The New Zealand Rhododendron

Volume Three 2015

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Rhododendron at 'Surrey Hills'

FOREWORDS

Once again we have a joint bulletin that is a first class read for all those interested in rhododendrons and related garden activities. A huge vote of thanks go to our Editor Lynn Bublitz, his willing helpers and of course the article contributors.

Under the stewardship of the Taranaki Regional Council many capital development projects have been completed at Pukeiti over the last year. The main ones are:

- The expanded car park and arrival area
- The continuation of plant labelling throughout the garden
- A complete rebuild of the Covered Walk, which housed the vireya collection, with an extension to overlook the Waterwheel
- Many small garden improvements throughout the garden.

Especially exciting was the recent opening of The Keiller Home Garden designed by Xanthe White. The site of this garden was that of the Robert Keiller Garden which had become tired and in need of a makeover. Robert was a long time member and benefactor of Pukeiti. It was great that Robert's sister Patricia undertook the official honour to formally open this garden.

The idea of the Keiller Home Garden is to showcase plants, especially rhododendrons, and demonstrate how they can be used in today's smaller sections with great effect. Of course companion plants will also feature.

Pukeiti Trust contributed significant funds towards the development of this cutting edge garden.

Another exciting project the Pukeiti Rhododendron Trust is progressing is one championed by Dr Marion MacKay on a New Zealand wide Rhododendron Conservation Strategy. This is loosely based on the German model explained to us at last year's International Rhododendron Conference in Dunedin by Dr Hartwig Schepker, the Rhododendron Park Managing Director at Bremen in Germany.

This is a rather complex project but to summarise, it is about initially identifying gardens that have in their collection rhododendron species that are rare or endangered in their native habitat and then identifying in which New Zealand locations they will grow best in. As we know, not all the rhododendron species Pukeiti grows actually grow well there. In many cases they may grow better in Dunedin or Canterbury. Therefore once the ideal growing environment has been identified scion wood can be grown and plants sent to identified gardens to grow as conservation plants.

Pukeiti is clearly a key component in any strategy; at the same time, the strategy is wider than Pukeiti. What Pukeiti does as part of the strategy, will form a coherent part of a national whole, involving not only New Zealand sites and partners, including NZRA, but also our many international connections.

More as this exciting project develops.

Gordon Bailey, Chairman Pukeiti Rhododendron Trust Board

It is late October, a week after the conclusion of the successful and enjoyable NZ Rhododendron Association Conference in Wellington, and it is raining. Thank goodness! The garden and paddocks have been drying out in the last few weeks, triggering memories of last year's very dry November and December. Let's hope that the southerly change which the weather forecaster tells me is working up the South Island's east coast will indeed bring the predicted 'rain moving north' from Christchurch to still drought-ridden North Canterbury too. But El Nino is predicted to bring significantly less than average rain to the east coast of the South Island this summer.

Here in Dunedin we have had an outstanding display of flowers from our large-leaf rhododendrons of the Grandia and Falconera Subsections. Oddly, our largest plant of *R. sinogrande* and our only *R. eximium*, while covered with flowers (last year they had none), also have very small leaves from last season. I assume that the small leaves are a result of the dry conditions as the buds opened. Has the profuse setting of flowerbuds also been triggered by those conditions last year? Does it represent (I am trying not to anthropomorphise plants) an evolutionary response to the threat of destruction from drought, by producing more seed? Whatever (as the children used to say). I shall try to be judicious about watering where it is needed most while the buds set this year, and if some plants die, to be sensible about replacing them with more drought tolerant plants, because extreme weather, including drought, is likely to get worse as governments (and particularly the New Zealand Government) temporise over the introduction of effective measures to address the threat posed by global warming. Wouldn't it be great to have a government, of any political hue, that could look beyond our short electoral cycle and act to take up our share of the necessary sharp reduction of carbon emissions?

Those attending the 2015 Conference were treated to a fascinating lecture from Professor Tim Naish, Director of the Antarctic Research Centre at Victoria University, Wellington, and Principal Scientist at the NZ Crown Research Institute, GNS Science; a paleoclimatologist working on reconstructing past ice sheet and global sea-level changes, to help us understand the likely effects of future climate changes. He compared Antarctica at present with its situation about 50 million years ago, when it supported near-tropical forests by the coastline and temperate rainforest at higher altitudes. The risks from accelerating climate change and sea level rises as Arctic and Antarctic ice melts (as it is already doing) are real, and the results may be disastrous for our children and grandchildren.

We should all be pressuring our politicians to, as our Prime Minister put it once, "get some guts" and make New Zealand a leader, rather than a reluctant and tardy follower, in facing up to the greatest threat that humankind has ever faced. And, in the meantime, keep planting!

Last year's New Zealand Rhododendron included an article about Pukeiti's database. Another item from the 2015 NZRA Conference which is of interest beyond just NZRA members was a report at the AGM, from Marion Mackay, that the Board of Pukeiti intends to expand the database to cover rhododendrons throughout the country, in private and public gardens, with a view to enabling their conservation. This ties in with work already being done by the NZRA in both islands. I hope that Pukeiti and the NZRA can make it a successful joint project.

Tony Fitchett, President, NZRA; Member, Pukeiti Rhododendron Trust

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Rhododendron 'Opal Dawn'
('Countess of Haddington' x *R. davidsoniana),*
a Ron Gordon hybrid.

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Back Cover
Fallen leaves *Rhododendron protistum*

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INTRODUCTION
CONSERVATION OF RHODODENDRON SPECIES

This edition of the New Zealand Rhododendron Journal expands on the role gardens play in the conservation of rhododendrons. They are a very diverse group of plants and are found in all the major continents. There are even three species in Australia. In many places their natural environment is under stress and many have been lost from their native habitats or are endangered.

Early plant collectors, often funded by nurseries or wealthy land owners, played an important role in discovering new species in the wild, naming them, gathering their seeds, sending them home for propagation, and ensuring herbarium specimens were collected and deposited in safe keeping. Many of the plants collected are those which are now endangered or have completely disappeared in the wild. *R. griesonianum* and the Taiwanese azalea *R. kanehirai* are two examples growing at Pukeiti.

Some of the other outstanding Pukeiti plants were grown from wild collected seed and often surplus plants were offered on members' plant lists or were distributed to other gardens, both public and private. Collecting is still continuing and some of the expeditions are described in this journal. New species or varieties are often discovered but in contrast to earlier years when the focus was on finding new plants this now is not the only reason for collecting. Sourcing plants from localities which differ from those in which they were first discovered, is now critical, to ensure a broad genetic variability essential to the species survival.

The first step in the species conservation programme which Pukeiti Rhododendron Trust has initiated will be to gather records of all species rhododendrons growing in New Zealand. This will entail the support of both Pukeiti and Rhododendron Association members along with that of the staff of public gardens. It will be led by Dr. Marion MacKay with Massey University support and Doug Thomson, Botanic Gardens Dunedin, and of course the staff at Pukeiti.

If readers have species rhododendrons in their collections it is important that these are well labelled and their origins recorded, and this information shared with the researchers. A picture of the range of specimens within each species growing in New Zealand can be thus built up, and where necessary propagation of rarer varieties can be undertaken and grown in the geographical areas of New Zealand which best suits them, thus ensuring their conservation.

The result of collections over the years has been the wealth of hybrids often bred from carefully selected species and this will no doubt continue. Many of these beautiful plants grace our gardens as they are often more vigorous than the parent species. When visiting gardens the names of these plants may be unknown having been lost when gardens have changed ownership or management. To emphasise, it is important for the future of these wonderful plants that we all ensure rhododendrons in our own gardens are readily identifiable, where appropriate labelled and a record of their sources kept. Conservation of good New Zealand hybrids is equally as important as protecting the species.

Lynn Bublitz,
Editor

Spring in the Editor's garden featuring *R.* 'Lemon Lodge' and 'Floral Gift' and the Patron Saint of Gardening.

RON GORDON REMEMBERED

Gordon Collier

Ron was a foundation member of Pukeiti, a former Chairman of the Board and Patron, as well as a member and stalwart of the New Zealand Rhododendron Association.

The late Ron Gordon was a man of many parts; airman, farmer, gardener, plant breeder, conservationist, intrepid traveller, good friend and family man. That he was also a war hero in World War II was not something Ron talked about, (he was decorated DFC and DFM), but he was certainly enthusiastic about plants and was the breeder of a most successful modern rhododendron, the superb, ubiquitous, red flowered 'Rubicon'.

Ronald Claris Gordon was born in Taihape and along with his twin brother, Ian, (also to be a passionate gardener) showed an early interest in plants. Ron was apt to remember that his mother took the boys at an early age to a local flower show where, fun loving larrikins even then, they were more interested in the coconut ice.

Ron was called up at the beginning of the war. He trained in the Air Force in Canada and then joined the Royal Air Force Bomber Command in England for the duration of the war. Promoted to Flight Lieutenant as a navigator and bomb aimer and flying in a Lancaster bomber, he completed an astonishing 70 missions over Europe, one of his last being over the German city of Dresden. De-mobbed in London on VE day he was decorated by King George at Buckingham Palace and turned down a commission in the Royal Air Force, preferring to return to New Zealand. He subsequently took up land at Rongoiti, just west of Taihape.

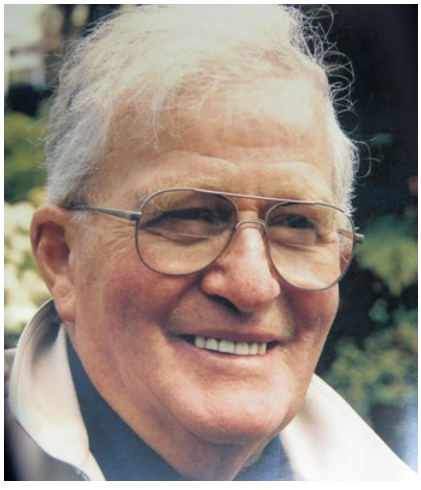
It was from there that Ron began his large garden, built up an easy-care Romney flock and became a successful ram breeder. Early on in his time at Rongoiti his newly built house was threatened by a major land movement, but undaunted he embarked on an unprecedented planting of trees to stabilize the hillside on which his house and garden were situated. Due to this he became involved in the Rangitikei Catchment Board and later won an award for his achievements in this field.

He was an enthusiastic man with a wide knowledge of many topics and he collected just about every plant that grew, creeping or climbing. He had a bewildering array of potted plants at his back door each one waiting for his considered planting position. He always planted to suit the plants' requirements and was not so concerned about the over all effect. He never worried about a few weeds. In his earlier years he was a dedicated grower of daffodils, as was his brother Ian, successfully showing his blooms at every opportunity. As his garden became shady he became more interested in other plants, one of which was the winter rose. Over the years he crossed a dark red seedling obtained from David Buchanan, a fellow garden enthusiast from Mangaweka, and developed a line with superior red flowers. This was the forerunner of a strain known today as *Helleborus* 'Flash Gordon', commemorating his name.

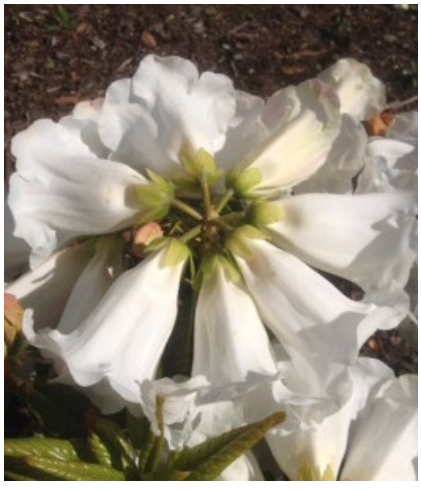
Ron was an avid collector of rhododendrons and in particular species rhododendrons. The Maddenia Series became of particular interest, and he was always seeking out the best forms. Some of these were sourced from his travels in the northern hemisphere. One of his early trips was to see rhododendron gardens in England. Many species seedlings from Muncaster Castle arose out of that trip.

His first adventure in China was with the International Dendrology Society where he was the only person included from the Southern Hemisphere. Ron gathered speed after this and led his own plant trips, to Sikkim, Nepal and five times to China. On his last expedition there he ventured as far as Mongolia where he slept in a gur, (yurt) ate the local food and no doubt the special delicacy of curdled camel's milk. This trip was ostensibly to study sheep but in fact he found there was not much of plant interest on the plains of Mongolia apart from some species of artemisia.

Time spent in Ron's company was never less than entertaining; he had an innate sense of humour. When he was joined by the late Joanna Martin and a bottle of Famous Grouse whisky you knew you were in for a lively and fun filled evening. Ron drove his cars with unnerving skill; he always



Ron Gordon



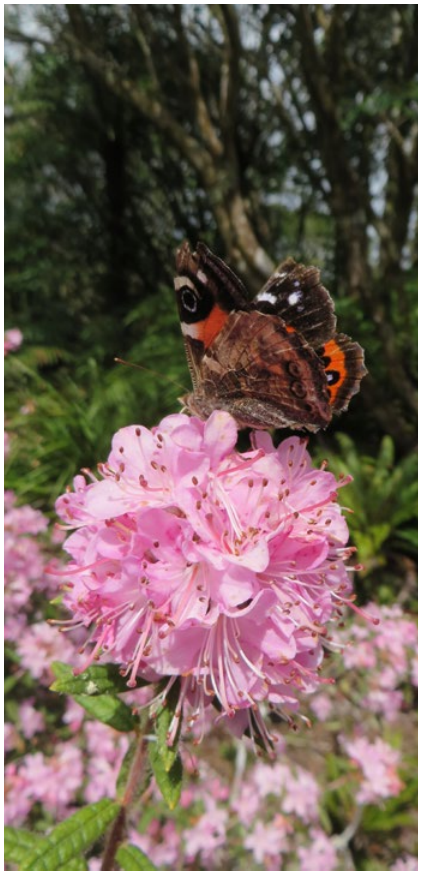
R. 'Helen Collier'

Ron couldn't resist being a bumble bee as the list of his registrations shows:

R. 'Arctic Bear'	*R. decorum* x *diaprepes*
R. 'Cauldron'	*R.* 'Rubicon' x 'Kilimanjaro'
R. 'Dame Cecily Pickerill'	*R.*'Rubicon' x 'Kilimanjaro'
R. 'Eunice Claris'	*R.*'Loderi' x 'Naomi Pink Beauty'
R. 'Myrtle Manson'	*R.* 'Rubicon' x 'Kilimanjaro'
R. 'Opal Dawn'	*R. davidsonianum* 'Exbury Pink' x 'Countess of Haddington'
R. 'Peggy's Sister'	*R. campylocarpum* x 'Peggy'
R. 'Rongoiti Ruby'	*R.* 'Kilimanjaro' x *elliottii*
R. 'Posy'	*R. yakusimanum* x 'College Pink'
R. 'Rubicon'	*R.* 'Noyo Chief' x 'Kilimanjaro'
R. 'Snow Mantle'	*R. lindleyi* x 'Fragrantissimum'
R. 'Love Song'	*R.* 'Catherine Collier' x *nuttallii* var. *stellatum**
R. 'Helen Gordon'	*R. lindleyi* (Cox) x *lindleyi* (Sheriff) x *lindleyi* (Kingdon Ward.)

*Rhododendron Species Vol. 1. Page 281, Davidian.

Doff Tombleson, a long standing rhododendron enthusiast and good friend of Ron grows a further five unregistered hybrids of his in her garden 'Tapuwae,' at Benneydale.



R. spiciferum with Red Admiral butterfly

maintained the road to New Plymouth followed the first cows that entered the province. He enjoyed speed. One morning he arrived at Pukeiti with a dead hawk splattered across the grill of his pink Nash Rambler, saying that en route he only touched down on the corners. That morning at Pukeiti was the first time I met Ron; some years later he married my sister Helen.

Ron Gordon was a prominent member of many related organisations, of the New Zealand Rhododendron Association, and a founding member of Pukeiti where he was a long serving Board member and eventually Chairman. He was always a lively and popular participant in both of these organisations. Ron was also a keen supporter of the rhododendron garden at Kimbolton, now known as Heritage Park, and spent many hours helping Eastwoodhill, the National Arboretum near Gisborne. In 1995 in recognition of his outstanding contribution to horticulture he was made an Associate of Honour by the NZ Institute of Horticulture. At the time of his death in 2000 Ron Gordon was Patron of both Pukeiti and the New Zealand Rhododendron Association. There is much more information about Ron in the NZRA bulletins 1981, 1982, 1986, 1990, 2000 and 2001.

R. spinuliferum

R. yunnanense

R. arboreum ssp. *delavayi*

R. decorum

These species rhododendrons were collected on Pukeiti's first trip to Yunnan led by Ron Gordon in 1990

PLANT EXPLORATION: NORTH WEST YUNNAN

Gordon Bailey

In late May 2015 I found myself leading a group of four other intrepid amateur plant hunters on a trip to North Western Yunnan, China. This particular area of China I believe has not been explored before by the regular plant hunters we are familiar with.

Before I get into the story proper there is a little background that involves NZRA. In mid-2014 the NZRA website received an enquiry from Adrian Bottomley, owner of www.whistlingarrow.com – a boutique adventure travel company based in Hong Kong. In his email Adrian was seeking information on anyone who might have been interested in helping him identify plants, mainly rhododendrons, on a trip he was planning to China in 2015. His email had some very enticing photos from a reconnaissance trip he had just undertaken. The only proviso was that the person had to be fit as the trip was to be an arduous one in the mountains. Graham Smith ended up with the email and forwarded it on to me. As they say the rest is history.

We flew first into Kunming then on to Baoshan, a large town in Western Yunnan strategically located at the base of the Nujiang Valley. I was last in Baoshan in 1990 on Ron Gordon's first China trip. The city is unrecognisable now due to rampant growth and development since that time.

The Salween River

We then drove for six hours (via Liuku) to our first night's accommodation in a small hotel in the riverside town of Fugong. The whole journey followed up the Salween Nu (Angry) River. The Salween is a large dirty brown river and at this altitude the air temperature was in the high twenties and it was quite humid.

From Fugong we drove for another seven hours up through the Nujiang Valley, via Gongshan to Bingzhongluo (1800m). En route we passed through several small towns, with bustling markets full of Lisu and Yi people who descend from nearby mountain villages to shop and trade. The road follows the Nu River as it flows, often violently, in the opposite direction. The scenery became increasingly beautiful as the valley narrowed and the first of the region's famous (though seldom-used these days) wire bridges started to appear. Of particular interest en route was the 'Stone Moon', a 50m wide, almost perfect circle eroded into the sheer rock face of the Gaoligong Mountains that form the west ridge of the valley.

The Nujiang Valley

Baoshan

Day One - Gaoligong Mountains

We stayed in Bingzhongluo for two nights before the trip proper, and set off on a four hour acclimatisation hike along the Nu River and visited two Lisu villages on the way. The route also features a section of the ancient Tea Horse Trail cut out of the sheer cliff above the raging river. This trail was still used into the 1950s.

Now for the trek proper. The party consisted of two from Australia, and one each from Germany and England and myself, plus Adrian and Edward

the local Chinese guide for Whistling Arrow. Leaving Bingzhongluo we drove seven km to a small Lisu village where we met our nine porters. These poor guys had to carry all our belongings, food and accessories for the whole seven day trek. After some final preparations we began day one – an eight hour trek up through the forested valley. It was very hot and humid with a starting altitude of 2000m. There were lots of plants to stop and study, the most

Stone Moon

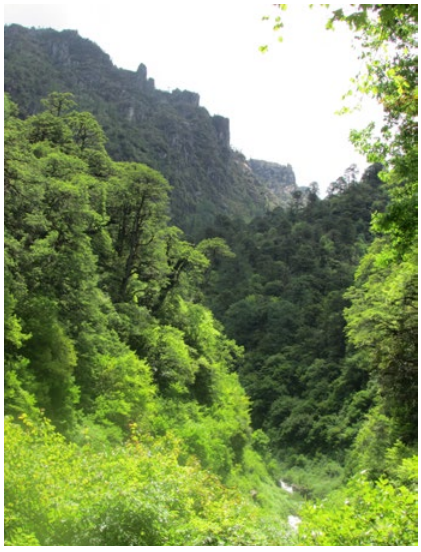
spectacular being *Rosa heleneae*, a vigorous climber with creamy yellow flowers and highly scented.

The foliage soon became all-embracing, the surroundings lacking all sign of people or cultivation. We passed *Magnolia globosa*, *Rhododendron nuttallii* and *lindleyi*, all epiphytic, growing high up in the trees above. At ground level was a myriad of different arisaema, pleiones and primula. It was about this time I started to think I should have done more research on specific plant names!!!

Higher up, the valley started to open up and the thick forest was replaced by scattered *Picea georgii*. Every corner turned highlighted the vast array of plant species that this part of China has to offer. Thankfully, the long, hard day's hiking was finally rewarded by an almost perfect setting in which we camped. A beautiful meadow, it was carpeted with yellow primula and surrounded by soaring peaks. The locals call this spot Da Chen Da meadow (3100m). Above us on the rocks were masses of *R. oreotrophes* and *R. calostrotum*. Wild horses and cattle were all around.

The next morning we woke to over-cast conditions with rain threatening. After such a brilliant day the day before we were a bit deflated. This deflation became worse when we discovered our kitchen tent has been destroyed by the wild horses in the night and that all our rice, vegetables and other essential ingredients had been scoffed!

The rain now set in; luckily the day was a relatively short three hour trek to our camp at the end of a glacial valley in a beautiful spot the locals call Gan Ji Tong or 'Ox Meadow Mountain' (3400m). Hemmed in by soaring peaks, the lush meadow has an abundance of wildflowers and is again populated



Forrested gorge

Head porter

R. crassum

Arisaema sp.

Enkianthus deflexus

R. sanguineum ssp. didymoides

Primula agleniana

R. mekongense

by wild horses and oxen. On the way we passed huge moss-reddened boulders and thundering waterfalls cascading down the mountainside. In the far upper reaches, at the foot of a small glacier, we got our first glimpse of rhododendron forest.

In the afternoon we explored this area which was at the foot of the huge peak that stands guard over the end of the valley. Here we discovered a huge field of *Primula agleniana*, beautiful porcelain white and sometimes a delicate pink, with a bonus of being highly scented. The scent seemed to envelop the whole valley even in the rain. In the rhododendron line we saw *R. sanguineum* - red and *R. mekongense* - yellow. Both of these rhododendrons we would see for the majority of the trek but with wide variability in colour, the *sanguineum* from light bright red to dark claret red almost black, while *R. mekongense* ranged from pale yellow to dark rich yellow.

After a wet and cold night the morning saw us trek up over a ridge and into the next parallel valley. The climb up over De Lui Za (3900m) was a challenge, though ultimately rewarded by a somewhat misty but fleetingly stunning view of Mount Gaoligong. At the top of the pass we were to come across our first taste of large swaths of *R. forrestii* var. *repens* with typically a single red flower per plant, many poking through the snow. From our vantage point we were informed that last year for almost as far as the eye could see, huge swaths of rhododendron bushes covering entire mountainsides grew in all directions.

The party of botanists

Unfortunately the cloud came in and as we started down from the pass we encountered huge drifts of snow that in a normal year should have long ago melted. We had to trek through this for the next three hours with only the odd rhododendron plant in flower. Just our luck – our visit had coincided with an off year for flowering and those that were going to flower were some weeks away due to the colder spring being experienced.

We did manage to see a wide colour palate of *R. neriiflorum* group; no one was game enough to put a specific name to them. There were pinks, red and yellows. And in this area our porters busied themselves collecting caterpillar pupae fungi, apparently an aphrodisiac and worth good money back down the valley. The large areas of rhododendrons we did see were all snow affected – sort of all bent over like a glacier had run them over. Other plants we did see Included huge *Picea georgii*, *Larix potani* and *Sorbus* sp. just coming into leaf. Two types of yet to name primula were prevalent, one had small white sessile flowers just emerging through the snow.

We followed and scrambled along Lisu hunting paths that dissect the rhododendron fields to a 'junction' where four valleys join (3500m). Originally it was intended we would camp here but the rain had caused

Camp – day two

the river to rise quite quickly and we were lucky to get across the single log bridge with water lapping over it.

It was here our porters decided it was time for them to stop and light a fire, warm up and have a meal. Just how they managed to light a fire in pouring rain was a miracle but a welcome one. We too shared the fires warmth and the salty green tea while a new plan was decided upon. Where were we to camp that night?

It was decided that the only feasible option was to hike up through mixed rhododendron and bamboo forest to a beautiful lake at the foot of Mt Gaoligong where we would set up camp (3850m). What had already been a long, hard day of almost eight hours trekking in persistent rain was to last another four hours. We had a consistent climb back out of the valley floor to the lake. It appears this lake is not named.

Although tired and wet our spirits were lifted when we began the prolonged upward climb through a rhododendron forest consisting of *R. arizelum*, *glischrum*, *sanguineum*. These plants came in very handy to assist in hauling our aching bodies up the mountain as some plants were 5m in height. Eventually we arrived at our destination and yes the view was beautiful and we could just make out the lake through the mist, rain and failing light. With no time to lose we pitched our tents on the only dry area above the lake on top of a large area of *R. forrestii* var. *repens*.

We remained at this spectacular spot for two nights. The jagged, snow-capped peaks of Mount Gaoligong

R. flavidum

R. martinianum

R. wardii

lunch stop

Primula sp.

R. glischrum

R. sanguinium

R. neriiflorum

Day 2 - Heading down through the snow

R. forrestii var. *repens*

stood like a sentinel above our camp but we had glimpses of its magnificence only through the persistent mist and rain. We spent our time exploring the large groves of rhododendrons that grew right around this lake. Again we didn't strike the time right as only a few were in flower and these included *R. citriniflorum*, *campylocarpum*, *citriniflorum* var. *horaeum*, *pumilum*. However it was the vast areas of *R. forrestii* var. *repens* that stole the show – all peaking in flower just for our enjoyment.

We spent most of this day drying wet clothes by the fire.

As the fog lifted a large patch of purple was spied high up above the lake and an expedition was sent to discover what species of rhododendron it was. After an hour's climb to an altitude of 4200m it turned out to be a massive patch of primula, species unknown. Another magnificent find was *Diapensia purpurea,* a lovely prostrate growing rock garden plant with bowl shaped white flowers.

The following morning, we set off on a tough four hour hike down the Li Wa Lo valley to the next campsite. The terrain was mainly bamboo and rhododendron forest of

R. arizelum

R. arizelum, *glischrum*, *sanguineum*, *sinogrande*, *yunnanense* before breaking out into fields of chest-high perennials. Typical plants included arisaema, thalictrum, aconitum, corydalis, smilax and smilacina.

The narrow path followed the small river down past massive boulders. Here we set up camp at 3300m in amongst perennials. The scented white smilacina was a real bonus.

Our last day saw us undertake an eight hour hike out of the wilderness and back to civilization, dropping 2000m in the process. The trail first wound its way through primordial, moss-covered forest scattered with gigantic conifers, old trees of *Juniperus coxii* - Chinese coffin pine and *Taiwania flousiana*, all 800 – 1000 years old,

Mountain Lake day 3

R. forrestii var. *repens*

R. sanguinium

R. temenium var. *gilvum*

R. campylocarpum ssp. *caloxanthum*

often up to three metres in diameter. The forest floor was tough going, with huge boulders and sprawling root systems that sometimes had to be traversed by tip-toeing along fallen logs. Likewise, we had to cross the river using primitive log bridges with a flimsy wire attached that offers just about enough support! Eventually we reached a road, and met up with our transport and enjoyed the scenic drive back to Bingzhongluo where the hot showers and soft bed were very welcome.

In summary this was a fantastic trip despite the weather. It wasn't for the fainthearted or the unfit, but just seeing the amazing variety of plants in the wild was awe-inspiring. This I believe is how we should see China and its plants. A separate list of all the rhododendron plants encountered can be found in *appendix 1*.

Gordon Bailey with *Juniperus coxii* (The coffin juniper)

appendix 1.

RHODODENDRONS ENCOUNTERED NW YUNNAN CHINA 2015.

R. arboreum
R. arboreum var. *peramoenum*
R. arizelum
R. calostrotum var. *kelecteum*
R. campylocarpum ssp. *caloxanthum*
R. campylocarpum var. *callimorphum*
R. chamae-thomsonii
R. chamae-thomsonii var. *chamaethauma*
R. citriniflorum var. *citriniflorum*
R. citriniflorum var. *horaeum*
R. coelicum
R. crinigerum var. *euadenium*
R. decorum
R. edgeworthii
R. eudoxum var. *eudoxum*
R. flavidum - yellow
R. forrestii cerisinum
R. forrestii var.
R. forrestii var. *repens*
R. glischrum
R. gongshanense
R. grande
R. haematodes ssp. *haematodes*
R. Lindleyi
R. maddenii var. *crassum*
R. martinianum
R. mekongense
R. neriiflorum
R. nuttallii
R. oreotrephes
R. parmulatum
R. pumilum
R. racemosum
R. rex
R. rupicola var. *chryseum*
R. sanguineum ssp. *didymoides*
R. sanguineum ssp. *sanguineum*
R. sinogrande
R. sperabile
R. taliense?
R. temenium var. *gilvum*
R. thomsonii gp.
R. trichocladum
R. triflorum
R. yunnanense

A NOTE ON RHODODENDRONS OF DZONGU VALLEY, SIKKIM (INDIA)

Bharat Kumar Pradhan

Author with *Rhododendron mekongense* along Leek – Panch Pokhari trail

The Himalayan rhododendron attracted the attention of the Europeans when Dr. N. Wallich, for the first time, introduced the seed of *Rhododendron arboreum*, to England in 1827. Its exploration in Sikkim began with the arrival of the famous explorer Sir JD Hooker from 1847 - 1849. During his exploration, he reported 45 species of rhododendrons from Sikkim Himalayas, of which, 34 were completely new to the rhododendron world (Hooker 1849). Many of the Sikkim rhododendrons, then introduced by Sir Joseph Hooker are flourishing well in European gardens. After him, UC Pradhan and Lachungpa (1990) were the only people who intensely explored the most difficult terrain in Sikkim for rhododendrons and described 36 species in their marvellous book 'Sikkim Himalayan Rhododendrons'. Nevertheless, Dzongu has always remained hidden from the eyes of the explorer, for being located in the extremely remote part of Sikkim as well as for having hostile terrain. The area received attention only from the anthropologists, interested in working on the culture and history of the aboriginal indigenous and primitive tribe of Sikkim, the Lepchas. Even Sir Joseph excluded Dzongu from his exploration, which was confined to Sikkim-Nepal, Sikkim-Tibet and the Sikkim-Bhutan border, as evident from his diary, Himalayan Journal (Hooker 1854).

Dzongu landscape, located in North Sikkim, has the geographical area of approximately 78 sq km and lies between 27˚28' – 27˚38' N latitude and 88˚23' – 88˚38' E longitude and is between 500m to 6000m in altitude. The area has numerous snowy mountain peaks, lakes, glaciers, etc. and represents three climatic zones viz. tropical, temperate and alpine. A major part of Dzongu, especially the upper reaches, falls inside the Khangchendzonga National Park (KNP), the only national park in the state which has been included in the tentative list of UNESCO's World Heritage Sites for having religious, historical, cultural and biodiversity significance (Pradhan and Badola 2008, Pradhan et al 2013).

In order to provide the sustainable livelihood options needed by the people living in the fringe villages of the KNP, the Government of Sikkim decided to promote ecotourism in Dzongu. In view of this, the Government of Sikkim through its Forests, Environment and Wildlife Management Department (FEWMD) designated an eco-trail (Tholung – Kishong Eco-Trail) in KNP, Notification no. 1975/F dated 11/12/2006 through the Sikkim Government Gazette No. 400 dated 15/12/2006. This eco-trail passes through important holy places (Dumlong Nay, Tholung Monastery, Shinji Badong, Kong Chachu, Thyugong Buti Nay, Kishong Lake, Dawathong Lake, Shingho Lake and Lungdoh Nay) and wildlife sensitive habitats (Dawathong Himalayan Tahr Conservation zone, Thepa La Alpine Bird Conservation zone, Thepa La Medicinal Plant Conservation zone and Panch Pokhari Musk Deer Conservation zone). Nevertheless, this trail has not gained much popularity from a tourism point of view, perhaps due to the time factor as it takes over 15 days

Rhododendron forest along Tholung – Kishong Trail

to complete the entire trek. Further, the trail between Dawathong and Shingho Lake is quite tough. However, domestic tourists occasionally trek up to Tholung Monastery, and sometimes up to Kishong Lake; the Lepcha folk make visits to these places and to Panch Pokhari (five lakes at one place) frequently for offering prayers, and I too got an opportunity to trek along this trail in 2008, though I had trekked up to Temrong forest and other places in Dzongu in 2006 and 2007.

There are two especially popular rhododendron trails in Dzongu valley i.e. Tholung – Kishong Trail and Leek – Panch Pokhari Trail. Apart from these, there are numerous other unexplored areas in the valley where rhododendrons are very common and explorations are planned for the future. Of the 38 species of rhododendrons reported from Sikkim (Pradhan et al 2015), we explored 27 species alone from these two trails in Dzongu valley and this includes newly discovered species i.e., *R. mekongense* (Pradhan et al 2015) and some of the unique species like *R. maddenii* and *R. niveum* (Badola and Pradhan 2010, Pradhan et al 2014) which were considered to have localised distribution in Sikkim. The extensive explorations in Dzongu Valley from 2010 to 2015 revealed that rhododendrons not only occupy temperate and alpine forest habitats but also grow in tropical forest.

Rhododendron campylocarpum var. *elatum*

The Tholung – Kishong Trail (approx. 35km) extends from Bey (1750m) to Kishong Lake (4200m) and further to Kishong La (Pass) (5500m) passing through Yajuknamteng and Lama Ongden peaks. The 18km trail from Bey up to Temrong Forest through Tshana, Dumlong Nay, Tholung Monastery, Thyugong Buti Nay and Rinziphrom has a milder climate and the rhododendron diversity up to Tholung Monastery is much lower being represented only by *R. grande* and *R. griffithii* growing in association with *Castanopsis tribuloides*, *Quercus lamellosa*, *Machilus edulis* and other species. The forest in Tholung Valley is very dense, harbouring varieties of birds and animals including the Himalayan Black Bear, Goral, Barking Deer, etc.

The unique features of the Tholung Valley especially at Tholung Monastery, is that one can see the remarkable change in forest type from temperate to sub-alpine to alpine. It is situated at c. 2400m along the Ringpi Chu (River) and is one of the oldest monasteries in Sikkim, built somewhere in the 16th century by Lama Latsun Chembo, one of the three monks who consecrated the first Chogyal (spiritual leader) of Sikkim in 1642AD at Yuksom, the first capital of Sikkim.

R. edgeworthii

The real rhododendron trek begins from Tholung Monastery and continues thereafter up to Kishong La (Pass). *Rhododendron edgeworthii*, one of the most beautiful rhododendron species with fragrant white flushed with pink flowers can be observed growing on boulders on the bank of Ringpi Chu along with an epiphytic rhododendron, *R. lindleyi*, just at the entrance of KNP. The availability of *R. edgeworthii* is patchy and very rare in Sikkim; I could observe merely 10 individuals along this trail in 2010. *R. arboreum*, the most common rhododendron species in Sikkim and other Himalayan regions as well, has very low availability along this trail and can be seen growing in association with *R. griffithianum* and *R. falconeri* between 2600m and 3000m. The variety which we get along this trail is a variety of *R. arboreum* with silvery white colour on the under surface of the leaves, and red flowers, though Sikkim has all the three varieties of *R. arboreum* i.e., var. *arboreum, cinnamomeum* and *roseum*. Above 3000m in Temrong Forest, *R. falconeri* is replaced by *R. hodgsonii* with beautiful pink flowers.

Other rhododendron species growing in the area are *R. campylocarpum*, *R. campylocarpum* var. *elatum*, *R. ciliatum*, *R. glaucophyllum*, *R. niveum*, *R. pendulum*, and *R. thomsonii* in association with *Abies densa* and *Viburnum nervosum*. At Temrong (3300m) in 2010 beside the patrollers' hut, I encountered a few specimens of rhododendron resembling *R. hodgsonii* in tree structure, leaf shape and size, etc. but with pure white flowers, growing with *R. hodgsonii*. I assumed it to be either an albino form of *R. hodgsonii* or *R. decipens*. However, literature revealed that the flower in *R. decipens* is pink which slowly fades out to white and the specimens which I encountered, in no way looked faded. The flowers were fresh and just flushing out of the buds. Very recently, Shri Udai Chandra Pradhan, author of the book 'Sikkim Himalayan Rhododendrons' confirmed it to be the albino form of *R. hodgsonii*, the sighting of which is very rare and I was lucky to be the first to record it in two places in North Sikkim. It was also during the year 2010 that the new population of *R. niveum* (state tree of Sikkim) was found in this area (Badola and Pradhan 2010). Prior to that, it was believed that Yakchey in Lachung Valley in North Sikkim was the only type habitat for *R. niveum*. Another population of *R. niveum* was found along Jhumthul Chu towards Jhumthul Phuk glacier on a subsequent visit to Tholung - Kishong Trail during 2013.

The forest between Temrong and Thijom (c. 3600m) is almost wholly dominated by *Abies densa* and *R. hodgsonii*, though *R. ciliatum*, *R. glaucophyllum*, *R. thomsonii*, *R. campylocarpum*, etc. occur in small numbers at this altitude in open areas. At Thijom, another population of *R.*

R. ciliatum

R. mekongense var. *mekongense*

niveum, in a small patch, was found way back in 2010 (Badola and Pradhan 2010). Above Thijom up to Phyaguteng Cliff, the most common rhododendron species is *R. thomsonii,* bearing maroon and bright red flowers which can be seen growing in association with *Betula utilis* and *Salix* species. Along this trail, crossing the Phyaguteng Cliff is a herculean task due to its steepness as well as ruggedness and the path on the steep rocky slope is very narrow. If one slipped, there would be no second chance!!! Above the cliff, the red and yellow flowers of *R. fulgens* and *R. wightii* make a mesmerizing view which extends up to Tholupe. Just above the Phyaguteng Cliff, in 2010 I observed rhododendrons bearing light pink flowers growing along with *R. fulgens* and *R. wightii*, but due to the inaccessibility of the spot, the species could not be closely monitored and identified and remains a mystery till today; however, the photographic record reveals that it does resemble *R. fulgens* to some extent in appearance, which gives me the feeling that it may be a new variety or a form of *R. fulgens* or perhaps a natural hybrid of *R. fulgens* and *R. wightii*.

Nearing to Tholupe (4000m), *R. anthopogon*, *R. setosum* and *R. campanulatum* ssp. *aeruginosum* (*R. aeruginosum*) appear in association with *R. fulgens* and *R. wightii,* which extend up to Kishong Lake. The dwarf rhododendron species viz. *R. anthopogon*, *R. lepidotum* and *R. setosum* extend beyond Kishong Lake (4200m). The most thrilling experience above this altitude is to evidence the gradual disappearance of the dense scrub of dwarf rhododendrons into the midst of alpine grasses. Only *R. anthopogon* and *R. setosum* thrive above the altitude of 4400m, but the race to reach the highest altitude is finally won by *R. anthopogon*, which can be observed growing up to 5000m along the Tholung – Kishong Trail.

The second trail, the Leek – Panch Pokhari Trail, starts right from Passingdang Village (1000m) and passes via Leek Village, Siran Chok, Kalyok Be, Lum Lahap (Cave) and ends up at Panch Pokhari (4000m). This trail has never been surveyed extensively for rhododendrons nor in terms of biodiversity, though local people trek frequently to Panch Pokhari, as it has cultural and religious significance.

During the recent exploration under the Japanese International Cooperation Agency – funded Sikkim Biodiversity Conservation and Forest Management Project, it was noticed that the rhododendron diversity is much lower along this trail when compared to the Tholung – Kishong Trail. This Leek – Panch Pokhari Trail nevertheless, harbours some of the important rhododendron species, among them *R. argipeplum*, *R. maddenii*, *R. mekongense*, *R. niveum* and *R. pumilum*. Several specimens of *R. maddenii*, which was considered to have localised distribution in the Chungthang area, were found growing profusely on the rocky cliff above 2400m along this trail on the other side of the stream. In 2014, two populations of this species were found in the Dzongu area at an elevation of 750m and 950m. This was the first time this species was reported at such low elevations (Pradhan et al 2014). Now we have six natural populations of *R. maddenii* in Sikkim.

Between 2400m to 2800m elevation, *R. grande* grows as an under-storey tree below the canopy of large tree species like *Quercus lamellosa*, *Castanopsis tribuloides*, *Acer sikkimensis*, *Machilu* sp. etc. and above this altitude up to 3000m, the species can be witnessed growing under *Abies densa*. Some species have very scattered distribution in the area. One example, *R. falconeri*, was encountered below its natural lower elevation

range of 2700m. Similarly *R. barbatum* was found scattered throughout the area between Dara and slightly above Lum Lahap. Along the same trail, an encouraging population of *R. niveum* was found between 2800m and 3000m, on the other side of the slope. The species was growing in association with *R. grande*, which hitherto was seen forming an association with *R. hodgsonii* along the Tholung – Kishong Trail. This increases the number of natural populations of *R. niveum* to five in Sikkim, four inside the KNP.

At 3250m, a second population of *R. mekongense*, a new species recorded for Sikkim (Pradhan et al 2015) was found in the Lum area. The first population was discovered in the Shingba Rhododendron Sanctuary, where the species was in a pathetic condition, which further deteriorated with the recent landside that occurred during the month of May this year; nevertheless, the second population was a bit more encouraging and was found growing profusely in open bouldery slopes along the stream. The trek above Lum Lahap is much easier and diverse in terms of rhododendrons. The most prominent rhododendrons above Lum Lahap are *R. anthopogon* (having yellow flowers), *R. cinnabarinum* var. *blandfordiiflorum*, *R. campanulatum*, *R. campylocarpum*, *R. fulgens*, *R. glaucophyllum*, *R. hodgsonii*, *R. lepidotum*, *R. pumilum*, *R. setosum* and *R. thomsonii*. These species are quite common in Sikkim but some species eg. *R. pumilum*, the dwarfest rhododendron in Sikkim are very rare. *R. pumilum* has been recorded in a few locations like Zemu, Lhonak Valley, Bhirum Lake and Chazhuzuk near Yumthang Valley, all in North Sikkim. However, the species was growing abundantly along this trail between 3500m to 4000m in open areas, though the species extends up to 4500m. The most exciting sight along the Leek – Panch Pokhari Trail was seeing *R. argipeplum*. Although its distribution in Sikkim has been mentioned in some literature, there has been no official record of its existence until now. This is the first time it has been reported in Sikkim from the Dzongu Valley on the basis of an actual field survey. The species was found growing on the ridge along with *R. glaucophyllum*, *R. cinnabarinum* and *R. campyllocarpum* at an elevation of 3700m.

Dzongu offers wide scope for researchers and explorers due to its uniqueness and richness of biodiversity, and for being virgin in terms of biodiversity exploration. Nevertheless, the earthquake of September 2011 has changed the entire scenario. Bey, a small hamlet in upper Dzongu and the entry point for the Tholung – Kishong Trail has been entirely wiped out and is converted into a playground. More than 10 major landslides along the Tholung - Kishong Trail have swept away large tracts of forest, some of

R. pumilum

them having been suitable habitats for important rhododendron species. For example, small populations of *R. edgeworthii* at Tholung Forest and *R. niveum* at Thijom have been swept away by the flash flood caused by torrential rain after the earthquake of September 2011. It was saddening to witness the disappearance of the species from the area in the span of just a few years, when a subsequent visit was made to the area during 2013. Similarly along the Leek – Panch Pokhari Trail huge landslides at about 2900m and 3700m have flushed away the rhododendron habitats.

Further, the availability of *R. griffithianum* in Sikkim is very scarce. I have encountered the species from West Sikkim in KNP, Fambong Lho Wildlife Sanctuary in East Sikkim, Lachung area and the Tholung – Kishong Trail in North Sikkim. The species was found to inhabit the rocky areas but in all of these areas, there were very few individuals. (Between 05–15 only). This is a great cause of concern and if conservation measures are not taken immediately, the species may disappear from its natural habitat. On the other hand, many areas in Dzongu Valley are still unexplored so there is every chance of finding new species or new populations of the rare and threatened species of rhododendrons, as well as other species.

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IN THE FOOTSTEPS OF KINGDON-WARD

PLANT COLLECTING NORTH OF BURMA TRIANGLE WITH JEREMY THOMSON AND SHASHIL DAYAL

Jeremy on a bamboo bridge

Jeremy and Shashil have done a number of plant collecting trips over the years, mainly to North India and China, but since an earlier trip in 1997, they have always had a hankering to visit Burma again – this time to the area near Kingdon Ward's last expedition in the north on the Chinese border known as the Burma Triangle. Pukeiti contributed financially to Kingdon Ward's collecting trips and some of the outstanding plants at Pukeiti including *R. elliottii*, *R.* 'Charisma' and of course *R. protistum* 'Pukeiti' were all grown from seed collected on this expedition.

The anticipation of the trip was high. Considerable time, 18 years in fact, and a change of the government's policies, were needed to secure the appropriate permits, six in all, but this only further stirred the excitement of a great adventure. The glamour of plant collecting, however, is not always what is imagined. On his return home when asked what the highlight of his trip was – Jeremy said, "The return flight home – the expedition had been severely

Arisaema in fruit

mentally and physically challenging"

The pair first flew to Burma via Thailand, then from Rangoon to Mandalay, then Myitkyina and on to Putau (Fort Hertz) in the north of the country where the real adventure was to begin. A known guide, from the previous trip, had been secured and the expedition was in his hands. Surprises were to come. A party of twelve all on motorbikes, Jeremy and Shashil riding pillion along with stores including 50kg of rice, set off for a two day 85km ride to the end of the road. The first day was across a wide plain then through undulating and hillier country, forest clad with occasional villages near rivers, and subsistence farms cleared from the jungle. The road soon became rougher – the only vehicles using it were small motorbikes. The tropical jungle had a dense understory of bamboo thickets which have been cleared and burned for centuries by the local tribes of shifting cultivators. The land is cropped for two or three years before the fertility is exhausted and weeds take over, soon to become jungle again. Life is incredibly hard with most cropping – maize and dry land rice grown on precipitous slopes – cultivated and harvested by hand.

Public rest houses were scattered along the route and it was in these that the party slept on mats around

Farm Shelter

Hiking along the Tamai River

Jeremy with *R. protistum* leaves

a fire in the middle of the room, spending the night before the next step of the journey on foot.

The first day the path took them up and down steep terrain through dense regenerating forest, the occasional arisaemas adding a bit of interest, and basically following the Tamai River, a turbulent tributary of the Irrawaddy. The river was crossed many times over rattan cane and bamboo bridges suspended, in places, 12m above the river. Some of the bridges, one 160m long, had been upgraded with steel cables which were carried in on the backs of the local people, sometimes a ten day journey. On one of the bridges disaster was averted by Shashil's pack which caught on the bamboo decking as he fell through the flimsy structure, the river roaring below. After 8 days walking they reached the village of Hktalahtu, the last in Burma before reaching the Chinese Border. The area has never been botanised before, but a British survey party had visited in the 1920s and their campsite had been marked by a cross. The isolated village had no radio, telephones, nor vehicle access and the children walked 8-10 days to school staying with relatives on the way to and from the village. Made welcome, the intrepid pair were introduced to two brothers who were to guide them for the rest of the trip into Dagongmae National Park which has at its centre the mountain Kahkabo Razi (5881m) which was first climbed only 20

Crossing a bridge reinforced with steel cables

Porters cooking dinner

R. chamaethomsonii

R. mallotum

years ago. The brother's families had 'owned' the area for generations. Rhododendron country beckoned.

The path to the first camp (tents from now on) was seemingly a vertical climb of over 1000m. The evergreen mixed forest was still dense - a sea of mainly unknown plants - but then scattered along the track the large-leafed *R. protistum* with leaves often nearly 30cm long lifted flagging spirits. *Magnolia rostrata* was also identified. After a sleep and a good breakfast another 1000m climb began. The porters meanwhile broke camp, passed at pace the plant hunters, and were off to set up the next camp. Plants of interest started grabbing attention, among them a couple of arisaemas, one *A. dahaihense*, and the dainty white flowers of *Streptopus* sp. hanging on the underside of the stem. Large trees lined the track and growing epiphytically on their extended branches were *R. edgeworthii* and the yellow flowered *R. seingkuense*, both in bloom. *R. rude (glischrum)*, *R. megeratum*, and *R crinigerum* were also found. At the camp site the tantalising new growth of *R. exasperatum* (but without flowers) was a welcome sight.

Celebrations were in order and in their tent that evening a bottle of Church Road Cab. Merlot was cracked and enjoyed. Spirits were high – the goal set in 1997 was near at hand.

The tramp to Camp 3 at 4,000m was along a wide ridge through Picea and Abies forests and breaks of gnarled 10m rhododendrons, many of which were in flower. Mist enveloped the scene, the leaves dripped with water, and moss covered logs, a metre high, criss-crossed the almost indiscernible path. The rhododendrons, among them – *R. arizelum, R. grande, R. cerasinum*, and *R. eclecteum* provided the stimulus to continue. Snow now covered the path, mist swirled, darkness loomed and the footsteps of the porters (they had gone on ahead) which were being followed, became less and less obvious and the feeling of being lost was descending. Luckily the guides returned. It had been a tough day but making the excruciating climb worthwhile was walking through the cover of rhododendrons including a patch of *R. mallotum* on arrival at the camp site.

Three nights were spent in this camp, sited on a small plateau with valleys running down each side, and with the surrounding ridges clothed in pure rhododendrons.

Water for the camp had to be carried from a small lake 400m below the camp – a big task for the cooks. The sky was cloudy the whole time with no sign of Kahkabo Razi, the highest peak in Burma only 30km away. Glaciers in the clouds feed the Tamai River. There were plenty of other points of interest – glaciated valleys, tarns and snow covered upper slopes, and not a human in sight. One of the guides trapped a brace of pheasants which added interest and flavour to the usually plain rice-centred diet. The porters also collected *Fritillaria royallii* and *Cordyceps sinensis* which were to be sold to Chinese traders for medicinal purposes – a century's old activity. The area was until 20 years ago a summer grazing ground for yaks and sheep brought over the mountain passes by their Tibetan owners. How they found their way to the mountain pastures is a mystery.

The rhododendrons and alpine plants were amazing. but one cannot experience the flowering season in just a few days. Primulas, lillies and other herbacious plants were only just emerging as the snow was receding. We will never know what treasures were missed. The reds of *R. chamaethomsonii* and *R. forrestii* var. *repens* brightened the scene and patches of *R. eclecteum*, *R. campylocarpum* and *R. campylogynum* amongst other alpine plants all added to the appeal of the area. However after two days all were pleased to begin the return journey.

The three-day ascent up the mountain from Hktalahtu became a one-day dash down, through rotting logs and rhododendron leaves, thick evergreen forest and bamboo breaks, then another 10 days retracing their steps, along the roaring river and across bamboo bridges. On the last day of walking a chance meeting happened with a couple of motorcyclists, who

R. rude (glischrum)

R crinigerum

R. arizelum

had delivered rice and beer up the rough track to outlying settlements. For $2 each and the present of Jeremy's walking stick, they carried Jeremy and Shashil, jubilant and smiling, past the porters, back to a bar and shop, primitive, but it was paradise. The monsoon was arriving, bridges were washed out, and landslides meant that the motorbikes for the final two days journey were often carried!

After an epic trip of 24 days from Putao and back, the flight to civilization could not come quickly enough. Every day of the return trek from Hktalahtu was a count down for civilization. Leach, midge and flea bites could be attended to, the lost big toe nail dressed, clean clothes found and best of all a vigorous scrub under a long hot shower and a cold beer could be had. From Putao they flew back to Myitkyina, Mandalay, Rangoon and on to Bangkok where three nights were spent cleaning seeds. Sixty-three packets were prepared, identified and subjected to scrutiny by customs and MPI officials after being declared in Auckland. They were then treated and eventually arrived in New Plymouth for distribution and propagation. A long process is still needed before the plants collected and propagated can be enjoyed and the gene pool of species in New Zealand enhanced.

Was the expedition worth the effort? – Too right!! It was a unique opportunity to explore a largely unmodified landscape where westerners had not been since the 1920s, to meet tribal people, who having been affected by Christian missionary activities for 50 years, are still in tune with their environment. Drastic change is under way however, with Chinese exploitation of the forests and rich minerals of Burma, and modern communication tools sweeping this distant world.

One of the many mountain lakes

Rhodiola crenulata

R. forrestii var. *repens*

Shashil and Jeremy with their saviour motorcycle riders

PUKEITI DRESSED FOR SPRING


8


9

1. *R.* 'Rubicon'
2. *R.* 'Solent Queen'
3. *R.* 'Yellow Rolls Royce'
4. Pukeiti Lawn
5. *R. xanthostephanum*
6. *R.* large leaf hybrid
7. *R. formosum*
8. *R.* 'Pania'
9. *R.* 'Loderii King George' on the track to Stead Block
10. *R.* 'Coronation Day'
11. The Hybrid Block


10


11

BRAIN AS WELL AS BEAUTY
ACCURATE RECORDS VITAL FOR PUKEITI

Lara Coxhead

R. grande

Knowing exactly what plants we have at Pukeiti means the difference between an attractive garden and an important collection.

Pukeiti has had many different systems of keeping records over the years. In the early days, planting books were added to as plants were put into the ground. These books have quite severe limitations, the most significant being that to look up a plant you need to have an idea of when it was planted.

When Graham Smith started working here in 1968, he set about keeping more useable records. He started the card files which have been very useful in the quest to build up a complete picture of the plants at Pukeiti. The cards have some big advantages over the planting books in that the plants are filed alphabetically and can be updated as plants get moved or die. The cards are also easily swapped around if names get changed. However, they also have limitations. If a plant name changes and you look under the old name, you won't find anything. The cards tend to become confusing as alterations are made when plants are shifted or names change. Also, records were kept only for the rhododendrons (except azaleas) and no other plants.

I started working here in 2010 and did an 'Introduction to BG Base' course soon afterwards. I began the task of documenting the collection in 2012 and worked my way systematically around each garden bed, writing down every plant. It took about one year of working on it several days per week, with expert help as required, to get right around the garden.

I decided to enter the data onto an Excel spreadsheet before entering it into BG Base so I could keep track of the information as I researched planting dates and verified the names. This spreadsheet ended up with 3291 rows and 35 columns. It can easily be arranged by alphabetical order, the sequence of each plant in the garden, or by any of the variables that I have noted down such as planting date. For a smaller garden or some sort of collection which doesn't change much, I would highly recommend using a spreadsheet for this purpose. Disadvantages include the possibility of accidentally making large alterations, thereby destroying a lot of work. Also, I have about as many columns as is practical. Any more and the spreadsheet will become too cumbersome to work

R. burmanicum

with. This means it's difficult to add new information without losing some of the history of the plants. I am also using an Excel spreadsheet to keep track of all the plants in the Pukeiti nursery, which is working well.

For a collection of this size, a dedicated plant database is really vital. Many different sorts of databases are available but with plants growing, dying, spreading and being moved, a database designed by plants-people is by far the best way to go. The plant database we are using is called BG Base. It was first available in the late 1980s and had 14 users in 1988. Edinburgh Botanic Garden installed the system in 1990. It is the most widely used plant database in the world and is currently used by at least 190 institutions, including botanic gardens, arboreta, university campuses, herbaria, museums, conservation organisations, horticultural societies, private estates, zoos, and cemeteries.

The database has a field for everything you could wish to know about a plant and you can search for any criteria you need to know about. If you search for a plant under an old name, it will immediately direct you to the new name. Every time a plant is checked or moved, a new row can be added to the entry so you can see the history of each plant. This can include previous positions in the garden and current and previous conditions. It's basically impossible to accidentally make changes.

I've now been working on this project for about three years and have attached accession tags to about 85% of the plants in the garden. The feedback from both staff and visitors has been extremely positive, with people generally being able to locate the labels reasonably easily. As I attach the accession tags I am also updating the condition of each plant, so we are developing a real picture of what we have here. I can search by fields such as condition eg. 'list plants with condition = poor'. Being able to quickly access this sort of information is a huge advantage in the management of the garden and planning the future of the collection.

R. macabeanum

The next stage is to add more depth to the information by researching wild collection details, and adding more photos, cultivation requirements and so on. Within the next year we should be ready to make the plant records available to the public via a website and at plant-hunters' stations at Pukeiti.

Lara Coxhead is employed by Taranaki Regonal Council as Plant Collections Officer for Pukeiti.

Pink and white specimens *of R. formosum*

RHODODENDRON NUTTALLII
AN ICONIC PUKEITI PLANT

Andrew Brooker

R. nuttallii at Pukeiti

Of the various Sections and Subsections of the Genus *Rhododendron* growing today, one of the most successful is the Maddenia group. Taranaki's warm climate and reliable rainfall create just the right conditions for these plants to thrive.

Notable among the Maddenia is the species *nuttallii*. These plants are easily recognized by their huge and distinctly wrinkled leaves, covered with thick bronzy scales and large trumpet like flowers. Other outstanding features are the reddish – purple new growth and the deep brown paper thin bark. Their native range covers Bhutan, Aranachal Pradesh, North West Yunnan and South East Tibet at elevations of 1100 – 3700m. So *R. nuttallii* enjoys a reasonably temperate climate making Pukeiti its ideal home in New Zealand. Its wide natural spread also means its forms vary, with some hardier than others. This makes it a very exciting species for plant hunters, growers and hybridizers alike.

The first *R. nuttallii* introduced into the Pukeiti collection, via plants and seed, were gifted from Pukekura Park in New Plymouth and other benefactors in 1955, with the very first accessions planted out soon after in what quickly became known as the Nuttallii Bank on the Rowe Walk. Over the years other accessions followed, with 16 different introductions into the garden. While not all were successful the database records show successful plantings of both *R. nuttallii* and *sinonuttallii* in 1988, 1991, 1998 and 2014. Some were introduced as completely new material and others were from plants propagated on site as part of the collection management.

The latest introductions in 2014 were grown from wild collected seed acquired for the garden in 2002. This seed was collected by Peter Cox of Glendoick Gardens in Scotland while plant hunting in Aranachal Pradesh, North East India. We sowed the seed, along with other accessions from his collecting in 2002, and produced a good number of vigorous plants which can be seen flowering from November on the Richardson Walk. Pukeiti also has successful wild sourced introductions from plant hunting expeditions to Yunnan in China as well as Vietnam.

Fortunately we find few pest and disease problems trouble our *nuttallii*, save for the occasional visit by native boring insects and black vine weevil damage to the new growth. Phytophthora can be an issue but with careful site selection and preparation the susceptibility can be somewhat reduced.

R. nuttallii will continue to have a secure future within the rhododendron collection at Pukeiti, and with continuing successful wild sourced introductions we are steadily improving the genetic diversity of this species. This in turn will enable us to collect seed from controlled pollination of our own plants, and the opportunity to grow a healthy future for these great plants for years to come.

Andrew Brooker
Gardens Manager Pukeiti

R. nuttallii

New leaves emerge on *R. nuttallii*

THE COLLECTION STRATEGY
A LIVELY DISCUSSION

Andrew Brooker

The Collection Strategy is a living document designed to give very clear guidelines for the management and growth of the rhododendron collection at Pukeiti. By combining this with the report on the present rhododendron collection as it stands today – its health and the ICUN Red List vulnerability of our species rhododendrons, we have a very good understanding of just how special, and important, our collection is.

Earlier this year, on June 10 a meeting of the Garden Forum was held at Pukeiti to discuss these two documents and clearly establish the way forward for the collection. Present were the Regional Gardens Manager's team of Greg Rine, Andrew Brooker, Mitch Graham and Sandy How, as well as Lara Coxhead and members of the Pukeiti Rhododendron Trust – Lynn Bublitz, Graham Smith, Alan Jellyman, Doug Thomson and Marion MacKay.

The two key questions for the day, asked by Marion and Doug were;

1. What is the level of recording, and how is this stored and protected?
2. How the preferred species target list would be used to grow the collection as a part of ex situ conservation?

To answer the first, our Collections Officer, Lara Coxhead, was asked to update all present on her work with mapping the collection, along with the other plants present in the garden. She outlined the type of accession labels we used, and the methodology adopted for their placement on the plants. Also highlighted was the need to share the methodology with the entire Regional Gardens' team to ensure that when individual plants were being worked on these labels did not become lost or damaged.

Lara also outlined the fieldwork undertaken to confirm not only the accuracy of the plant names but also plant locations in the garden. This Important work was ably assisted by Graham Smith and Andrew Brooker who both gave Lara valuable information about plant identification, source origin notes and planting dates.

To answer the second question an open discussion helped form the opinion that the key Subsections for the garden are Maddenia, Falconera, Grandia, Arborea and Vireya as these have been proven to be successful at Pukeiti, and whilst we have a good representation of Rhododendron Subsections within the garden it was felt that we needed to play to our strengths and pursue those which we do well.

Other Subsections, in particular Irrorata and Tsutsusi which have done well from the various wild sourced collections that the Trust subscribed to in the early part of Pukeiti's history will also be considered. But it was commonly agreed that there was limited value in targeting species which did not thrive at Pukeiti and that these would be better grown elsewhere.

To achieve the best outcomes for the collection we will be predominantly focusing on wild collected seed sources and are using a variety of seed distribution lists to this end. Currently there is a standing order with Bremen Botanical Garden for Maddenia and likewise with the Rhododendron Species Foundation for Grandia and Falconera. We were fortunate in the last year to have hosted both Hartwig Schepker, the Director of the Bremen Botanical Garden, and Steve Hootman, Curator of the Rhododendron Species Foundation, at Pukeiti and to show them what we do in the garden. This gave both men an understanding of both our strengths and desires for the future of the collection. Other seed lists which are used include the RHS Rhododendron, Camellia and Magnolia annual list and the American Rhododendron Society lists. We are also keen to exchange material with botanical institutions and other gardens whenever possible, which not only allows us to grow our collection but assist others around New Zealand.

Concern was raised at the use of written notes only in the nursery to record new introductions (seed, cuttings) and not allocating an accession number until such time as they were viable plants. It was Graham's contention that this should be done as soon as the material entered the nursery system.

Lara responded that the nursery records are now in the process of being incorporated into a spread sheet and that in time, should we adopt the propagule module, would be transferred into BG Base. She has started placing accession tags in the nursery as part of her work. It was pointed out that all electronic records are stored on a central server in Stratford at the TRC main office and this is a secure system.

There were some questions regarding the conservation of New Zealand hybrid material within the collection and the perceived way forward for this, in particular the amount of unregistered material available both from within the garden at present and from around New Zealand. As no clear outcome was arrived at, and keeping a pragmatic view, it was felt that whilst these plants are of some merit it was not our role necessarily to grow a full representation here, or to look at registering them. The hybrid collection is of a strong amenity importance and we should continue to strive to display good plants to their best advantage, and some of the material in question may no longer meet with the standards set down in the Collection Strategy or the expectation of the visitor.

The following action steps from our meeting have been taken since June as we strive to fine tune processes both in the garden and the nursery for the good of the collection;

1. To incorporate the IUCN status with the records kept in BG Base
2. To continue with the record keeping in the nursery, but ensure the electronic copies are all up to date
3. To investigate which is the best method for recording new material in the nursery.

These actions will help ensure that our collections are conserved and enhanced.

R. 'Charlotte de Rothschild'

1. R. 'Kisses', 2. *R.* 'Hot Tropic', 3. *R.* 'Rob's Favourite' are all vireya hybrids raised by Os Blumhardt.

RHODODENDRONS IN NORTHLAND

Kate Ballard

Diversity is the word I think best describes Northland. There is a very diverse human population but what we are interested in here are gardening conditions which are affected by geology, topography, climate and proximity to the coast. While Northland can be termed sub-tropical, a surprising area is subjected to relatively heavy frosts. Those narrow, steep-sided valleys jammed in between the many ranges and high hills covered in dense temperate rainforest, are all bitingly cold in winter. The rainfall is extreme too with some areas drought prone and exposed to drying winds while others receive very heavy rain dumps especially when a tropical cyclone tracks south to hit Northland, usually in the summer months. The geology and therefore the soils are the most complex in New Zealand, which is saying a lot. It is much for any gardener to contend with, especially when growing rhododendrons which do like an equable climate and free draining soils.

Vireyas are the logical choice for Northland rhododendron enthusiasts but, beautiful as they are, they can be infuriatingly frustrating garden plants. Even on free draining, frost free sites old plants which have flowered profusely for many years will suddenly die off. The tell-tale signs of slightly limp, yellowing leaves are all too obvious to experienced growers. Nursing and cosseting is useless. You might as well pull them out immediately and start again. The cause is usually a soil borne phytophthera to which the plant has become susceptible through some climatic event, probably a too rapid change between drought and flood. A summer spray with a phosphoric acid based fungicide can help prevent this scourge. The most important requirements are good drainage, shelter from heavy frosts, good light and even full sun, which promotes compact plants and good flowering. Some flowers scorch badly in full sun especially afternoon sun. Regular feeding with slow release fertiliser will be rewarded with healthy growth and frequent flowering. Many vireyas in their native environment are epiphytic or pioneer species. Pruning young plants is well worthwhile. Removing single new growths when small promotes multiple shoots, leading to a bushy plant and many more flower heads. Some varieties are naturally bushy but the majority definitely benefit from this early training.

Plant Zone Nursery in Kerikeri produces large quantities of vireya plants which are sold in garden centres throughout the North Island. The proprietors, Tim and Yuan Edgecombe, bought John Kenyon's vireya stock plants in 2007. Tim says he is unlikely to start hybridising himself and this underlies the fact that very little if any new hybrids are appearing in the market place at the moment. The glory days of Os Blumhardt, Jurys, Kenyon, and many amateurs producing exciting new varieties every year have disappeared. Tim sees a demand from the public for new varieties with large, scented flowers with full trusses. The existing large flowered varieties are slow growing and difficult. Better short, bushy yellows and wine colours are in demand. 'Merlot' is a good cerise colour and very popular but a difficult plant. 'Plum Drops' and 'Plum Pudding' are close to 'Merlot' in colour but much better plants. There may be new varieties becoming available soon as he assesses seedlings from both John Kenyon and Richard Caughey.

Os Blumhardt was interested in the ploidy of rhododendrons and talked about breeding triploid vireyas, which being infertile, would set no seed. There is no doubt removing seed heads is laborious but does lead to better growth and flowering.

Vireyas fit well into the subtropical garden design. Flowering time tends to be erratic which means you can't plan a major display of colour to coincide with other flowering plants at set times of the year. Their most floriferous time is spring and autumn/winter but at any time of the year you can find some in flower. This means that you have to be careful with your companion planting. Vireyas do look good with other subtropical plants whose strong textures and bold foliage are enlivened by the bright splashes of rhododendron flowers.

I would start a collection with a few small-flowered, reliable growers which bloom almost continuously. The species *R. macgregoriae* and *R. rarilepidotum* and hybrids like 'Red Mountain', 'Saxon Blush', 'Saxon Glow', 'First Light', 'Dawn Chorus', 'Arthur's Choice' and the scented white 'Aravir', some of which are

macgregoriae hybrids, will give a good colour range with which to start.

As mentioned by Lynn Bublitz (Ref: The New Zealand Rhododendron Vol. Two) Eden Garden in Auckland grows vireyas extremely well. The plants are all labelled, making it a great place to decide on purchases. The Whangarei Quarry Garden has a smaller collection, unlabelled. At the moment this garden is accumulating a large collection of scented camellias bred by the local, late Jim Finlay. How fantastic it would be if they established a vireya collection. It would be a great resource for Northland horticulture and a fitting tribute to Os Blumhardt.

The history of the discovery, collecting and hybridising of vireyas in fairly recent times is fascinating and can't be told, both from the New Zealand perceptive and internationally, without reference to Northland's Os Blumhardt. Members of the Rhododendron Association and the Camellia Society have told me of the excitement when Os arrived with a van full of plants to their various meetings and conferences. There was always something new, unique. Os was a pioneer hybridiser of this branch of the rhododendron family. His Koromiko Nursery on the outskirts of Whangarei was and is a plant museum and his private research centre for discovering the secrets of propagating and hybridising these newly collected beauties. The scope of his plant collecting trips can be realised by the plants he collected in PNG in 1986.

Conventional rhododendrons grown with such success elsewhere in New Zealand are mostly not at home in Northland. The temperatures are too high for good flowering and pests like thrips are troublesome. Having said that driving around central Whangarei in the rhododendron season you will see many old bushes covered in flower growing totally exposed in the middle of front lawns proving that by careful selection of varieties with good indumentum to resist thrips and the parentage of species from warmer climates like the *maddenii* ssp. *polyandra* hybrids it is possible to grow good conventional rhododendrons in the North.

Here is a list of successful varieties grown at frost free Koromiko Nursery and at Nymet, the garden of Colin and Jean Sanders on the outskirts of Whangarei where they get quite heavy frosts.

'President Rooseveldt', 'Mrs George Huthnance', 'Jury's Ruby', 'Griergrande', 'Bernice', 'Barbara Jury', 'Rubicon', 'Everglow', 'Hydon Hunter', 'Bumblebee', 'Scented Rebel', 'Noyo Brave', 'Waipua', 'Hot Flash', 'Floral Sun', 'Lavender Girl', 'Kaponga', 'Percy Wiseman', 'Saffron Queen', 'Sneezy', 'Grumpy', 'Michael's Pride', 'Norrie King', 'Mt Everest', 'Sappho', 'Blue River', 'Taurus' and 'Van Ness Sensation'.

Plant Zone, at Kerikeri, recommend and sell: 'Lem's Monarch', 'Kaka', 'Kaponga', 'Robert Peel' and 'Pink Pearl'.

Os had plans for conventional rhododendron hybridising which were unfortunately cut short by his unexpected death in 2004. He had planned a hybridising programme to produce plants which would thrive north of the Bombay Hills, where the bulk of New Zealanders live. In the NZRA Bulletins 2002 and 2003 he published in two parts these plans titled '*Breeding Commercial Rhododendrons for a Mild Climate*'.

List of PNG collected plants surviving at Koromiko in 1987.
(Ref: Graham Smith letters 29th June 1987)

Rhododendrons:

R. christii, saxifragoides, rubiniflorum, leptanthum, gracilentum, herzogii (4 different), *beyerinekianum, culminicolum x dielsianum, macgregorii x commonae, macgregorii x beyerinekianum, macgregorii x dielsianum, commonae, pleianthum, birat, rarum, caliginis, caliginis hybrid, superbum, phaeochitum, stevensianum* hybrid, *atropurpurea, womserley, gaultherifolium*.

Others
6 Dimorphanthera, 2 Clematis, 3 Aeschynanthus, 2 Pandanus, 2 Libertia, Astilbe, 2 Viola, 3 Gingers, Tecomanthe, Gaultheria, Papuacedrus, 2 Podocarpus, 6 Dacrycarpus, Metersideros, Drimys, Pittosporum, Cordyline, yellow myrtle, Damaropsis, Helichrysum.

Orchids.
Not listed but 'mostly doing well'

Those articles are re-printed in his biography *'Oswald Blumhardt – New Zealand Plant Pioneer'*. Some of the seedlings from this work were already flowering when he died. There are still about 100 seedling plants at the nursery waiting to be trialled.

A desire for diversity in garden design always leads gardeners towards anything that is unusual, striking, difficult or experimental. Introducing rhododendrons into 'The Subtropical Garden' design adds another dimension. Spring is not a good time in these gardens. Plants like hibiscus, which flower well into winter, sulk from then on until after Christmas when the soil temperatures rise again. Rhododendrons are an excellent addition to extend the colourful display. We are fortunate in Northland to be able to successfully grow a huge range of plants. I see no point in limiting the choice of plants because of some artificial garden design constraint which says hibiscus, palms, bromeliads do not 'go' with rhododendrons. Let's give it a go! It might turn out to be the most exciting garden you have ever seen and Os's dream of rhododendrons growing in every garden North of the Bombay Hills may yet come to pass.

R. veitchianum: seeds from which this plant was grown were collected by Os Blumhardt in Thailand.

AN EVOLVING INTEREST WOODBURY GARDEN

Joy O'Keefe

Joy and Bernie O'Keefe

For the first few years of married life it was New Zealand native plants that took our interest, but that soon changed.

In the early 1970s my husband Bernie was teaching at a small country school, Gray's Corner, in the district of Waimate, South Canterbury. I often admired the garden across the road from the school and felt honoured when the owner, Mrs. Marion McFarlane invited me into her garden. I very quickly realised I was in the company of a very knowledgeable and inspirational plants-woman. It was the height of spring. Of all the interesting plants Mrs. McFarlane talked about it was the rhododendrons that left a lasting impression on me.

Three years later we purchased a farm at Blackwater on the West Coast and this was our first opportunity to establish an extensive garden. We brought with us four rhododendrons two of which were *R.* 'Alice' and *R.* 'Unknown Warrior'. All four were squeezed into a wardrobe to be transported and all four thrived in a 203cm average rainfall and well drained river silt. Once established we became keen to try propagating. Realising our supply of stock plants was very limited we decided to move the fence and purchase 100 different varieties, mainly hybrids.

Reading and experimentation got us underway with propagating. Further advice was given by the late Ron Coker and Bert Bevan, both very experienced propagators of rhododendrons. Over the next few years propagating and raising rhododendrons was really just a hobby, an escape from a busy farming life and teaching.

Time came to sell the farm and move back to South Canterbury. Our rhododendrons came with us.

Two furniture vans and trailers were loaded with plants and hauled "over the hill" to Woodbury. This was late November. Bernie loaded them at Blackwater and our son and I unloaded and planted at Woodbury on a hot 36˚C day. Fortunately a good watering system was in place and only two rhododendrons failed to survive. We learned later residual spray had been used where these were planted.

Our long term plan was to establish a rhododendron nursery. This happened far sooner than anticipated. Six months after our shift the Singing Hills Rhododendron Nursery at Roa, West Coast, came up for tender. Our tender was accepted and suddenly we had 3000 potted plants on our hands. Shade houses were built and Woodbury Rhododendrons was in business.

It was two years later when we built a new house that the development of our garden began. Previously this site had been an orchard. Existing shelter belts and a large pond used for irrigation, proved invaluable for establishing a new garden. The area around the house was first to be planted. We planned an extensive lawn in the front of the house and deep borders with curved edges around the perimeter. A row of *Prunus* 'Accolade' was planted along the driveway and then the rhododendrons from our Coast garden were on the move again. I focused on colour co-ordination which generally worked well. However one mistake annoys me to this day. Why would I place *R. argyrophyllum* with yellows and apricots?

Knowing *R.* 'Mi Amor' and *R.* 'Lady Dorothy Ella' were frost tender we planted these against the house for protection. Every year they produced delicious buds like inverted ice cream cones but every year they failed to flower. Bernie built frames around the plants and covered them with frost cloth but still the buds frosted. To avoid further disappointment we moved them to an elevated area, under trees behind the pond. Here they have bloomed well. It will be interesting to see what effect our exceptionally hard frosts this year have had on delicate buds. Having found this area of the garden suitable for the tender and early flowering rhododendrons further plantings followed, including *R. moupinense*, several *R. arboreum*, *R.* 'September Snow', Tom Garbutt's *R. edgeworthii x nuttallii* Stellata Form to name a few.

It soon became obvious we had not allowed sufficient space to accommodate all the plants from the West Coast, so two openings were made in what was to be the boundary fence and a further half-acre of paddock was developed. Bernie mowed the paddock then said, "Come on, where do you want these gardens?" I said, "Follow me", which he did with a dazzler spray can outlining the beds. Large beds with wide grass paths were formed. Areas to be planted were sprayed with Roundup three times before planting began. One large existing willow tree provided shade, but not enough, so six

1. *R.* 'Janet'
2. Tulips - Woodbury driveway
3. *R.* 'Woodbury Tropicana'
4. *R.* 'Karen Triplet'
5. *R.* 'Dan Carter'
6. *R. edgeworthii*
7. Primulas at Woodbury
8. *R.* 'Woodbury Orchid'
9. *R.* Woodbury Green Eyes'
10. *R.* 'Joy Bells'


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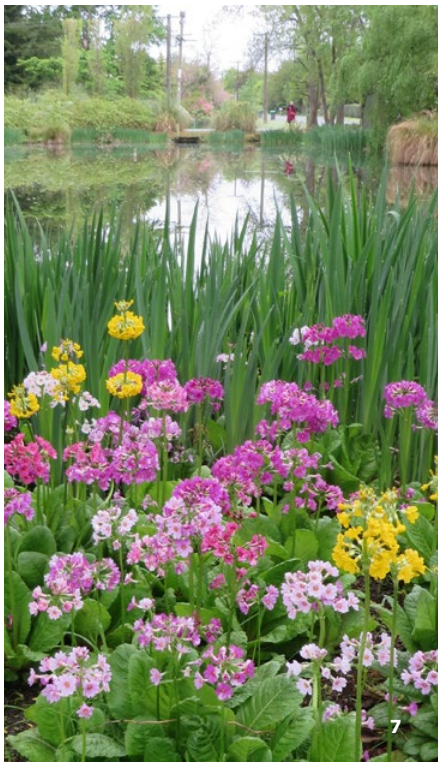
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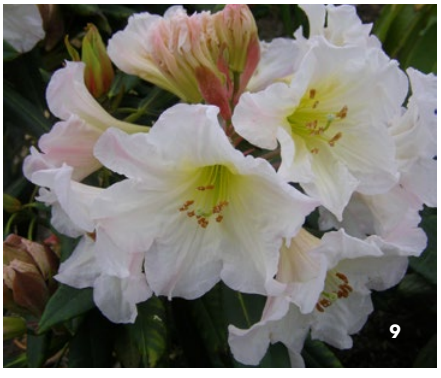
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R. 'Bernie's Joy'

Salix daphnoides were moved from the back paddock and planted around the perimeter to form temporary shelter. Some of the ornamental trees planted were *Acer platanoides* 'Drummondii', *Acer griseum*, *Cornus kousa* 'Satomi', *Cornus kousa* 'China National', *Prunus* 'Pink Perfection', *Prunus* 'Ukon', and *Sorbus aria* 'Lutescens' (recently removed because of fire blight).

Various edging plants were used to define the design lines. Those that have been particularly successful are *Anaphalis margaritacea*, *Alchemilla mollis*, *Geum coccineum*. Group plantings of *Heuchera* 'Lime Marmalade' stand out in shaded areas where as the purple leafed *Heuchera* 'Palace Purple' is used effectively in sunny positions. Hostas, primulas and irises surround the pond.

Over recent years we have built up several special collections of rhododendrons, a result of various enthusiasts asking us to take cuttings to ensure the survival of the plants. The first of these to be planted were the hybrids raised by the late Gwen and Lachie Grant. This collection is made up of their registered plants *R.* 'Glenfiddick', *R.* 'Gwen Grant', *R.* 'Orchard Road', *R.* 'Orchard Gold', *R.* 'Olwen's Dream' and *R.* 'Kapunitiki' plus some unregistered but beautiful hybrids.

Another collection we treasure is the hybrids raised by Tom Garbutt. Tom has been a great mentor to us and we are fortunate to have all his hybrids including *R.* 'Dan Carter' (not an easy one to propagate).

Those who attended the 2006 NZRA Conference based in Greymouth will recall visiting Helen Love's amazing garden 'Seaforth' overlooking Hokitika. While farming at Kokatahi Helen's neighbour raised rhododendrons from seed he had collected from the Singing Hills garden at Roa. Helen bought a number of these seedlings, planting them at 'Seaforth', several of which turned out to be most attractive. We now have a group planting of these, all unregistered at this stage.

Other collections include plants grown from cuttings taken in what was originally the late Anne Pinney's garden at Peel Forest. Many years ago a well known Timaru apiarist, Robert Davidson, raised several *R. decorum* seedlings which were found to be very drought resistant, making them most suitable for our Canterbury climate. Colours vary from soft apricots and yellows to pastel pinks. Our planting of these is still in the early stages but is another interesting collection to treasure.

Over the last few years Bernie has gained much pleasure from trying his hand at hybridising rhododendrons. An area of our garden is now dedicated to his hybrids. From his early efforts two in particular have been considered worthy of registering, one a beautiful geranium red, an *R.* 'Kilamanjaro' x (yet to be named) and the other, an *R.* 'White Waves' seedling to be named *R.* 'Bernie's Joy'.

Through rhododendrons we have met so many interesting people and travelled to amazing places around the world - our tour with the Puketiti Trust to Yunnan in 2012 being one of the best.

Joy O'Keefe

DUNEDIN WELL PLACED TO PLAY A SIGNIFICANT CONSERVATION ROLE

Doug Thomson

R. macabeanum

It has been said that New Zealand has more rhododendron enthusiasts per head of population than any other country. Given the range of species that can be grown across New Zealand that may well be true.

The New Zealand Rhododendron Association website lists nine regional rhododendron groups from Southland to Auckland. Invercargill's latitude is 46.24 S whilst that of Auckland is 36.52 S, so between its most southerly temperate and most northerly subtropical main centres, New Zealand can grow a range of rhododendrons from the hardiest alpine species to the tender sub-tropical vireyas.

Dunedin, of course, is towards the hardy southern end of this spectrum. Vireyas are not really an outdoor option in Dunedin unless you are prepared to have frost cloth at the ready and still be prepared to lose most of your collection every few years to the occasional harsh winter. However, Dunedin does feature a relatively mild oceanic climate, moderated by the circle of hills sheltering the inner city and also by hills to the west which often divert cold, rain-bearing fronts around to the west.

As some of our incredulous overseas visitors to last year's International Rhododendron Conference discovered, a Dunedin spring can feature the classic "four seasons in one day", with rain turning to snow and then to bright sunshine. From November to April it is generally settled and mild. Although temperatures can occasionally reach over 30 °C during summer, that does not occur regularly enough to prevent Dunedin gardeners growing species from the cooler wetter areas of Myanmar and the Himalayas.

The average temperature highs for December, January and February in Dunedin are 17.3, 18.9 and 18.6 respectively and the average winter lows through June, July and August are 4.0, 3.1 and 4.2. This winter has been colder than we have been used to over the last few years, with night-time lows often hovering between 2˚ and -2˚ with three consecutive nights in June dropping to -5˚ and -6˚ degrees. Although these lower temperatures can damage buds and the resulting new growth, their occurrence is minimal over the long term and plants recover largely undaunted. *(ref. Wikipedia)*

Compared to the wetter regions of the world where many species occur naturally and which can receive between 2.5 and 5.0m of rain per annum, Dunedin has relatively low rainfall with an average annual rainfall of only 750mm, however, that rain is fairly evenly spread throughout the year helping keep plant growth fresh. Dunedin is also one of the cloudiest main centres in the country, recording approximately 1650 hours of bright sunshine per annum, compared with 2070.2 hours in Christchurch, 2058.7 hours in Wellington and 2003.1 hours in Auckland. So although rainfall is quite low, there is also greater protection from desiccation by cloud cover.

When we consider the environmental requirements of rhododendrons we can start to see why the Dunedin climate is so well suited to growing them.

In any region the climatic limitations on the range of species that can be grown long term are:

1. Minimal likelihood of hard frosts when buds are beginning to move.
2. Minimal likelihood of late frosts once new growth has emerged.

R. sperabile var. *sperabile*

R. genestierianum

3. Minimal prolonged dry spells that require extra water.
4. Minimal chance of excessive temperature rises above 32˚C *(Cox; The Larger Rhododendron Species pp 46-50)*.

Dunedin's climate matches these requirements well. Although there are occasional extremes, as is to be expected, Dunedin is cool enough to successfully grow alpine species from Subsection Lapponica, yet still mild enough to grow more tender temperate rain forest species from Subsections Falconera, Grandia and Maddenia.

Consequently Dunedin is able to cater for a wide range of species. The rhododendron collection at Dunedin Botanic Garden now contains 128 species representing 41 out of the 53 different Subsections in the Genus. For many years the focus for most large collections has been the acquisition of a diverse range of species so that the genus is represented as fully as possible within local environmental limits. However, in recent times, species conservation has become an increasing priority.

The principle source of information on the conservation status of species is the IUCN Red List of Threatened Species ("Red List"). Since it was founded in 1964, it has been reviewed, developed and updated several times. Although there has been some controversy over how the list developed and how it is applied, it is generally accepted as the world's main authority in this field.

Red Lists of seven groups of plants have been produced so far and in 2011 the Red List of Rhododendrons was published. The Red List shows that approximately 25% of rhododendron species are endangered worldwide, which has prompted collection managers to check their collections against the Red List ratings. With some dismay, collection managers world-wide have seen how many species in their collections are endangered and of the 128 temperate species at Dunedin 39 or 30% are.

According to the Red List, there are nine different categories; Extinct, Extinct in the Wild, Critically Endangered, Endangered, Vulnerable, Near Threatened, Least Concern, Data Deficient and Not Evaluated. The threatened categories are Critically Endangered, Endangered and Vulnerable, so the 39 endangered species in the Dunedin Botanic Garden Rhododendron Dell come under those headings. The bulk of rhododendron species in the Dell are rated under Least Concern, meaning they have been assessed as widespread and abundant.

Once we start examining the detail under the threatened headings the level of threat becomes clear and even more alarming. Many of the species are familiar garden plants and because of this we are not immediately aware of how threatened they are in the wild. The species *Rhododendron formosum*, *R. macabeanum* and *R. rex* in the collection at Dunedin Botanic Garden are good examples.

R. formosum, which is relatively common in cultivation, is **Critically Endangered** in the wild. Taking the broad definitions under that heading, this means any species for which any of the following criteria are relevant, is Critically Endangered.

- Its population has been reduced by 80 – 90% over the past 10 years or three generations, whichever is longer.
- It is found within an area of less than 100 km² and within that area occupies less than 10km².
- It is estimated as numbering between 50 and 250 mature individuals or less.

Analysis shows the probability of extinction in the wild is at least 50% within 10 years or three generations, whichever is longer, up to a maximum of 100 years. That is, given current environmental pressures there is at least a 50% chance of extinction, with the worst case scenario being extinction in 10 years and best case in 100 years.

This is an eye opening set of data that applies, not just to one or two species, but to 36 that we know of. Without even mentioning ongoing environmental pressures that may be reducing the population further, it reveals how precarious their position in the wild is. We can see how rapidly the population has been reduced and how few actually remain to sustain the species.

Also commonly grown in larger collections is *R. macabeanum*, but in the wild it is **Endangered,** the broad criteria of which are as follows:–

- Its population has been reduced by 50 – 70% over the past 10 years or three generations, whichever is longer.
- It is found with in an area of less than 5000km² and occupies less than 500km² within that.
- The population is estimated at between 250 and 2500 mature individuals or less.
- There is at least 20% chance of extinction within 20 years or five generations whichever is longest, up to a maximum of 100 years.

Again, these criteria allow us to grasp exactly what 'Endangered' means

for the 39 species that face this plight.

Another large-leaf species we know well is *R. rex*, yet it has been assessed as **Vulnerable**. A rating of Vulnerable for any species signifies:–

- A reduction in population of between 30 and 50% over the past 10 years or three generations, whichever is longer.
- It is found within an area less than 20,000km² and occupies less than 2000km² within that.
- The population is estimated at between 1000 and 10,000 mature individuals or less.
- There is at least a 10% chance of extinction within 100 years.

Although this a lower level of threat, 241 species have been given this rating and represent nearly 20% of the genus that could be lost unless preventative measures are taken.

For all the ratings of population and area of occupancy there are further qualifying statements that quantify the rate and scope of decline so that every species can be rated as accurately as possible under each main heading.

Some of the species in the Dunedin Botanic Garden Collection rated as **Near Threatened** are *R. boothii*, *R. genestierianum, R. nuttallii, R. protistum* and *R. sidereum*. That means they are not currently rated in the above categories, but are thought to be close to qualifying for a threatened category in the near future.

This year the Pukeiti Rhododendron Trust has committed to enhancing and promoting the Pukeiti Rhododendron Collection as an ex situ conservation collection, with one key priority being to expand its representation of wild source **Red List** species. Beyond that, its wider aim is to coordinate a National Ex Situ* Rhododendron Programme with different areas of the country focusing on their strengths. With a high proportion of its rhododendron species being red listed, Dunedin is well placed to play a significant role in that.

The aim will be for collections throughout New Zealand that have high representation of successfully grown species from particular Subsections, to take prime responsibility for building up those groups to as full a representation as possible. Red List species would be a priority, whilst other species would also be accessed if available.

Including both endangered and non-endangered species, the most well represented Subsections in the collection at Dunedin Botanic Garden are Arborea, Falconera, Grandia and Maddenia. The adaptability of these Subsections is evident when we find that they are also the most successful groups at Pukeiti as well. The wetter milder conditions at Pukeiti however, are similar to the conditions which those groups experience in the wild, so Pukeiti's resulting growth and form is closer to that of specimens in the wild. As such, Pukeiti would take responsibility for building up those Subsections. However, for the same reasons Pukeiti is successful with those, it can struggle with dwarf alpine species. Within the Dunedin collection we have enduring specimens of dwarf species such as *R. boothii, R. charitopes* ssp. *tsangpoense*, *R. hippophaeoides*, *R. keleticum* and *R. pemakoense*. Apart from *R. boothii*, all these species are rated as of **Least Concern** meaning they are widespread and abundant in the wild. However, their success in the Dunedin climate indicates that threatened dwarf rhododendron species from Subsections Boothia, Glauca, Lapponica and others will also do well here. This year's renovation project in the Dell is the extension and redevelopment of the peat garden aimed at gaining more space, better drainage and greater planting depth. Clay has been dug out, drains installed, a layer of gravel chip spread across the whole area and then built up with a mix of soil, peat, bark and sand. Consequently any such dwarf species that arrive here in the future will have a ready home with ideal conditions for their success.

The Dunedin climate also suits the cold hardy species from Subsection Taliensia, such as *R. bureavii*, (**Least Concern**) *R. pubicostatum* (**Endangered**) and *R. lacteum* (**Near Threatened**). In Pukeiti, they grow but tend to die out. Here, as long as I can get the right spot with good drainage, they perform well.

Although species in Subsection Neriiflora enjoy relatively mild climates they tend to die out at Pukeiti, probably due to the high rain fall. Down here, although I find that *R. neriiflorum* (**Data Deficient**) can be hard to get established, once they have done so they are long lived and reliable. Another long lived Neriiflora species in the collection is *R. sperabile* and its subspecies *R. sperabile* var. *weihsiense* (both **Vulnerable**). They tend to have a loose open habit, growing to between 2 – 3m with those typically striking scarlet flowers. So, they are worth the effort, and not counting subspecies or varieties there are 27 species in this Subsection. I am gradually building up the collection with other related species such as *R. mallotum* (**Endangered**) and *R. pierciei* (**Vulnerable**) which have the added qualities of textured and indumented foliage.

In the next few years the aim is to establish a Red List Collection area in the Dell by clearing the site currently occupied by *R. ponticum* and some of its hybrids. It seems appropriate that a pest species be removed to make way for some of the endangered ones.

A fundamental aim of ex situ conservation is to prevent extinction by returning endangered species to the wild. To do that however, multiple specimens of each species are required with as wide a range of wild provenance as possible. Due to lack of space, the collection in the Dell is unlikely to have this potential. Instead, its value and role will primarily be in advocacy and as an educational resource raising awareness of the plight of those rhododendrons in the wild. The collection will be interpreted and supported with plant labels that identify each of the specimens and describe the status of each individual species as they occur in the wild.

Should threats in the wild worsen, the collection's most essential role is in preserving these species in cultivation as the last line of defence against absolute extinction.

**__ex situ conservation__ is a programme designed to conserve plants by growing them in a country/region in which they are not native.*

NZRA 70TH JUBILEE INTERNATIONAL RHODODENDRON CONFERENCE 2014
POST CONFERENCE TOUR

Joy O'Keefe

The Garden – Ireland Glen

Following a very successful Conference a group of 26 people – 10 Canadians, 3 Americans, 3 Germans, 2 Australians and 8 New Zealanders set off from Dunedin on a three day tour to Christchurch.

It was a crisp but fine morning and the Pacific Ocean was sparkling as we travelled north to the Waianakarua garden 'Ireland Glen' owned by Anne Sim. Members could not believe one lady could develop and maintain this beautiful, expansive garden on her own. Anne has very skilfully continued to improve on the garden originally established by her grandparents.

A drive through the Oamaru precinct to view the historical Oamaru stone buildings made our next stop, 'Parkside' more meaningful. 'Parkside' is the home and garden of the Wilson Family who own the Oamaru stone quarry. Linda Wilson led us on a most interesting tour through the quarry. A Quarryman's Lunch was served before we wandered through the garden to music playing. The garden was planned and planted by Linda, a trained landscape designer. Oamaru stone sculptures featured throughout.

After travelling through rolling hill country on gravel roads we came to another excellent garden, that of Bronwyn and Martin McCone. Bronwyn is a trillium and alpine plant enthusiast and her huge collection of very special plants had our members totally engrossed. Many of these treasures are skilfully incorporated in the garden, others are planted in pots and tubs near the house.

Our friendly coach driver, Adrian, made an unscheduled stop at the top of the Benmore Hydro Dam. Members were busy with their cameras photographing the panoramic views down the Waitaki Valley.

A relaxing Saturday night was spent at the Omarama Gateway Hotel. We woke on Sunday morning to heavy cloud in the western sky and I immediately knew our chances of viewing Mt. Cook that day were not good. The drive along the edge of Lake Pukaki was very pleasant but as we approached Mt. Cook rain set in. Several of the group stayed indoors at The Hermitage where they very much enjoyed the film about Sir Edmund Hillary. Some ventured out doing the walks while Elaine and Linda chose to do the Four Wheel Drive Argo Adventure (not recommended for those with neck or back problems!) This was the highlight of the trip for Elaine, but Linda had to wait for her stomach to settle before she could eat. We lunched at Mt. Cook before leaving for Pukaki and Tekapo where we had short stops for photo shots.

Only one garden visit was on the

R. 'Hotei'

The red garden at Trott's in Ashburton

Trillium chloropetalum

itinerary for Sunday, that of Lucy and Alister Munro at Burke's Pass. Despite Lucy expecting us on Tuesday, between her and Alister they turned on a wonderful afternoon tea in true high country style. Lucy had mowed the lawns, the rhododendrons were looking very healthy considering the harsh climate, and the row of trilliums beside the path were impressive.

Geraldine was our next stop where we spent Sunday night. Again we woke to inclement weather which continued for most of the day. Four garden visits were on the agenda for Labour Day Monday, the first being Bernie's and my garden at Woodbury. Knowing our climate, I was sure our garden would have been hit by frost prior to the group visiting but for once we escaped and the garden was looking lovely and fresh after overnight rain.

Moving on to Orari Gorge Station, Graeme and Rosa Peacock, the owners, and Victoria Thatcher were waiting for us at the entrance in the rain. Graeme gave the group a brief but interesting talk on the history of the station and garden. Members wandered, admiring the special trees, the brilliant deciduous azaleas and the numerous rhododendrons.

A half hour trip took us to 'Surrey Hills', the garden of Sara and Paul Grigg. Sara was most hospitable, inviting the group into her home where they enjoyed a boxed lunch while Sara and her UK guests provided tea and coffee. Despite the rain everyone spent quite some time wandering through the expansive garden admiring the huge collection of rhododendrons (most of which were at their peak of flowering), the many beautiful trees and companion plants.

Alan and Catherine Trott's garden at Ashburton was the final garden of the tour and for many overseas visitors the last they would visit while in New Zealand. We certainly finished on a high. Trott's garden was looking impressive as usual. Alan talked to the group in the chapel before giving a conducted tour of the garden, answering many questions as we went.

On our arrival in Christchurch three members left the tour at the airport while the majority stayed the night at the Commodore Hotel where they enjoyed high quality accommodation and service.

Not being able to showcase Mt. Cook was a disappointment but the friendliness and cooperation of all the tour members made this a pleasurable and memorable experience for me as tour leader.

Gentiana sp.

Paeonia rockii

Trillium grandiflorum plenum

Some of the perennials growing in association with the many rhododendrons seen on the tour.

Rhodo Direct Nursery

RHODODENDRON GEMS GROWING IN THE SOUTH ISLAND

R. 'Lem's Cameo'

Hanmer

R. 'Kiwi Mum'

R. 'Naselle'

R. 'Marrissa'

R. 'Senator Henry Jackson'

R. 'Honey Butter'

THE STORY BEHIND THE BIG-LEAF RHODODENDRON BOOK

Pat Greenfield

Pat Greenfield

Some time after the publication in 1997 of my first book, 'PUKEITI , New Zealand's Finest Rhododendron Garden', I approached Graham Smith, Pukeiti's Curator, with the idea of us doing a follow-up book on big-leaf rhododendrons. He had already contributed the section on Flora and Fauna to the Pukeiti book, so this seemed like a logical progression.

Like most ideas, it simmered for a while. In the meantime, Graham had been asked by Bateman, the publishers of the Pukeiti book, if he could recommend someone for a hydrangeas book. He suggested Glyn Church. My subsequent collaboration with Glyn on a number of books, starting with hydrangeas, was through Graham bringing us together.

In 2001, Graham and I had Bateman on board for the Big-leaf Rhododendron book. Following that, I undertook the main photography, documenting most of the big-leaf rhododendrons at Pukeiti.

I planned to visit several key gardens in the South Island, then Graham delivered a bombshell. He couldn't do the book after all. A heavy workload, combined with constantly trying to source donations and grants to keep Pukeiti afloat were taking their toll.

Though naturally upset, life carried on. I continued to work with Glyn on our various book projects, and in 2003 I started a huge personal project documenting the changes that were occurring on the Tongaporutu coastline. This was completed last year and I am in the final stages of doing a book on it.

In the meantime, I never fully gave up on the Big-leaf Rhododendron book. Eventually, in 2009, Graham retired from Pukeiti. He then set about completing a database of all of the rhododendrons at Pukeiti. I had also become acquainted with Susan Worthington via her magnificent botanical artworks. I mentioned the idea of a book on the big-leafs to Susan and Glyn. Both liked the idea, but we knew that without Graham on board, such a book would lack credibility.

No, he didn't feel able at this time to do the book. And he wasn't warm on the idea of Glyn 'ghost writing' such a book either. With that, we all thought the book idea was dead in the water. However, we never completely gave up hope. Here was Graham, with this vast reservoir of knowledge inside his head, but how could we unlock it in a way that he would be comfortable with? This then was our challenge.

Eventually, Graham finished doing the database. He appeared to be happier and more relaxed. Also, he really loved Susan's work. Finally, our perseverance paid off. The Big-leaf Rhododendron book's time had come.

Glyn would write the book. Susan would do the botanical paintings. I'd do the main photography. Graham? He would be the overall editor and provide his expertise, some of his photos and utilize his contacts. Though we'd committed to the book, finding a window of time that suited us all didn't occur until mid-2011. This was fortuitous because it coincided with a peak flowering year.

Now to the book itself. What section of the market was it to be aimed at? Which publishers should we approach? Everyone was invited to dinner at Glyn and Gail's house for an initial get together. Everyone being Glyn and Gail, obviously, Graham and Dora, Susan and Max and me. At the end of this we were all given a duties sheet initiated by Gail that listed the things we needed to do.

The most pressure was placed on Susan as she would have to output a significant number of paintings, (I think it was 23), over a very short, three month time-frame. This entailed Susan staying up at the Pukeiti Lodge for the current main flowering season in order to complete her set of paintings, without Max, as they lived in Waikanae. As Susan's paintings would be orientated in the portrait mode, this dictated how our book would be published.

Painting so many highly detailed pictures one after the other on white paper was taking its toll on Susan in the form of painful eye strain. Max googled 'eye-strain' and found that a lack of vitamin A could be a factor. Another factor was insufficient rest breaks due to the flowering-time constraints.

By November 2011 we'd completed enough of the book to approach a publisher. Susan suggested that the publishers of the Highgrove Florilegium book might be interested. However, after meeting up with their representative, it turned out they were only really interested in Susan, their idea being to produce an 'exhibition book' of her paintings aimed at the top end of the market, with Graham providing the botanical text.

Separate to that, the four of us then approached Bateman to see if they'd be interested in our Big-leaf Rhododendron book. They were, and we were sent a draft contract in 2013. However, as such a book was highly specialized, the market for it would be small. To help cover their costs they sought $15,000 to enable the book to be published.

Another problem related to Susan's paintings. She was now involved with two publishers. However, as both were targeting different markets, we didn't think there would be any conflicts of interest. Initially, Susan's publishers agreed to lower resolution scans of her paintings being published in Bateman's book. Later on however, they changed their minds, the effect of which was to shut Susan out of our book.

This mind-changing occurred after the long-winded process that we'd all gone through to finally obtain the funding that Bateman had requested. This left Graham, Glyn and I in an awkward position, not to mention Susan. Would the funding sponsors withdraw their funds? Would Bateman stick with us, minus Susan and her wonderful paintings? Yes they did.

As you can see, this book has had its fair share of dramas, not all of them mentioned here. But after 15 years it will finally be published. Our hope now is that you will add the Big-Leaf Rhododendron book to your collection as a lasting legacy from us.

R. grande

R. montroseanum


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HIGHLIGHTS WELLINGTON CONFERENCE GARDEN VISITS 2015 HIGHLIGHTS


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1. Sunny Acre
2. *R.* 'Taurus'
3. Fernside
4. Carrington House
5. Secret Garden at Fernside
6. Paeonies
7. Blue Bells at Fernside
8. *R.* 'James Dean'
9. *R.* 'Van Dec'
10. *R.* 'Triumph de Grande'
11. *R.* 'Taurus' at Efil Doog


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11

NZRA PLANT TRIALS

Andrew Brooker

Many of you may be unaware that the NZRA has been running a trials process for the last 13 years. Established in 2002 in order to identify and promote excellence within the range of New Zealand bred rhododendrons, the trial beds were initially planted at Heritage Park for the North Island followed by Marshwood for the South Island. Later in 2008 the trials bed at Pukeiti was added to the mix.

To meet the committee's merit requirements the following criteria were established. A plant needed to

- **flower well and have a full cover of healthy foliage,**
- **look attractive all year round,**
- **be a good garden plant in many areas of New Zealand,**
- **require minimal attention and be easy to propagate.**

The trial process involved planting three plants of each selection, these being assessed later for flower quality, foliage quality and overall effect. An assessment period of three - five years, looking for consistency, was used to gain as accurate a picture as possible. Over 80 varieties were planted at Heritage Park in the Manawatu, with lesser numbers at Pukeiti in Taranaki and at Marshwood in Southland.

Now with 13 years of data based on the trials carried out, the committee has narrowed the field down to the following five plants, which we will be recommending to Council for an Award of Distinction.

THE CURRENT LIST OF RHODODENDRONS WITH THIS AWARD ARE

R. 'Ilam Cream
R. 'Irene Stead'
R. 'Kaponga'
R. 'Lemon Lodge'
R. ciliicalyx 'Charisma'
R. 'College Pink'
R. 'Ilam Cerise'
R. 'Lalique'
R. 'Rubicon'
R. 'Ivan D Wood'
R. 'September Snow'.

It was agreed that *R.* 'Lemon Lodge' and *R.* 'Ivan D Wood' be removed from the list and the five selected trial plants be added.

Rhododendron 'Alpine Meadow'

An *R. leucaspis* hybrid - a chance seedling grown by the Dunedin Botanic Gardens from a batch of *R. leucaspis* seed received from Britain. A 'bomb proof' hybrid, 'Alpine Meadow' exhibits the following characteristics, which makes it ideal for most gardens in New Zealand.

- It has a very floriferous habit, with a complete blanket of white blooms reliably each spring.
- It is easily pruned to keep any straggly growth in check, will reliably respond to a hard prune if needed.
- Whilst older foliage does show some black spotting the hairs on the leaves give some resistance to thrip.

Growth rates will depend on your garden location: as a general guide easily 1m in Taranaki after 10 years, but 45 - 50cm in colder parts of the country.

Rhododendron 'Posy' (*yakushimanum* x 'College Pink')

Raised and registered by the late Ron Gordon, 'Posy' is a dependable compact grower, which over time forms a squat plant. Ideal for colder, drier parts of the country but will grow almost anywhere. It is relatively pest free due to the thick indumentum. A couple of things to look out for:

- flowers do scorch in full sun, so light shade is best,
- whilst light pruning to maintain shape is tolerated, a hard prune is inadvisable.

Rhododendron 'Dainty Lass' (*yakushimanum* x 'Dainty')

This is a great plant for either light shade or full sun. Given the right conditions it will reward you year after year. Can easily be grown from the Waikato to Southland. Has

- a very floriferous nature, with pink buds opening to white,
- sun fast flowers,
- a squat plant that is going to end up broader than tall,
- healthy foliage all year round.

Rhododendron 'Kiwi Pearl' ('Kiwi Magic' x 'Nancy Evans')

Can be best described as 'bomb proof', growing well at Orton Bradley Park where it contends with hot North West gales and afternoon sun without looking bothered at all. The creamy white and attractive flowers have a waxy texture, not unlike the porcelain type artificial flowers seen on tombstones. It

- is very floriferous,
- remains compact after many years,
- is ideally suited for the hot dry regions of NZ such as North Otago, Canterbury, coastal South Canterbury and similar climates.

Rhododendron 'Pink Chiffon' ('Ballet Girl' x Knapp Hill azalea)

This Denis Hughes cross is best described as a vigorous, double-flowered deciduous azalea of high visual impact which definitely adds significance to any border. It

- is a healthy vigorous grower,
- has a good ball shaped truss of lolly pink flowers,
- has a good disease resistance,
- is a deciduous azalea with an excellent orange/red colour in Autumn.

PUKEITI'S UPGRADE
NOW COMING TO LIFE

Greg Rine

After planning comes implementation, and that's exactly what's happening with the Taranaki Regional Council's work at Pukeiti.

The new carpark is now finished and provides the arrival encounter that will set the tone for the rest of the Pukeiti experience.

The construction of the covered areas is now complete but we'll have to wait till autumn before we plant.

So now it's the structures that dominate the eye, but obviously in time as the plants establish themselves over the next few years, it is those and the wider landscape that will assert themselves over the structures.

These covered areas are divided into three distinct spaces. The first is The Vireya Walk which features an upper and lower walk where the plantings and the wider landscape can be viewed from different vantage points.

The next area is the Kokopu House which again will host a range of vireya rhododendrons and also a pond that will house a selection of our native fish.

And the third area is the Bublitz Education Centre that will also house some of our native fish in small aquariums, an area for vireyas and a working area for the Rainforest School's interactive workshops.

A little further on from these three spaces is the Waterwheel Walkway which is effectively an aerial walkway that extends out overlooking the stream and the historic waterwheel.

All these structures combine to provide a very exciting and accessible Pukeiti experience close to the main amenities.

There is more development work now underway including the Misty Knoll and the Founders' Garden and The Lodge environs as well as the planning of the reconfiguration and refurbishment of the Gatehouse which will then be known as the Rainforest Pavilion.

The new entrance and carpark


The Lodge Lawn


The Keiller Garden


The Vireya Walk nearing completion. This replaces the old Covered Walk.

But with all this development it is the plant collection that is the centre of our work and the developments are there to enhance the plants through accessibility, interpretation and innovation to a much wider audience than in the past.

NEW ZEALAND RHODODENDRON ASSOCIATION 2016 CONFERENCE
NOVEMBER 1 - 4, 2016

"HEARTLAND HURUNUI" @ THE HERITAGE HOTEL HANMER SPRINGS

The Hurunui welcomes the NZ Rhododendron Association Conference 2016 to our district and gardens and looks forward to sharing a love of rhododendrons with members and friends.

While in Hanmer Springs you will be welcome to soak in the thermal pools, and wander through the historic Queen Mary Hospital grounds where history comes alive.

Enjoy some of the finest gardens that the Hurunui has to offer from historic farm gardens to smaller urban gardens and newer specialist rhododendron gardens. Check the Conference tab at www.rhododendron.org.nz for updates of those gardens to be visited.

REGISTRATIONS OPEN EARLY 2016.

Email lesliehills@amuri.net
or phone Fiz on (03) 315 8042.

SECURE YOUR ACCOMMODATION NOW

150 beds are available at the Heritage Hotel and you are welcome to book directly with the hotel immediately. To book your room at the Heritage Hotel please call them and quote the code 'RHODO'.

Email: heritagezhp@heritagehotels.co.nz
Phone: 03-315 0060

Once the Heritage is fully booked their staff will have additional beds that they will manage at other sites around Hanmer.

RHODODENDRON REGISTRATION

'If anyone is 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 the name to be reserved. This will then avoid any difficulty further down the track and ensure that the name will be accepted should formal registration be completed at a later date.

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

New Zealand Rhododendron Registrar
Brian Coker
8b Barnsley Crescent,
West Melton 7618
Phone: 03 355 8395
Email: b.hcoker@xtra.co.nz

R. 'Geoff Broker'

NEW ZEALAND RHODODENDRON ASSOCIATION INC.

You are invited to join the New Zealand Rhododendron Association

We publish an annual Journal in association with the Pukeiti Rhododendron Trust and newsletters twice a year.

A Conference is held annually throughout our beautiful country. In 2015 the Conference will be held in Wellington.

The annual subscription is NZ$40 for an individual and NZ$45 per couple.

Dues should be sent to: Mike Wagstaff,
35 Awakino Road, Te Kuiti, 3910, New Zealand.
Email: nzratreasurer@slingshot.co.nz

Secretary: Christine Wilson
President: Dr Tony Fitchett
Email. secretary@rhododendron.org.nz

www.rhododendron.org.nz

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NOW AVAILABLE

Big-leaf Rhododendrons

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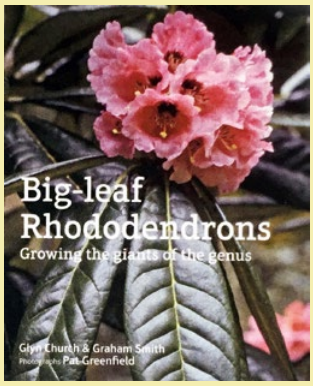

This book covers all species of big-leaf rhododendrons.

Rhododendrons have always been regarded as the elite plants of the garden, and the big-leaf rhododendrons are the giants of the family.

The book explores how these amazing plants were discovered, provides practical tips on propagation and cultivation, and looks at conservation in a garden situation as well as in the wild.

Superbly illustrated, including over 200 colour photographs, this is a fascinating journey into the world of rhododendrons.

RRP $59.99
(incl. p&p within New Zealand)
Full colour, cased and jacketed

A special price for Pukeiti members is $30.00+pp
(This reduction is a result of the substantial contribution the Trust has made to the cost of publication).

The special price for RANZ members is $48.00+pp

Copies can be ordered from the Secretary Diane Jordan, Phone (06) 752 2800 or email: jordy@primowireless.co.nz.

Accounts will be sent with the book on delivery.

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www.batemanpublishing.co.nz

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

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Pukeiti Rhododendron Trust Inc.

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Location:	2290 Carrington Rd. RD4
Secretary **Diane Jordan**	Phone 06 7522800 jordy@primowireless.co.nz
Chairperson **Gordon Bailey**	Gordon.Bailey@qldc.govt.nz

New Members Welcome

Taranaki Regional Council

TARANAKI REGIONAL COUNCIL

www.trc.govt.nz

Office hours	Mon-Fri 8am - 5pm
Postal address Bag 713, Stratford 4352	Private
Location	47 Cloten Road, Stratford 4332
Phone	0800 736 222 (06) 765 7127
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Regional gardens	regional.gardens@trc.govt.nz
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The New Zealand Rhododendron

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