has been extremely productive. The overall

project, "Taking Stock: Resolving New Zealand's Cultivated Plants Problem", was funded by the Sustainable Farming Futures Fund (SFFF) of MPI, by Manaaki Whenua Landcare at Lincoln and the Royal NZ Institute of Horticulture (RNZIH). Murray Dawson was project manager and the RNZIH was the lead agency (project report in Dawson (2022)). Massey University was subcontracted for $70k for my professional time to do the Section 26 work. Thus far we have had 109 taxa of rhododendrons declared 'not new', 105 species and 4 subspecies (listed in the table below). Of these taxa, 84 are vireya (the highest international priority for conservation (MacKay & Gardiner, 2016, 2017a, 2017b)) and 25 are non-vireya. Another application of 25 mixed species (including various Ericaceae that are at Pukeiti) is presently under review, while Murray has been working with Glynnis McCrae of the Orchid Council on an application for 25 orchid species.

But back to the process. Because the desired outcome is a statutory declaration, the proof must be based on evidence and our case for each species has to be rock solid. I often struggle to explain the extent of the 'deep dive' into obscure sources that is needed to obtain the necessary proof. Nursery catalogues are an excellent source (I have about 300), but one has to have them on hand as a copy must be scanned (scanning is 'such fun'!) and presented to the EPA with a page number cited. Brian Coker (NZRA archivist) has scanned and sent catalogues from the NZRA collection, and several members have sent some 'real gems'. When required, Murray consults the nursery catalogue collection at Lincoln University, and scans as necessary. Another useful source of proof is pre-1998 herbarium samples and as Murray's office is at the Allan Herbarium at Manaaki Whenua Landcare at Lincoln, he is able to inspect any relevant samples and photograph them for the evidence files.

My other key source has been the Pukeiti records – Andrew Brooker, Heather Robson and Peter Catt have repeatedly 'dug up' and scanned propagation notebooks, seed sowing notebooks, hand-written nursery lists, and all manner of old records to get the proof we need. Even newspaper articles can be used (but only if a scan of the original newspaper page can be found). On 27 Feb 1998 (crucially before 29 July that year when the HSNO Act was implemented), Andrew Brooker wrote a short article on Pukeiti for the Taranaki Daily News (Brooker, 1998) in which he referred to *Dimorphanthera alpina*, and that article has been key in getting that species across the line for Application 4. Thanks to the folk at Puke Ariki in New Plymouth for rummaging that out of their archives for us.

We must establish the presence of the species in NZ before July 1998, with at least 3 pieces of documented evidence, and demonstrate the continued presence until recent times. Then, all that data has to be formatted into a data table, and the evidence documents formatted into an appendix. The four applications

Marion doing her favourite task; scanning catalogues. (Image: Karen Hytten.)

Murray Dawson reviews rhododendron herbarium samples at the Allan Herbarium at Manaaki Whenua Landcare Research, Lincoln. (Image: Manaaki Whenua Landcare Research.)

that have been made thus far are each about 350 pages long – print them out and you could use them as door-stops!

A critical factor is the level of precision that is needed. The staff at EPA check every piece of evidence we provide – which they do in the review process before we make the official submission. (I must observe that they have been excellent people to work with, and the review process is extremely helpful.) They let us know if a piece of evidence is insufficient, or if the case we are making is not strong enough. Such feedback is what sparked the search for more data on *Dimorphanthera alpina* – our case as first constructed would not have got over the line and we either had to withdraw that species or improve the case.

To illustrate the kind of data needed, the current data table for *D. alpina* is provided. Let's look at some of the features therein. First, the table must be easy for the examining committee of the EPA to read. This is why the colour codes are used – at a glance we can see the extent of public domain and non-public domain evidence, and the extent of sales offerings. This species has only once been offered for sale at an IDS auction (but never in commercial trade), and it does not surface in public domain documents until Feb 1998 when Andrew Brooker wrote the newspaper article. Yet, it has been present since 1983 and the unpublished evidence demonstrates that fact. You will also see that each piece of evidence has a citation – the associated documents are in the appendix so that the EPA can view them.

One aspect which we (and the EPA) are very fussy about is properly describing the particular biological entity. Hence the listing of the authority for that species and any synonyms – we must be absolutely accurate that we are describing 'this' species and not something else. (You should see the synonym list for *Rhododendron viscosum*, it is almost a page long!). In general usage and common cultivation we often don't worry about this, but for the Section 26 process it is essential. The EPA uses the Global Biodiversity Information Facility (GBIF) database ***(https://www.gbif.org/)*** as its reference and we follow this, but we also use the Plants of the World Online (POWO) database ***(https://powo.science.kew.org/results?)*** – when one gets down to fine detail these two databases sometimes do not agree, and we have to note such discrepancies in our data table.

The importance of getting the name right is demonstrated by the name *R. album*. Do we mean:

R. album Blume (1823) which is a vireya.

R. album Buch-Ham. ex D.Don (1825) which is a synonym for *R. arboreum* ssp. *cinnamomeum* var. *roseum* f. *alba*.

R. album Hoffmanns (1826) which is a synonym for *R. albiflorum* Hook. (1834).

R. album Ridl (1917) which is a synonymn for the vireya *R. aequabile* J.J.Sm. (1935).

R. album Zoll. (1854) which is a synonym for the vireya *R. zollingeri* J.J.Sm. (1910).

I'm sure you see the problem! (We biologists are an annoying lot. Names and classifications keep getting changed and it can be hard to keep up!).

For each species we also include photographs. I have many which I have accumulated over the years, but I have also raided images from Graham Smith and Andrew Brooker while Peter Catt has an excellent set of vireya images. I do not include an extensive description of the species – these can be found in various sources, and the key part of Section 26 is the evidence rather than the biological description.

We put 40 species in the first application, and 40 species and 4 subspecies in the second application – after that the EPA imposed a limit of 25, and I quite see their point. Constructing and editing data tables, reference lists and appendices for 44 taxa was really a bit much (!) and I'm quite happy to do things in sets of 25. When our data is prepared, we first submit a draft application to the EPA. This is reviewed (line by line) by the reviewing officer and they give feedback so that we can get each data table to the standard they require. I then construct the revised version, Murray will edit and approve that version, then finally we will submit the official application. (Each application costs $1380, and this is paid by the Taking Stock project as part of the collaboration). A committee of the EPA then examines that application. Murray and I received notification of the success of Application One (APP 203943) on 6 July 2022, and of Applications Two (APP 204574) and

Getting the name right is an important part of the process. *R. album* (left), *R. aequabile* (middle), and *R. zollingeri* (right) have all been known as *R. album* at various times, but under different authorities.

Three (APP 204606) on 14 June 2024. These applications are now in the public domain – try a google search on those application codes and you should be able to find the documents.

So, what next? My next tasks are to complete the revision of Application Four, then to construct the appendices for the orchid application (Glynnis McRae has constructed the data tables). After that, there are easily two more applications for rhododendrons, one for vireya species and one for non-vireya species and, as time allows, I will continue to develop these applications. However, the problem of getting the 'not new' species onto the PBI must still be tackled. Murray quietly campaigns on this matter and we hope that eventually it will be decided that it is okay to list those species.

The broader need for accurate data and "an authoritative and definitive up-to-date list of [exotic] species [in New Zealand]" has been highlighted by the Parliamentary Commissioner for the Environment (PCE 2021, p. 93), and we hope that in due course changes to the PBI will occur.

Meanwhile, we continue to chip away at the problem and develop our rock-solid cases. (Every time I look at this work, the piece of string gets longer!) However, I enjoy hunting out and documenting each species in cultivation in New Zealand and I know that this will eventually contribute to our conservation project.

An example of a data table

Dimorphanthera alpina J.J.Sm. (1915)

Dimorphanthera alpina, Pukeiti. Image M. MacKay

Name	*Dimorphanthera alpina* ***GBIF, POWO***
Authority	J.J.Sm. (1915)
Synonyms	None listed in any of the sources used here.
Origin	New Guinea ***(POWO)***
Biological characteristics	Evergreen scandent shrub or climber growing up to 7m. Racemes of tubular, pendulous, pink flowers. A full description is found in Sleumer (1967, p. 905).
Evidence **Blue = public domain documents provided in Appendix One** **Green = non-public domain documents provided in Appendix Two** **Yellow = sales offering**	1991: *D. alpina* [Smith 9583, Mt Miap, PNG, 1983] is in the Top Terrace of the Covered Walk at Pukeiti (PRT 1991b, p. 6).
	1993: *Dimorphanthera* sp. [Smith, Mt Miap] is on zone CW7c of the Covered Way at Pukeiti (PRT1993b, p. 11), and while there is no accession number on this document, the sequence of plants in the lists shows it is the same plant as is listed in the 1991 list (PRT 1991b, p. 6).
	1994: Seed of *Dimorphanthera* sp. [9583, Mt Miap 1983, Smith] was sown at Pukeiti in June 1994 (PRT 1992-2022, p. 20) while seed of *Dimorphanthera* sp. [Smith 9583, Mt Miap, 1983] was sown in September (PRT 1992-2022, p. 23). While these entries do not give the species name, the collecting number "Smith 9583" indicates it is the same accession as listed in the 1991 entry.
	1996: Pukeiti sent cuttings of *D. alpina* to John Kenyon of Te Puna Cottage Gardens in Tauranga (PRT 1996b, p. 1).
	1998: *D. alpina* is discussed by Brooker (1998) in an article in the Taranaki Daily News.
	2008: Offered for sale at the IDS 2008 plant auction (IDS 2008, p. 25).
	2011: *D. alpina* is in Covered Way section CW07c at Pukeiti (TRC 2011, p. 13).
	2016: Two plants were in the nursery at Pukeiti (TRC 2016, lines 206, 207).
	2018: One plant is in the nursery at Pukeiti (TRC 2018, line 242).
	2021: Featured and illustrated as a plant of interest at Pukeiti (Catt 2021, p. 2).
	2023: ***TRC*** Pukeiti Plant Hunter online database, 5 January 2023.
	2023: Name added to ***BiotaNZ***.
Cultivated Forms	None listed in any of the sources used here.
Subspecies and botanical varieties	***GBIF*** and ***POWO*** both list *D. alpina* var. *pubigera* Sleumer (1961) as an acccepted variety. This variety is not presently known in NZ.

Species declared "not new" under the HSNO Act (1998)

Application One - 40 species from *Rhododendron subgenus Vireya*. Notification of 'not new' assessment received 6 July 2022.

Rhododendron archboldianum Sleumer (1960)
Rhododendron bagobonum H.F.Copel. (1929)
Rhododendron blackii Sleumer (1973)
Rhododendron burttii P.Woods (1978)
Rhododendron christianae Sleumer (1960)
Rhododendron dianthosmum Sleumer (1963)
Rhododendron ericoides H.Low ex Hook.f. (1852)
Rhododendron fallacinum Sleumer (1960)
Rhododendron gracilentum F.Muell. (1889)
Rhododendron herzogii Warb. (1892)
Rhododendron himantodes Sleumer (1940)
Rhododendron hyacinthosmum Sleumer (1973)
Rhododendron inconspicuum J.J.Sm. (1915)
Rhododendron intranervatum Sleumer (1961)
Rhododendron kawakamii Hayata (1911)
Rhododendron laetum J.J.Sm. (1914)
Rhododendron lanceolatum Ridl. (1912)
Rhododendron lowii Hook.f. (1852)
Rhododendron luraluense Sleumer (1935)
Rhododendron maius (J.J.Sm.) Sleumer (1960)
Rhododendron malayanum Jack (1822)
Rhododendron maxwellii Gibbs (1914)
Rhododendron micromalayanum Sleumer (1973)
Rhododendron orbiculatum Ridl. (1912)
Rhododendron pauciflorum King & Gamble (1905)
Rhododendron rarum Schltr. (1918)
Rhododendron retivenium Sleumer (1960)
Rhododendron rhodopus Sleumer (1960)
Rhododendron rubineiflorum Craven (1980)
Rhododendron rugosum H.Low ex Hook.f. (1852)
Rhododendron santapaui Sastry et al. (1969)
Rhododendron searleanum Sleumer (1973)
Rhododendron solitarium Sleumer (1963)
Rhododendron stapfianum Hemsl. ex Prain (1911)
Rhododendron superbum Sleumer (1960)
Rhododendron taxifolium Merr. (1926)
Rhododendron womersleyi Sleumer (1960)
Rhododendron yongii Argent (1982)
Rhododendron zoelleri Warb. (1892)
Rhododendron zollingeri J.J.Sm. (1910)

R. christianae was not on the NZ Plants Biosecurity Index (PBI) but has been in New Zealand since 1971. It was declared 'not new' in 2022.

R. laetum was not on the PBI but has been in New Zealand since 1975. It was declared 'not new' in 2022.

R. rubineiflorum was not on the PBI but has been in New Zealand since 1984. It was declared 'not new' in 2022. (Whole plant image – Andrew Brooker.)

Rhododendron viscosum is in the 4th Section 26 application. The first sales record is from 1945, and the first collection record is from 1964. Rhododendron literature lists 56 botanical names that are synonyms for this species.

Rhododendron baileyi is in the 4th Section 26 Application. Its earliest record is 1950 when Douglas Cook of Eastwoodhill purchased it from Hillier and Sons Nursery in England. We have zero records for offerings in commercial trade in New Zealand, but Alistair Blee offered it on the ARS seed lists in the early 1990s. (Image: Graham Smith).

R. moulmainense was declared 'not new' in 2024. Here is *R. stenaulum* A.M. clone which is one of the synonyms for *R. moulmainense*. (Image: Andrew Brooker.)

Application Two – 40 species (44 taxa) from *Rhododendron* subgenus *Vireya*. Notification of 'not new' assessment received 14 June 2024.

Rhododendron acrophilum Merr. & Quisumb. (1954)
Rhododendron aequabile J.J.Sm. (1935)
Rhododendron alborugosum Argent & J.Dransf. (1989)
Rhododendron album Blume (1823)
Rhododendron apoanum Stein (1885)
Rhododendron baenitzianum Lauterb. (1905)
Rhododendron beyerinckianum Koord. (1912)
Rhododendron borneense (J.J.Sm.) Argent, A.L.Lamb & Phillipps (1984)
subsp. *borneense* (J.J.Sm.) Argent, A.L.Lamb & Phillipps (1984)
subsp. *villosum* (J.J.Sm.) Argent, A.L.Lamb & Phillipps (1984)
Rhododendron bryophilum Sleumer (1960)
Rhododendron caliginis Kores (1984)
Rhododendron celebicum (Blume) DC. (1839)
Rhododendron cruttwellii Sleumer (1960)
Rhododendron culminicola F.Muell. (1889)
Rhododendron dielsianum Schltr. (1918)
Rhododendron gardenia Schltr. (1918)
Rhododendron lagunculicarpum J.J.Sm. (1937)
Rhododendron leucogigas Sleumer (1963)
Rhododendron longiflorum Lindl. (1848)
Rhododendron mindanaense Merr. (1905)
Rhododendron multicolor Miq. (1861)
Rhododendron multinervium Sleumer (1960)
Rhododendron perakense King & Gamble (1905)
Rhododendron pleianthum Sleumer (1960)
Rhododendron psammogenes Sleumer (1960)
var. *inundatum* (Sleumer) Danet (2011)
Rhododendron pubigermen J.J.Sm. (1934)
Rhododendron pulleanum Koord. (1912)
Rhododendron quadrasianum S.Vidal (1886)
var. *quadrasianum* S.Vidal (1886)
var. *malindangense* (Merr.) H.F.Copel. (1929)
var. *rosmarinifolium* (S.Vidal) H.F.Copel. (1929)
Rhododendron radians J.J.Sm. (1920)
var. *pubitubum* (Sleumer) Argent (2006)
Rhododendron retusum (Blume) Benn. (1838)
Rhododendron rhodoleucum Sleumer (1961)
Rhododendron rousei Argent & Madulid (1998)
Rhododendron salicifolium Becc. (1878)
Rhododendron saxifragoides J.J.Sm. (1915)
Rhododendron scabridibracteum Sleumer (1960)
Rhododendron sessilifolium J.J.Sm. (1934)
Rhododendron vaccinioides Hook.f. (1851)
Rhododendron verticillatum H.Low ex Lindl. (1848)
Rhododendron viriosum Craven (2002)
Rhododendron vitis-idaea Sleumer (1960)
Rhododendron wrightianum Koord. (1912)
var. *wrightianum* Koord. (1912)
var. *cyclopense* J.J.Sm. (1914)

Application Three – 25 species of temperate rhododendrons. Notification of 'not new' assessment received 14 June 2024.

Rhododendron atrovirens Franch. (1886)
Rhododendron citriniflorum Balf.f. & Forrest (1919)
Rhododendron coxianum Davidian (1972)
Rhododendron denudatum H.Lév. (1914)
Rhododendron erosum Cowan (1937)
Rhododendron glanduliferum Franch. (1886)
Rhododendron hongkongense Hutch. (1930)
Rhododendron kanehirae E.H.Wilson (1921)
Rhododendron kesangiae D.G.Long & Rushforth (1989)
Rhododendron martinianum Balf.f. & Forrest (1919)
Rhododendron moulmainense Hook. (1856)
Rhododendron noriakianum T.Suzuki (1935)
Rhododendron ochraceum Rehder & E.H.Wilson (1913)
Rhododendron parryae Hutch. (1933)
Rhododendron pleistanthum Balf.f. ex Hutch. (1930)
Rhododendron pocophorum Balf.f. ex Tagg (1927)
Rhododendron pronum Tagg & Forrest (1927)
Rhododendron przewalskii Maxim. (1877)
Rhododendron semibarbatum Maxim. (1870)
Rhododendron sikayotaizanense Masam. (1939)
Rhododendron subansiriense D.F.Chamb. & Cox (1978)
Rhododendron suoilenhense D.F.Chamb., N.T.T.Huong & Rushforth (2020)
Rhododendron tsariense Cowan (1937)
Rhododendron venator Tagg (1934)
Rhododendron vialii Delavay & Franch. (1895)

R. kesangiae was declared 'not new' in 2024. Its earliest record is at Pukeiti in 1980. It has been offered for sale only once by Pukeiti Plants for Members in 2010.

A very young plant of *Dimorphanthera keysseri* in the Pukeiti Nursery in 2023. The earliest evidence we can find of this species is a report of it flowering in 1994 in Os Blumhardt's collection at Koromiko Nursery (Ballard 2006, p. 189).

Dimorphanthera kempteriana is in the 4th Section 26 application. It was collected by Graham Smith from PNG in 1983, and again acquired by Pukeiti from Edinburgh in 1996. It has never been offered for sale.

Acknowledgements

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Deciduous azalea border

R. yakushimanum 'College Form'

GEMS IN THE O'KEEFE GARDEN - GERALDINE

Photos: Lynn Bublitz

R. 'Winefrid Hayes'

R. 'Cream Glory'

R. 'Sweet Sixteen'

R. 'Ida'

R. 'Peach Ball'

KUNMING 2024

Gordon Bailey

Buddha Flower, *Musella lasiocarpa*

Since 2019 I have been trying to arrange a visit to Kunming to re-establish relationships with the Kunming Institute of Botany.

This follows from an original MOU signed between the two organisations in 1992. Much has happened in the rhododendron world since then and the MOU was well out of date, particularly as Pukeiti has for the last 7 years been concentrating on developing the *Ex-situ* Rhododendron Conservation Strategy based on what we have growing in NZ.

April 2024 was arranged for the Kunming visit, however I had a health issue and couldn't fly, so the trip was rearranged for early July – yes, middle of summer and not peak rhododendron flowering conditions, but the Chinese were confident we would still see rhododendrons in flower.

We had to reapply for Chinese visas which isn't the easiest process in the world.

Andrew Brooker and I, with our respective partners, took part.

We flew China Southern Airlines from Auckland to Guangzhou then on to Kunming – arriving on time and being duly met by Yong Peng and our driver from the Institute. They would be our guides for the next 12 days.

My first visit to Kunming was in 1990 with Ron Gordon's Pukeiti trip. I have been back six times since then, and each time the city has expanded. It now has five million people.

We settled into our hotel, had showers etc. then a traditional lunch of hot-pot soup (middle of summer ….) followed by some exploring around the general area. In a big fruit and vegetable market next to our hotel, it being a Sunday, everyone was stocking up. People were also in the parks, practicing traditional music. Temperatures were around 30 degrees.

The next day we set off travelling in a car that seated six. This was ideal for our small group, and we had clear views of the street and highway plantings which are extensive and add to the beauty of the place.

Our first stop along the 4-lane motorway with bridges and tunnels – no winding roads or steep hills - was Chuxiong. Here we visited a satellite research nursery for the Institute.

Yong Peng had his own small nursery area with many rhododendrons he had discovered, some of which were even on the red list. – including *Pseudovireya haianense* and *Rhododendron (Tsutsusi) vialii* which has red new growth, to name a few.

He also had many crosses of *R. irroratum x decorum* which seemed to be a specialty of his.

Further on from this area were several glasshouses growing a wide range of plants being used for experimental crosses aimed at producing enhanced features. Among them was *Musella lasiocarpa* – the Buddha Flower, with improved yellow and orange flowers.

The Institute had also been doing some breeding work on *Luculia,* making them dwarf in growth habit for smaller gardens but still with the high fragrance. Unfortunately, the plant nursery sales market has evaporated since COVID.

Lijiang was our first night's stop and we stayed a stone's throw away from Black Dragon Pool gardens. Being summer it was school holiday season, so the town, especially the old part, was absolutely packed with people.

The next day we drove up a very winding road to Lijiang Botanical Garden, a satellite garden for the Institute. It is 360ha and ranges in altitude from 2600 – 3600m.

The staff spend a third of the time collecting plants across Yunnan and Tibet, one third propagating and other third talking. They have transported over 2000 different species and propagated 1000 of them, including 80 *Rhododendron*.

This garden is essentially their *ex- situ* conservation garden for high altitude plants from different parts of Yunnan.

Next day we headed to Benzeling, spotting *Primula nepalensis* and *R. decorum* in flower along the way.

We headed up a flooded and badly damaged road with rivers running down the middle of it while driving to the top of Peacock Mountain. At 4000m we saw plants of *Meconopsis nepalensis*, *M. horridula*, *Rhododendron saluense* and *sanguineum* to name a few, all still flowering in the middle of summer.

While heading up Gaoligong Shan (mountain) we stopped at an *ex- situ* nursery area that Yong Peng oversaw. Located at 2800m it featured *R. mallotum, protistum, grande, edgeworthii, genestierianum, sidereum* and *irroratum* among others, all collected from the wider area.

We headed to the top of the road where the Burma border post is situated but got turned back as we didn't have the correct paperwork.

We stayed a few days in Dali and took a cable car up the Cangshan Range. We were on our own at this stage and clearly took the wrong cable car as we had to walk 5km to the next cable car to take us down, but the signs didn't say you had to walk up 1111 steps at 2880m to get to it !!!

On a day trip into Sichuan province to Zhu Jian Yang and Qujing, we saw a conservation forest park and the source of the Pearl River. We also saw *R. delavayi* x *irroratum* natural hybrids, which have different bark, less hairy leaves and flowers generally pink. It is also the home of *R. aberconwayi* which has a limited distribution. Unfortunately, being summer nothing was in flower, but the large rhododendrons were a sight to see.

We also saw *Camellia lutchuensis*, *Rhododendron spinuliferum* and another rhododendron very like *racemosum*.

An interesting side trip on the way back to Kunming saw us stop at a rhododendron nursery of considerable size. This nursery was growing thousands of a new hybrid, *Rhododendron* 'XXL'. It is a 'President Roosevelt' hybrid fetching

Rhododendron 'XXL' a new cultivar taking the norther hemisphere by storm

$US200. Seventy percent of the nursery contained these plants. There were smaller quantities of other rhododendrons and carnations.

Our final day was a formal visit to the Kunming Institute of Botany to meet Director Professor Weibang Sun and discuss in more detail closer relationships between Pukeiti and the Institute.

The Institute is a significant organisation with the following:

- 80 staff
- 10 Directors
- 70 Professors
- 76 post doctorate fellows
- 627 PhD and MSc students
- 32 Foreign students
- 158 MOU/agreements with 33 countries
- Main research fields:
- Taxonomy
- Ethnobotany
- Chemical/Pharmaceutical research.

It holds the 2nd largest seed bank globally (10, 000 plant species) and has 900,000 visitors annually, the number of which is capped.

It also houses seven *Rhododendron* species which are critically endangered, and over the next 10 years aims to study 101 additional *Rhododendron* species collected from wild populations.

A recent focus has been to study small populations of endangered species such as corybas orchids.

The outcome of our meeting was that owing to budget and staff restrictions the Institute would not host garden tours as they have in the past but would

Dwarf Luculia

support any visitors to the Institute. They were also open to assisting small group seed collecting expeditions. However, China now has very restrictive biosecurity laws, as does New Zealand, making it very difficult to take seed and plant material out of China. This is an issue we will address with the Institute so that a process which will enable Pukeiti to source seeds for the *Ex-Situ* Rhododendron Conservation Programme can be agreed upon.

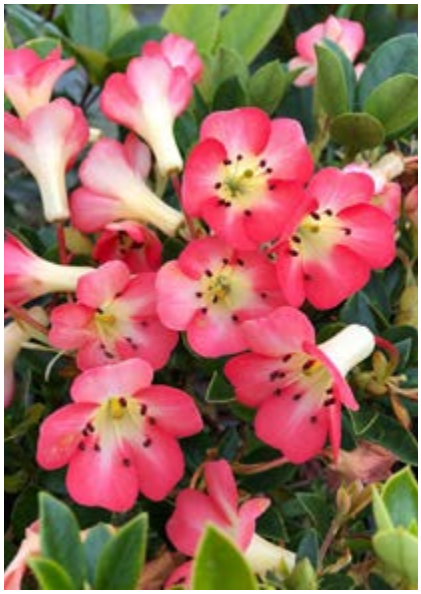
Given the number of MOUs it already has with other organisations, the Institute does not wish to have another with Pukeiti, but is keen to continue developing a meaningful relationship.

Further discussions on keeping the momentum of this initial trip are ongoing and updates will be provided to members as they occur.

NEW REGISTRATION 2024

Brian Coker

The following cultivars have been registered with the Royal Horticultural Society, England, as international registration authority for the genus *Rhododendron* and added to the New Zealand Rhododendron Register.



400 *R.* 'Fairy Blush'

R. 'Saxon Glow' open pollinated.

Vireya with an upright open truss of 3 tubular funnel-shaped flowers. Colouring is creamy white in the tube with pink shading in the lobes, darkening to a stronger pink on the lobe margins. Calyx of 15mm, bright cherry- coral pink. Glossy leaves are oblanceolate at the base and ovate at the apex. No scent. A tight compact habit growing to 0.4m in 3 years. Grown, named, introduced and registered by David and Pauline Brown of Browns Nursery, Tauranga.

401 *R.* 'Bobby Dazzler'

R. 'Saxon Glow' X *R.* 'Vladimir Bukovsky'

Vireya with an open flat truss of 7 tubular funnel-shaped flowers 35-40mm long and 50mm wide. Buds are orange at tip and yellow towards base and open with flowers yellow-orange on inside with the outside being orange to orange-red on the corolla margins. Calyx is orange to orange-red at margins and 20mm in length. Glossy oblanceolate-ovate leaves are 65mm long and 33mm wide. No scent but good repeat flowering on an upright plant with slightly rounded habit growing 0.7m high by 0.5m wide in 7 years. Grown, named, introduced and registered by David and Pauline Brown of Browns Nursery, Tauranga.

402 *R.* 'Stella Rose'

R. 'Coral Flame' open pollinated.

Vireya with an open flat truss of 9-10 tubular funnel- shaped flowers. Each flower is 65mm long and 65-70mm wide. Coral-cherry pink buds open to provide an effect which is darker coral-cherry pink on lobes shading to warm yellow in throat. Calyx is 30-35mm in the same colouring as the flowers. Oblanceolate-ovate leaves are glossy and 80mm long and 40mm wide. No scent. Young stems have a reddish hue. Overall plant has a lower rounded habit growing to 0.8m high and 0.9m wide in 10 years. Grown, named, introduced and registered by David and Pauline Brown of Browns Nursery, Tauranga.

REGISTRATION PROCEDURE

The registration form (November 2018 version) can be obtained from the NZRA website, www.rhododendron.org.nz or direct from the Registrar *b.hcoker@xtra.co.nz.*

For anyone contemplating naming a rhododendron (even if it is not certain whether formal registration will follow) the Registrar can check whether the name is available and acceptable for registration and arrange for

403 *R.* 'Top Notch'

R. 'Saxon Glow' X *R.* 'Sunny Splendour'

Vireya with an open upright truss of 5-6 tubular funnel-shaped flowers, each with 5 lobes and being 40mm long and 45-50mm wide. Buds are coral at the tips shading to creamy yellow at the base with the inside of the corolla being creamy yellow and the outside bright coral. The calyx is 20mm in shades of green, cream and yellow. Oblanceloate-ovate leaves are glossy, 80mm long and 40-45mm wide. No scent Flowers are repeat flowering and held upright on an upstanding bush with slightly rounded habit growing to 0.8m high and 0.5m wide in 5 years. Grown, named, introduced and registered by David and Pauline Brown of Browns Nursery, Tauranga.

404 *R.* 'Honey Blush'

R. 'Cameo Spice' open pollinated.

Vireya with a flat-topped open full truss of 6 tubular funnel-shaped flowers each with 6-7 lobes with wavy margins. Each corolla is 55mm long and 75mm wide. Buds have a burgundy-red flush on tips with green showing through. The inside of the corolla is creamy honey-yellow with pink dots at the start of the throat and base of lobes. The outside of the corolla is creamy honey-yellow with pink flushes on the lobe margins, more pronounced in the cooler months. The calyx is 30-35mm long, light green flushed burgundy. Matt elliptic leaves are 100mm long and 50mm wide. New growth has a slight bronze tint. Grown, named, introduced and registered by David and Pauline Brown of Browns Nursery, Tauranga.

405 *R.* 'Stoneycrop Pride'

R. Ivan D Wood' X *R.*'The Master'

A dome shaped truss of 9-10 openly funnel- shaped flowers each with 7 lobes with very wavy margins. Corolla is 60mm long and 110mm wide. Warm pink buds open and are green in the throat graduating to yellow then to white and finally pink on the wavy lobe margins. The outside of the corolla is uniformly pink, becoming slightly darker on the wavy lobe margins. Spotting on the upper lobes inner corolla is yellow-green on some and orange-red on others. Oblanceolate matt leaves are 140mm long and 50mm wide. Sweetly fragrant scent and flowering mid-spring. Plant grows to 3m high and 1.5m wide in 30 years.

Grown, named and registered by Brian and Helen Coker, West Melton.

the name to be reserved. This will then avoid using a name which has already been registered and ensure that the name will be accepted should formal registration be completed.

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, or require any assistance regarding registration.

Sculpture welcoming the Rhodenza visitors

Glimpse of the Four Peaks Range

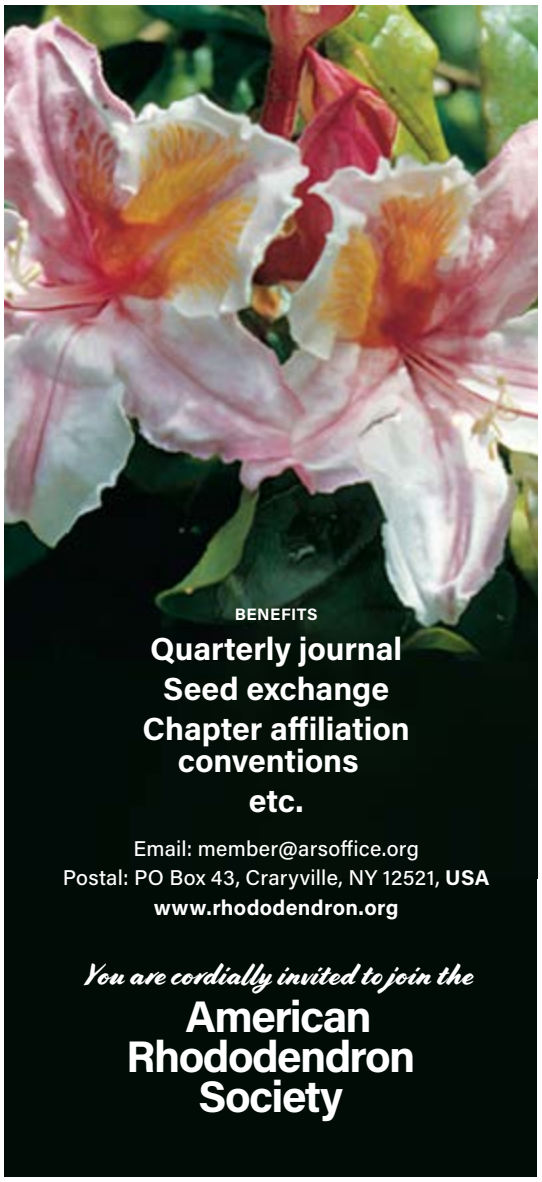
Peonies light up the garden

Clematis climbing through the trees

CAPRICORNS GARDEN - GERALDINE

Photos: Lynn Bublitz

Sculpture on the lake at Capricorns Garden



BENEFITS

Quarterly journal
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Chapter affiliation conventions
etc.

Email: member@arsoffice.org
Postal: PO Box 43, Craryville, NY 12521, **USA**
www.rhododendron.org

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Scan the QR code to view membership information and form
or email pukeiti@pukeiti.com for further details.

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Pukeiti Rhododendron Trust Inc.

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

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Members Committee Chairperson	Lynn Bublitz (Acting)

New Members Welcome

Subscription $40 per household.

Taranaki Regional Council

TARANAKI REGIONAL COUNCIL
www.trc.govt.nz

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