

The Rhododendron

The Australian Rhododendron Society Inc.

Volume 58

2018

Whibley and his Hybrids — see page 20



Whibley hybrids 'Mr Rosenthal' (above) and 'Mrs Fairhall' (below).



PHOTOGRAPHS BY MILTON BOWMAN

Front Cover: Whibley hybrid 'Mother'.

The *Rhododendron*

Official Journal of the Australian Rhododendron Society

2018

Volume 58

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The Rhododendron, the journal of the Australian Rhododendron Society Inc., is published annually by the Society. Material for publication in *The Rhododendron* is welcomed and contributors are requested to note that the closing date for each issue is August 1.

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The Australian Rhododendron Society Inc.

Aims

The Society's objective is to encourage interest in and disseminate information and knowledge about the genus *Rhododendron* and to provide a medium by which all persons interested in the genus may communicate and co-operate with others of similar interest.

Membership

Membership of the Society is open to all persons interested in the objectives of the Society upon payment of the annual membership subscription. For further information contact Branch Secretaries or the National Secretary.

Subscriptions

Annual subscriptions cover the period 1 July to 30 June, and vary up to AUD\$25 (single member) and AUD\$35 (member & partner) depending on the Branch selected. (Branches set their own level, out of which an amount is paid to the national Society). The annual journal *The Rhododendron* is included as a benefit of membership. Overseas members may nominate for affiliation with any of the Branches. The base annual subscription for membership of the Victorian Branch is AUD\$35. This covers dispatch of *The Rhododendron* by airmail in the last quarter of the calendar year and other communications by email (if there is a preference for receipt of other communications in hard copy form, an additional subscription amount of AUD\$15 applies to cover airmail cost). The Victorian Branch accepts Visa or Mastercard payments. Overseas subscriptions to other Branches may vary from these rates and require to be paid by bank draft or cheque payable in Australian dollars. Contact the ARS National Secretary.

Contact details

Details of local Branches, along with Office Bearers of the Australian Rhododendron Society, are listed on page 84.

Editorial

ANDREW ROUSE

Welcome to a bumper issue of *The Rhododendron*. It has been a busy year across the Society branches with propagation days, talks and garden tours, in addition to the ongoing volunteer work at Emu Valley Rhododendron Garden, Mount Lofty Botanic Garden, Dandenong Ranges Botanic Garden, the Campbell Rhododendron Gardens and Tamborine Mountain Botanic Garden.

In May, eight members travelled to Sabah to see vireyas in the wild, visiting Mount Kinabalu and Trus Madi, with a side trip to Singapore to visit the Gardens by the Bay, where vireyas exported by Neil Puddey are a major feature of the Cloud Forest display. I was one of the fortunate eight to participate in the trip, and it was wonderful to revisit Mount Kinabalu (I climbed it in 1990!), to scale the more remote and less-visited Trus Madi, and to see many vireya species growing in the wild.

We welcome back past contributors, Dr George Argent and Frédéric Danet. George writes about the re-discovery of two enigmatic Philippine vireya species, *R. nortoniae* and *R. whiteheadii*; Frédéric on electron microscope observations of the scales of *R. cravenii* and *R. gardenia*. We also have an article on field observations on *R. sessilifolium* in Sumatra, received coincidentally when my mature specimen of that species was in full flower!

A new species is described – *R. shingbae*. This species from Sikkim, is closely aligned to *R. cameliiflorum*. *The Rhododendron* is not a peer reviewed journal, however we do publish articles describing new species or taxonomic reviews, as a contribution towards advancing our knowledge of the genus.

An update is provided on the specimens of *R. viriosum* and *R. lochiae* collected in North Queensland in the project managed by the Australian Tropical Herbarium and supported by the Society. These plants are now held at the Dandenong Ranges Botanic Garden, and in time will be displayed in a dedicated bed in the gardens.

Terence Moon, Chief Ranger at the Dandenong Ranges Botanic Garden participated in the inaugural meeting of the Global Conservation Consortium for *Rhododendron*. The aim of the Consortium is to ensure that no species of *Rhododendron* goes extinct. As a priority, the Consortium has compiled a list of critically endangered rhododendrons in cultivation; some of these species are held at DRBG and quite possibly other gardens in Australia. Our Society can play an important role in supporting this initiative by ensuring threatened species we hold in public and private collections are well-provenanced and shared between gardens, to help safe-guard them in cultivation.

Australia has a rich history of *Rhododendron* cultivation dating back nearly 100 years. Over the coming years, the journal will include articles on those that have made a lasting contribution to *Rhododendron* hybridising and selection. To kick this off, we have an article on the Whibley hybrids, rhododendrons selected by David Whibley as suitably hardy for the Adelaide hills. Many of these hybrids have stood the test of time and members of the South Australian Branch, including Milton Bowman who submitted the article, are playing a crucial role in ensuring these hybrids do not die out.

At the National Council meeting in November 2018, the Committee agreed to work towards a Conference in 2020, to be hosted by Emu Valley Rhododendron Garden. The Committee propose that it be timed to coincide with the New Zealand Rhododendron Association's conference (27–30 October 2020), so that international visitors can participate in the NZ and Australian conferences.

We celebrate the life of Simon Begg, ARS Life Member, who died in October this year. Simon was a driving force within the Society, whose many achievements include updating the seed permitted list, revising our Constitution, distributing vireya species to help safeguard them in cultivation, and forging relationships with the Australian Tropical Herbarium that culminated in the re-collection of *R. lochiae* and *R. viriosum* from most known populations. His drive and passion will be sorely missed.

The Rhododendron is produced for the benefit and enjoyment of our members. As always, we welcome feedback on the articles we publish, what you're interested in reading about, and of course, contributions from our members! Your Committee's contact details are in the inside back cover.

Andrew Rouse
Editor

President's Report

The various branches of our organisation continue with their own priorities as outlined in the branch reports with the national body encouraging the branches to try and record, propagate and share Australian grower's hybrid rhododendrons. During the year, 12 members from the South Australian branch went to the International ARS Rhododendron Conference in Bremen in 2018 where a number of our international friends asked us when the Australians were going to have a conference they could come to. At the AGM of our society, the committee decided to accept the offer from Emu Valley Garden to host a conference in 2020 and I encourage all our members to consider coming.

We were all saddened by the death of Mr Simon Begg, a past President of the Society, who was a great supporter and contributed to our organisation in many ways. We extend our sympathy to his family.

*Jeff Jenkinson
November 2018*

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Reports – Australian Rhododendron Groups

Blue Mountains Rhododendron Society

The last 12 months has been a very interesting period. The new toilets have made a huge difference and we are sure the visitors have greatly appreciated them, particularly the addition of a disabled toilet. The area around these toilets has been enhanced with rhododendrons and camellia sasanqua, which will be trained into a hedge to help soften the brickwork. There has also been a collection of eight different varieties and species of *Daphne*, as well as some alpine phlox as a ground cover. Where the toilets meet with an area of bush, extra natives have also been planted.

In another part of the garden we have created a section for plants from the Proteaceae group from both South Africa and Australia; these include both hybrids and species. This conforms with part of the aims and objectives of the Society to allow the public to learn about many forms of horticulture. We have also removed some treated pine logs that surrounded a garden bed containing many plants that were donated by a husband and wife who were members and volunteers in the garden, and replaced the logs with a stone wall that also serves as somewhere to sit.

The past few months have seen some very erratic weather. Indeed autumn was hot one day, windy the next, and with some reasonable rain in March and April. From May onwards we had only dribs and drabs of rain. It then turned quite dry for winter which necessitated us having to do quite a deal of watering on recently planted plants. These included a lot of hybrid azaleas that the family of the hybridiser had donated to us.

The dry spell has caused our lake to be way down, which allowed us to remove quite a deal of reeds that surrounded the island in the lake. Many years ago we had to use a product to seal a leak in the lake which was successful, and we have done this again. We are now hoping for significant rain to see if it has worked again.

We are now busy getting ready for our open season where we raise most of the money used to maintain the garden and finance projects, like the new toilets. We have quite a lot of plants to sell, as well as tea towels, aprons, our ever popular calendars and post cards. Of course, getting the kitchen ready for our ladies who serve the most delicious morning and afternoon teas with great scones, jam and cream is a top priority.

Naturally quite a lot of time during the year, as usual, has been taken up with our program to remove noxious and environmental weeds, including our constant battle with dodder.

Our car park has had the lines for parking re-painted, and our walking tracks, which always take a lot of maintenance, are now in tip-top shape to cater

for the large number of visitors, both locals and tourists from further afield, who will come to the gardens over the two months peak flowering period.

We are now getting ready for our Spring fertiliser program and our January application of sulphate of potash, to ensure a good flowering season in Spring 2019.

Speaking of 2019, next year sees the Society reach its 50th anniversary since its founding in April 1969, with the management committee working hard to develop appropriate activities to celebrate this momentous occasion.

*Dick Harris,
Garden Supervisor,
Campbell Rhododendron Gardens, Blackheath.*

Emu Valley Rhododendron Garden

The past 12 months has seen Emu Valley continue from where we left off the previous year with changes taking place and a buzz of optimism about our future. The business acumen the Board of Directors (led by Chairperson Ant Dry) has brought to the garden has been exceptional and has allowed



R. edgeworthii.

the management team to concentrate more on day to day matters. The push with our marketing strategy, to be known as a garden worthy of a visit all year round, has been successful which is reflective from visitor numbers.

In February we welcomed Neil Porteous (Mount Stuart House, UK), along with Seamus O'Brien (Kilmacurragh Botanic Gardens) and Rob Wilson-Wright (Coolcarrigan Garden). This was one of the highlights of the year.

One of the changes implemented was the presenting of reports from each of our areas in the annual report instead of appearing under the one generic heading. This gave members a deeper understanding of the operation.

Curator, Maurie Kupsch and Horticultural Manager, Juanita Wood's report

We look forward to seeing 35 new species flowering for the first time this year. The majority of these are from the 2012–2013 seed lists – some have settled in rather well while others have yet to be happy in unfamiliar conditions. Most of these plants were from Tibet, Sikkim, Bhutan, Sichuan, Yunnan, Zhejiang, Hupeh, Hunan and Japan. After 2013, wild collected seed became harder to source due to the unauthorised collecting of seed in the wild, so access to new plants have dropped off considerably.

However, what started as a year full of promise with a number of exciting new species growing well, ended in heartbreak as five of them died. Two new vireya species both growing well slowly withered and died as well as three elepidote rhododendron species. We are still trying to determine what caused this to happen.

One of the last areas to be cleared is a large section to be devoted to the plants from Nepal. Quite a number of endemic species have been planted out but more need to be sourced and propagated.

There has been a steady increase in non-rhododendron species planted, including five new *Betula utilis* var. *jacquemontii* planted out in Nepal (these are those beautiful birches with white peeling bark). Also from Nepal, *Sorbus cashmiriana* and *Acer oblongum*, (an evergreen maple) have grown well this year and seem quite happy.

Many Australian native plants have also been planted including *Banksia*, *Grevillea* and *Crowea*, and these are of particular interest to our overseas visitors. They are also a wonderful source of food to attract a wide variety of birds to the delight of all.

There have been a number of trees within the garden that have been affected by storm damage and have needed limbs removed and also a couple of tree removals both due to safety factors. This was achieved by our arborist – Michael Wood from Urban Arboriculture – in a safely and timely manner.

We made a purchase of a small chipper to reduce the waste that we were

burning and also to gain valuable mulch that can be used on the garden. It is small enough to tow to most places around the garden, but big enough to handle up to 2.5 inches.

The hotbed in the nursery this year was full from end to end and we have already started taking cuttings off and potting them on. We have a mixture of *Rhododendron* species and hybrids, grevillea cuttings to use around the garden acting as fast growing ground covers to hold the soil back on the slopes, camellia and kalmias, just to name a few.

The overall weed situation is well under control compared to what it was only four years ago. Looking back on photos from areas such as Nepal, Tibet, Sikkim, India etc. to see the dramatic change is just unbelievable.

A plant health program has been put in place this year and positive signs are showing already. Yes, we have thrip and lacebug damage, however management of these must come back to the beginning which is looking and acting on plant health first! The rhododendrons that are under attack are sick and vulnerable, therefore an easy target for pests. We are trialling new products in different areas, and so far have been impressed with the result.

Plant labels and the database are an ongoing activity.

With the assistance of a grant from the Tasmanian Government, work will commence in early 2019 on the upgrading of the irrigation system. We have been very fortunate to have received assistance from Queensland-based Cosmic Desert Rural Property Planning and Design Services.

Geoff Wood, General Manager.

Maurice Kupsch, Curator.

Juanita Wood, Horticultural Manager.

South Australian Branch

The South Australian branch of the Australian Rhododendron Society has enjoyed a very productive time over the past 12 months. This has come about through the efforts and willingness of our membership to take on new challenges as well as building on past initiatives which are attracting and even being readily embraced by new members. Over the past year or so our membership has continued to grow resulting in the fortification of our support base with an enthusiastic and proactive group.

Our annual activities tend to be focussed around our annual September plant sale, reflecting on previous events to plan for ever more successful and efficiently run sales. This primarily revolves around plant supplies which are undergoing a shift from a historic reliance on wholesale interstate nurseries to other smaller nursery concerns and our own propagation efforts. There are added benefits to be gained in undertaking this shift, by maintaining the

interest of members and diversifying and expanding our potential propagation stock. Last year I reported on the development and success of our cutting and propagation event which continues to become more streamlined with a focus on the Whibley and other hardy Australian hybrids.

Led by our librarians we are developing a reference resource in order to better inform our customers, as well as catalogue the collection of locally bred Whibley hybrids. Our material is predominantly sourced from the collection at the Mount Lofty Botanical Gardens, the harvesting of which is a collaboration with the Gardens that our society continues to benefit from. As our financial coffers are in a reasonably healthy state we have pledged a project to assist the MLBG in providing new interpretive signage in order to better identify the Whibley hybrids, and provide more comprehensive information relating to this collection for garden visitors to enjoy.

These Whibley-related projects will also assist in the ultimate goal of creating a comprehensive record of Adelaide Hills rhododendrons, namely the hybrids bred by David Whibley from stock originating from the Waterer Family in the UK during the nineteenth century. These plants, although not particularly showy, have demonstrated their ability to perform well in our Adelaide Hills climatic environment, which is attractive to new and more experienced enthusiasts alike.

As well as becoming more proficient at propagating, members have been fortunate to benefit from further maple grafting workshops allowing us to expand our horticultural skill sets even further. This then introduces the suggestion to experiment with grafting rhododendrons and thus to further diversify future plant selection that we may be able to share amongst ourselves and the broader plant-loving community.

Even more horticultural inspiration has recently been acquired from travels abroad as several members attended the American Rhododendron Society Convention in Bremen. The northern Europeans intrigued our members with alternative approaches and philosophies behind large scale rhododendron propagation and cultivation techniques, as well as dazzled convention attendees with spectacular gardens and rhododendron displays! In past months other members have travelled to Japan, New Zealand and North Borneo, all with interesting and entertaining stories relayed back to the membership at our monthly meetings.

Our monthly meetings are now being held at a venue new to our society, that being the Stirling RSL hall. This has proven to be a successful relocation, well received by Society members, with better kitchen facilities, parking and access, and a more comfortable space generally for gathering together. Social events included a spring visit to Lianne Healey's amazing garden, Copperwaite, timed to ensure a visual feast of blooming rhododendrons and azaleas. 2017 was

wrapped up with a very enjoyable, all be it slightly damp, end of year catered lunch at the lush and tranquil garden of William and Sue Antell in Aldgate.

With only minor changes to the executive committee since my last report, I reiterate how valuable all committee members are to the successful and smooth running of our state branch and thank them all for their ongoing commitment and dedication to their various roles. Special acknowledgement must be made of life member Peter Wiadrowski who is standing down as state treasurer, having also served as treasurer on National Council for a number of years during his long term, spanning over 20 years in this role. I extend a heartfelt deep expression of gratitude to Peter for his exemplary service to the Society, over so many years and witnessed by so many members over this time.

*Belinda Cullum,
President,
South Australian Branch.*

Southern Tasmanian Branch

In March we had yet another propagation day held at Woodbank Gardens at Longley. Harry and Kerry generously provide facilities and a suitable propagation mix. Ken Gillanders, our garden guru gives a demonstration on the 'how to' with much discussion on the many types of plant material, the best cuttings, how to prepare them and how to care for them. Members bring cuttings to share and some are available from Woodbank Gardens – with permission of course. It's always a great day and frequently, successful products from our propagation days turn up on our trade table to be auctioned.

We also had a visit from Heather Pryor from Garden Clubs Australia. Heather is the new Zone Co-ordinator.

On a mild but overcast day in April our group visited the Royal Tasmanian Botanical Gardens to view the seasonal change of autumn. Joy Stones (who had worked at the Gardens for 12 months) gave us a guided tour having first hand knowledge of significant plants and trees. We also had a chance to view the new lily pond structure prior to its opening by Prince Edward on the following Tuesday.

We had a regular meeting in May at Woodbank Gardens with our Blooms Competition, auction and raffle. Our main talk by Kerry, was about the *Nothofagus* in the garden, ably assisted by Ken who of course, had planted them many years ago. There is a significant collection from very large to very small including some very rare ones.

Our June meeting was an indoor event held at Anne Cruise's home in Bellerive. Members enjoyed a Lambley Nursery seasonal video, followed by

Blooms Competition, raffle and auction.

July was our mid-year luncheon and was to be held at Southern Lights, in Kingston. However, this had to be relocated to the Botanical Gardens restaurant as Southern Lights suffered considerable flood damage from torrential rain in early May in Hobart and surrounding suburbs. The luncheon was a great success, enjoyed by all, despite the hiccup.

Our Annual General Meeting was held at Woodbank Gardens in August prior to our general meeting. There were several changes in executive positions.

For our general meeting, Karina Harris gave a short talk on 'The Differences Between Azaleas and Rhododendrons'. This generated much discussion between Members.

The main talk/activity was to be a demonstration on 'how to plant a rhododendron' but unfortunately was abandoned due to inclement weather. Blooms Competition, raffle and our feisty auction were also part of the activities.

Our September meeting was held at Karina Harris's garden in Longley. Always much to see in this garden, particularly in spring, with so many tiny treasures reappearing from the depths of winter. Crocus, cyclamen, trilliums, fritillarias and galanthus – you name it, it will be there. Tree peonies and herbaceous peonies bursting into growth and forming large flower buds ready for their display in coming months. No time for a main speaker just observation and discussion as we wandered this amazing garden. Ken did, however, give a short talk on a rare member of the genus *Petunia*. *Petunia exserta*, which he had grown from seed is apparently the only *Petunia* species that is naturally pollinated by hummingbirds and is the only red flowered *Petunia* species. We did of course have our regular Blooms Competition, raffle and auction.

October was a busy month. On the 14th we visited Penny and Pav's 'Crawleighwood' garden and nursery at Nichols Rivulet. Over the years we have watched this garden grow and mature, particularly the Tasmanian rainforest section. On a visit several years ago, a series of ponds had been developed on the outskirts of the main garden. This has also matured beautifully and now we see a whole new area constructed with large dams designed to handle any adverse weather conditions. All beautifully landscaped and what is most heartening, Penny and Pav are planting large numbers of rhododendrons together with many other rarer trees and shrubs. We will be back.

Towards the end of the month around 20 Members did an overnight trip to the North West to visit the Emu Valley Rhododendron Gardens at Burnie and Kaydale Lodge at Nietta. Many diverted to other gardens and nurseries on the return journey. A very successful event enjoyed by all.

The National Council Meeting was held at Woodbank Gardens in November with a luncheon at My Slice of Pie, in Grove just a few kilometres from Woodbank.

December 9th was our final gathering for the year. Nearly 30 Members attended our Christmas function which was held at Joy Stones and Ted Cutlan's Jubilee Gardens, Cascades. The weather excelled, lovely company, fantastic food, great hosts and the garden beautiful and flourishing as usual – sadly though it may be our last visit as Ted and Joy are 'moving on' with dreams of a smaller garden and more recreational time. The day was enjoyed by all and a fitting finale to a very busy year.

*Dorothy Lane, member,
Southern Tasmanian Branch.*

Tamborine Mountain Botanic Gardens

The Rhododendron Garden within the Tamborine Mountain Botanic Gardens has undergone a number of significant developments over the past 18 months as we strive to ensure their health and vitality.

The 13-hectare Botanic Gardens were founded in 1983 and continue to be maintained and developed by a group of about 25 enthusiastic volunteers with some financial and resource assistance from the Scenic Rim Regional Council.

The Tamborine Mountain environment provides us a number of challenges. While we are situated in south-east Queensland, we are fortunate to be about 500m above sea level and so benefit from a more temperate climate. Winter temperatures range from high single digits to 17°C and 18°C during the day while the summer ranges from the high teens at night to about 26°C during the day. However, we do receive heavy summer rains and some high humidity that can result in fungus damage to the plants. It is a constant



Volunteers after a hard day cutting the azaleas nearly to the ground!

challenge of applying anti-fungal sprays on a regular basis! Despite regular sugar-cane mulching, we also have a constant battle with prostrate weeds. Given the sometime steep terrain throughout the gardens, our volunteers need to be particularly careful as the mulch can be very slippery after rain.

A little more than a year ago, our volunteers decided the azaleas needed a substantial cut-back to refresh them. Frighteningly, the boys turned up with chain saws and the area of nearly an acre was quickly reduced to stalks. The vireyas and elepidote rhododendrons were spared. All of the fungus-infected leaves were removed. Adding to the protection, pesticide was then spread on the ground to protect against lace bug in particular and the plants were sprayed with fungicide. The entire area was then mulched.

The azaleas quickly recovered and this season provided a spectacular display of colour along with the many other species.

More recently, we have extended the garden by cultivating, fertilising and mulching what had been a grassy berm. The garden sprinkler system was extended into this new area and we have begun a planting program with five elepidote hybrids: ‘Gemini’, ‘Brindabella Blue’, ‘Blushing White’, ‘Red Elegaus’ and ‘Midnight’. We will need to wait for some time, of course, to see them flower.

As we approach summer, many of the vireyas are still in flower, to the delight of our many visitors. The Tamborine Mountain Botanic Gardens is one of the most popular attractions for visitors to our region. TripAdvisor, for example, ranks the gardens as the Number Two tourist attraction in a region heavily focussed on tourism.

*Denby Browning,
TMBG volunteer.*



Recently mulched bed displaying azaleas, vireyas and Asiatic rhododendrons in the Gardens.

Victorian Branch

This year has been a slow year of quiet progress. We have continued to improve the garden at Olinda, grow better nursery stock and document the plant material growing in the gardens. We organised only a few activities for our members but these were rewarding and a great pleasure to attend. The core group has continued to work hard and achieve great results while at the same time enjoying themselves. There is much work needing to be done over the next year and beyond with the expansion of the gardens and developing the North Queensland collection providing projects that will keep us busy. A major emphasis of the committee will be the need to be to find ways to grow the core group.

During the year, we continued to fill the nursery with a very good range of rare rhododendrons. We have increasingly become an important source of desirable plant material for both members and the public. Our attendance at sales events, such as the Tesselaars rare plants weekend, does raise our profile. The number of repeat customers who comment that they knew we would be at the event and came with the intention of adding new rhododendrons to their collection is encouraging.

This year the Deputy Premier, James Merlino and the Minister for the Environment, Lily D'Ambrosio, attended the Garden to officially rename it the Dandenong Ranges Botanic Garden and to launch the Olinda Precinct plan including the Gardens extension into the old golf course. The recognition of the Garden as a botanic garden is a testament to the almost 60 years of work by the ARS to develop and landscape the collection at Olinda. The ARS has of course always worked hard at developing the Garden and this continues with vital work on plant identification, garden planning and maintenance. The expansion into the old golf links will be a very big task for us and something I hope we can use to attract active members.

In May, eight members participated in the Society trip to Borneo, visiting Mount Kinabalu and Trus Madi, and along the way, seeing many vireya species growing in the wild. A special thank you to Dale Schubert for organising the trip.

Sadly, we lost Simon Begg late this year, he was a great driving influence who will be missed. Fortunately, one project he concentrated much effort into over the last decade, the North Queensland vireya project, has continued to grow and broaden and has now been granted considerable ongoing funding from the Ian Potter Foundation. The results of this project will keep the ARS busy as well as provide valuable plant collections and study opportunities for a number of botanic gardens around Australia. This will be an ongoing legacy of Simon's determination to see this project through.

*John O'Hara,
President, Victorian Branch.*

Tribute to Simon Begg

24/5/1934–23/10/2018

ANDREW ROUSE

The Society is saddened at the passing of Simon Begg, one of its most esteemed members.

Simon joined the Society in 1992, and served on the ARS–Vic Committee for 18 years from 2000 to 2018. He took on the role of newsletter editor from 2013 to 2016.

Simon comes from a strong horticultural pedigree. His mother graduated from Burnley Horticultural College after Edna Walling and set up a nursery at Ruyton Girls Grammar. Simon was obviously influenced and took up gardening as a young man. He became interested in rhododendrons, and particularly vireyas in the early 1990s. As he and Marcia's interest in gardening and rhododendrons grew, it became clear they needed more space to garden, which prompted their move from Fordyce Road to a new property in Olinda which they called 'Beechmont'. Here, Simon and Marcia created one of the finest gardens in the Dandenong Ranges. In addition to an excellent collection of *Nothofagus* (hence the property name), Simon and Marcia built up a fine collection of rhododendrons, and particularly vireyas.

Simon was instrumental in ensuring that a wide range of vireya species and hybrids were available to Society members. He installed propagating facilities and a shade house at 'Beechmont', and from there held a series of propagation days at which Society members could freely source hard to find species and hybrids. He singlehandedly shifted the culture in the Society away from tightly held collections, to a higher purpose of making species and hybrids available to anyone interested in them, and in doing so, made a lasting contribution to safeguarding species and hybrids in cultivation in Australia.

The garden at 'Beechmont' showcased what could be achieved with landscaping with vireyas. As well as maintaining a large potted collection, a wide range of vireyas were planted in the ground, either in dedicated beds or with companion plants. Simon and Marcia opened the garden for Open Gardens Australia, the Society and other organisations, providing wide exposure to garden enthusiasts of the horticultural merit of rhododendrons.

Simon greatly enjoyed competitive showing of vireyas at the Annual Rhododendron Show, and more recently at the Ferny Creek Horticultural Society, including their Spring Show in September this year. He collected innumerable prizes and trophies, and along the way kept rhododendrons in the public gaze.

Simon achieved many first recorded flowering of vireyas in Australia, including *R. brassii*, *R. praetervisum* and *R. mendumiae*. When the Society agreed to refurbish the glasshouse to create a dedicated vireya species collection, Simon was amongst the first to donate dozens of plants from his collection, including the only *R. goodenoughii* that could be tracked down in public or private collections.

On behalf of the Society, Simon took on the task of engaging with AQIS in rationalising and expanding the list of rhododendrons permitted for import. His skilful and persistent engagement has benefitted all Australian rhododendron enthusiasts with a revised permitted list that reflects the species held in cultivation in Australia.

Simon served on the National Council for many years, and held the positions of Secretary (2008–2012) and President (2014–2015). As President, he set himself three objectives; to revise the Constitution, strengthen the links between Branches and the Society, and furthering the project to collect and re-introduce *R. viriosum* and *R. lochiaie* into cultivation.

All of these he achieved, however his greatest legacy is the ‘North Queensland project’. Simon was the driving force behind the recollection of *R. viriosum* and *R. lochiaie*. Up to this time, despite concerted efforts and international support, the Society had been unsuccessful in securing the necessary permits to collect, and it appeared our prospects were dim. Undaunted, Simon, in his systematic and methodical manner, set about to find a way through. He developed the relationship with Professor Darren Crayn at the Australian Tropical Herbarium (ATH), helped secure philanthropic funding for ATH to establish a project, and made a personal financial contribution towards the project. During 2016–2017, the ATH led a series of expeditions to North Queensland, including a week-long trip in September 2016 when Simon and Marcia, along with seven other Society members, visited many rhododendron populations in North Queensland. Simon and Marcia’s dedication to the trip was apparent when they decided to drive with their caravan from Melbourne to Cairns, a return trip of nearly 6,000 km!

The project was a huge success, with *R. viriosum* and *R. lochiaie* from nearly all locations recollected and successfully established in cultivation at the Dandenong Ranges Botanic Gardens (DRBG). The collection of *R. viriosum* and *R. lochiaie* held at DRBG, and managed by the Society, represents the most complete ex-situ collection of any vireya *Rhododendron* species held in the world. As these plants mature, the collection can be used to determine the physical differences within populations, between populations and between the two species, and how this compares with the results of DNA analysis. The collection also has important conservation value.

Simon and Marcia travelled extensively, representing our Society at conferences in Europe, NZ and America, along the way developing enduring friendships around the world.

Simon never did anything half-heartedly. He was a font of ideas on how to improve the Society and promote rhododendrons, and had the energy, enthusiasm, and where necessary, sheer dogged persistence, to see ideas come to fruition. Rhododendron enthusiasts world-wide are the beneficiaries of his passion for rhododendrons.

Fittingly, in 2015, Simon was awarded Life Membership of the Australian Rhododendron Society.



Simon and other ARS members who participated in the expedition to North Queensland in 2012.



Simon and Marcia Begg in their former garden, 'Beechmont'.

Simon, Mount Spurgeon, North Queensland, 2016.

Whibley and his hybrids

South Australia's Rhododendron Hybridiser

MILTON BOWMAN

As far as we know, David Whibley has been the only person in South Australia to have had a systematic program to breed new rhododendron hybrids. He did this in the early part of the 20th century at Stirling in the Mount Lofty ranges. He produced over 40 named varieties and approximately 30 of these still survive.

The largest collection is in the Mount Lofty Botanic Garden (MLBG) where 34 different plants exist, and others are scattered through a number of private gardens in the Stirling area. More recently there has been a concerted effort by the South Australian branch of the ARS to propagate them, mainly from the stock plants in MLBG. We are attempting to disseminate them throughout the district to help ensure their survival.

David was born in 1878, one of 12 surviving children of parents who had migrated to Australia and the Stirling district in 1854. Stirling is in the Mount Lofty Ranges, 20 km from central Adelaide, and in the 19th century was considered to be a country village where fruit growing, timber collection and flower growing were the main source of employment. Stirling has several advantages over Adelaide. It is 500 m above sea level, has average rainfall of 1,100 mm mainly in the winter, is 4–5°C cooler than the plains, and has acid soil. These facts made the district suitable for establishing European type gardens and for growing exotic plants. The wealthy citizens of Adelaide started to establish ornamental gardens and build mansions for use mainly in summer when conditions in Adelaide became hot and barely tolerable. In fact, Stirling became a 'Hill Station', mirroring places in India and other colonial outposts.

The fashion at that time was to acclimatise plants from all over the world and thus large volumes of conifers and literally anything that the plant hunters could find, found their way to Stirling. Rhododendrons were popular and a number of garden owners made large orders from firms such as the Waterers in Bagshott. Professor E.C. Stirling of St Vigeans ordered so many that the Waterers named a cultivar after his wife ('Mrs. E.C. Stirling'), that is still available commercially. The 19th century rhododendrons were mainly the 'hardy hybrids' and these proved suitable in the Stirling district, but did require watering over summer. Carrying buckets of water up and down hills is labour intensive and the big gardens required multiple workers to maintain them.

Fortunately there was a small army of professional gardeners at the time and David Whibley was one of these. After finishing his schooling at age 12, he started work around the district doing delivery and labouring work. He moved on to gardening, eventually working for Professor Stirling at St Vigeans in the latter part of the 19th century and early 20th century.

There he developed his passion for rhododendrons and this was encouraged by Professor Stirling. He provided Whibley with layers from *R. ponticum* rootstock and grafting material from some of the old and tough hybrids such as ‘Sappho’, ‘Madame Carvalho’, ‘Pink Pearl’ and ‘Mrs William Agnew’. Whibley succeeded with this project and eventually started his own breeding programme. He patiently worked away at this, producing no doubt thousands of seedlings and eventually selecting 40 or so as being worthy of naming and propagating. These selected plants were named after family and friends, the occasional pet, and several after members of Professor Stirling’s family. Rhododendron breeding is a long-term proposition in that a new seedling requires anything from five to 15 years to produce its first flower and it is only then that you know whether you have something worthwhile. In fact, one of the Whibley hybrids called ‘Bruce Grivell’ (Figure 1), named after a son-in-law, took 15 years to flower.

These hybrids have a variable colour palette and range through shades of pink through to almost scarlet, and the influence of ‘Sappho’ can be seen in

Figure 1: *R.* ‘Bruce Grivell’.



a number of plants that produce blotched blooms which are very attractive. There are others that have quite delicate petals in shades of cream coupled with a soft blotch that are beautiful and unique.

Unfortunately time has led to some attrition and a few of the plants have become extinct. One such rhododendron was 'Widge' named after the family cat, and the last known specimen died in the 1990s. Another one called 'David Whibley' struggles along and I only know of one surviving specimen in the district. This one has had a difficult history, it started to die from a root rot whilst in a pot, three cuttings were successfully struck, two then died and only one survived. I can report that it seems to be making a comeback. Fortunately others are as tough as nails and 'Glen' and 'Ronnie Whibley' (Figure 2) are easy to strike and are vigorous.

Whibley himself was more than a gardener and propagator. He took an active interest in community affairs, helped plan and develop the streetscape of Stirling village and he planted the magnificent pin oaks in front of the Coventry Library. Stirling has long been a destination for tourists from Adelaide who come to see the trees and street plantings, very much a legacy of David Whibley. Despite, or perhaps because of his own brief schooling, he was an active supporter of the Crafers School. He lobbied for its establishment and once this happened, he donated time and plants to enhance the school.

Figure 2: *R.* 'Ronnie Whibley'.





MILTON BOWMAN

Figure 3: *R.* 'Alfred Fairhall'.

Most of the Whibley hybrids that have survived over the last 80 years have proven themselves to be tough and resilient and in this they mirror their genetic ancestry. They have the hardy hybrid mix of *R. ponticum*, *R. catawbiense*, *R. maximum* and *R. arboreum* and can cope both with cold, cloudy weather and still have reasonable resistance to our hot and dry summers. Many of these old cultivars can be seen doing quite well in full sun exposure with minimal watering, and still manage to flower well in spring. These qualities will be important if our summers become hotter and dryer.

In summary, the Whibley Hybrids are a part of South Australian horticultural history, they were produced by a man who contributed a great deal to the Stirling District community, and they are tough and promise to be useful plants with future climate change. Whilst most of the blooms are attractive, some are quite beautiful, but all are an asset in the garden.

Acknowledgements

Information for this article has been gathered from material shared by a number of David Whibley's descendants, from the current owners of St. Vigeans, and from discussions with my late friends and mentors Alan and Mary Kerr-Grant.



Figure 4: *R.* 'Alva Whibley'.

Figure 5: *R.* 'Helene Berndt'.



NOTE: Additional images of Whibley hybrids may be found on the front and inside cover.

Inaugural meeting of the Global Rhododendron Conservation Consortium (GRCC)

TERENCE MOON, RANGER TEAM LEADER, DANDENONG RANGES BOTANIC GARDEN, PARKS VICTORIA.

In April this year, I was lucky enough to be invited to a workshop held in Upperville, Virginia, USA. The aim of the workshop was to develop a methodology for the conservation of *Rhododendron* taxa using a global consortium approach. The workshop was sponsored and hosted by the Oak Springs Garden Foundation and was facilitated by Botanic Gardens Conservation international (BGCI), to initiate development of an integrated conservation strategy for *Rhododendron*.

The *Updated Global Analysis for ex situ conservation of Rhododendrons L.* (MacKay et al. 2018) reports that the Red List taxa presently in cultivation do not yet achieve the 75% required to meet Target 8 of the Global Strategy for Plant Conservation (GSPC). The GSPC also calls for 20% of threatened species to be included in restoration and recovery programmes. The main outcome of this meeting was the unanimous agreement by all participants that it would be beneficial to form a global consortium of botanical institutions with expertise in the conservation and cultivation of *Rhododendron* that would ensure that no species of *Rhododendron* becomes extinct. The name suggested for the consortium was the **Global Conservation Consortium for Rhododendron**.

Since the workshop, BGCI has appointed a Consortium Coordinator to oversee the delivery of the consortium objectives. A comprehensive workplan has been developed and the first phases are well underway. A questionnaire has been circulated to gain a better understanding of what Critically Endangered (CR) taxa are, or are not, already in cultivation: the number of accessions that are held, where they are held, and the extent of wild-source material. BGCI have also submitted a proposal to the Global Trees Campaign for funding for integrated conservation (in situ and ex situ) for multiple *Rhododendron* taxa: 'Integrated conservation of *Rhododendron liboense*, a Critically Endangered *Rhododendron* species in China' and 'Collaboration on the conservation of high mountain *Rhododendron* in Sabah (*Rhododendron monkoense*, *Rhododendron tuhanense*), Malaysia.'

My role in representing the Dandenong Ranges Botanic Garden (DRBG), ARS and Parks Victoria at this consortium was to promote the work that we are already doing in this area and to also outline the interest DRBG

has in playing an active role in this consortium. We have optimum growing conditions for many taxa of rhododendrons and space to add to our collection.

From here, there is work to be done at DRBG to verify the list of CR taxa that we already hold within our collection and prioritise those for propagation. I have made contact with The Blue Mountains Botanic Garden, Mount Tomah, Emu Valley Rhododendron Garden and Mount Lofty Botanic Garden to facilitate their involvement in the Consortium to ensure an accurate representation of *Rhododendron* collections within Australia.

Reference

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GRCC team at the inaugural meeting, Upperville, Virginia, USA.

Two enigmatic endemic Philippine rhododendrons re-discovered

G. ARGENT* P.B. PELSER** J.F. BARCELONA **

Rhododendron nortoniae Merr. and *R. whiteheadii* Rendle, two species endemic to the Philippines, have recently been re-found and photographed in Negros as part of the Co's Digital Flora of the Philippines project (Pelsner et al. 2011 onwards). The observations of these populations confirm them as good species.

Rhododendron nortoniae was described by Elmer Drew Merrill (1906) who named the species after a Miss Norton of the Pacific Grove (California) Museum who had inspired the collector's interest in botanical work. Merrill was in the position of botanist at the Bureau of Science, Manila at the time, and the material was collected by Mary Strong Clemens (no. 500; herb PNH†, fragment E!, no other duplicates are known). At this time her husband was stationed as American army chaplain at Camp Keithley, Lake Lanao, Mindanao, and Mary made many collections in this region. Copeland (1929, p.149) stated '*Rhododendron nortoniae* is apparently very rare. I have seen no specimen except the type in the herbarium of the Bureau of Science [PNH] collected twenty-two years ago.' *Rhododendron nortoniae* was searched for on Mount Apo when it was thought it might be a possible hybrid with *R. apoanum* Stein, on an Edinburgh/National Museum Manila expedition in 1992 without finding any trace of it on that mountain where *R. apoanum* is common (pers. obs.). The possibility of *R. nortoniae* being a hybrid with one of the less scaly rhododendrons such as *R. javanicum* (Blume) Benn. subsp. *schadenbergii* (Warb.) Argent seemed a possibility due to the apparent rarity of this species and the spaced scales on the leaf undersides clearly showing epidermis between them (the vast majority of the species in section *Malayovireya* (Sleumer) Argent (Argent 2015) have a complete covering of densely overlapping scales on the undersides of their leaves without any visible epidermis). The fact that it was collected as an epiphyte may also account for the failure to find this species more often as epiphytes can be notoriously difficult to spot in tall forest. There are apparently no recent collections of this species from the type locality.

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On morphological grounds, *R. nortoniae* is certainly most closely related to *R. apoanum* and belongs with it in section *Malayovireya*. An interesting difference between both species is found in the stamens, which are in *R. nortoniae* ‘densely brown-pubescent in the lower part’ (Copeland 1929, p.149). The photograph (Fig. D) indeed shows clearly the hairy filaments, white when fresh (brown only after drying), which are completely glabrous in *R. apoanum*. Furthermore, the flowers are considerably larger in *R. nortoniae*, especially longer (40–45mm vs 16–20mm). The leaves of *R. nortoniae* are also characteristically much more acuminate with long tapering apices than those of *R. apoanum*, although a specimen of *R. apoanum* collected on Mount Urdaneta, Agusan (Elmer’s distribution no.13754 at E!) has leaves which could pass for *R. nortoniae*, but the leaf scales are densely overlapping, which is quite typical of *R. apoanum* and most other species of section *Malayovireya*, but not for *R. nortoniae*. Despite these differences, Copeland (1929, p.149) commented that: ‘the species is related to *R. apoanum* Stein, but perhaps not very closely’. A curious statement in that despite the aforementioned differences between *R. nortoniae* and *R. apoanum* in the degree to which the scales on the underside of the leaves are overlapping, they are quite typical of this section being with both large, dark coloured and small paler scales that have broad ribbed margins (Figs. E & G) and Copeland in fact placed them together in his ‘natural arrangement’ in subgenus *Eurhododendron* Endl. (Copeland 1929, p.136)

An examination of the type fragment of *Rhododendron catanduanense* Merr. (Ramos BS 30346 at E!) throws some doubt on the identity of this species which was reduced to synonymy with *R. nortoniae* by Sleumer (1960, p.104) with the comment ‘There are slight differences between the three mentioned specimens [of *R. nortoniae*] in the size of leaves, anthers and capsules, which however do not allow to segregate them specifically as far as can be seen from the rather poor material’. The type of *R. catanduanense* was one of these specimens. Its leaves are smaller than those of typical *R. nortoniae* (60–70 × c.15mm in the specimen at E vs 70–150 × 15–35mm in *R. nortoniae*; Argent 2015). The leaves on the Edinburgh Herbarium (E) fragment are long acuminate like *R. nortoniae* but the scales on the undersides of the leaves are densely overlapping as in *R. apoanum*. *Rhododendron catanduanense* remains imperfectly known as it was described without flowers and is only known from the type specimen. The type locality on the island of Catanduanes, SE of Luzon, is also a long way from the other localities of both *R. nortoniae* and *R. apoanum*. *Rhododendron catanduanensis* is therefore best regarded as species ‘*ignotus*’. Consequently, *R. nortoniae* at present is only reliably known from the islands of Mindanao and Negros in the Philippines.

Rhododendron nortoniae (Fig. B–E) was found in Negros Island, in the Northern Negros Natural Park, Negros Occidental Province, Victorias City, Barangay Gawahon approach, at c.1100 m, growing in sympatry with *Rhododendron whiteheadii* Rendle. *Rhododendron nortoniae* (Fig. A) was also found in Negros Oriental Province, at the Balinsasayao–Twin Lakes Natural Park, Municipality Sibulan, Barangay Enrique Villanueva at c. 900 m, where it was found sympatric with *R. loboense* H.F.Copel. (Barcelona 4470 at CEBU!; photos at PhytoImages [Nickrent et al. 2006 onwards]).

Illustrations: *Rhododendron nortoniae*. A: Epiphytic habitat. B: Stem with flowers, showing characteristic long acuminate leaf apices; C: single leaf. D: Flower opened to show hairy filaments E: underside of leaf to show space between the scales. Photos: P.B. Pelsler & J.F. Barcelona (additional photos are available from the PhytoImages website (Nickrent et al. 2006 onwards)).

Rhododendron apoanum for comparison, cultivated plant from Mount Apo. F: habit, showing smaller flowers than *R. nortoniae* and more shortly pointed leaves, photo: G. Argent. G: single leaf showing typical shape, photo: D. Purvis. H: underside of leaf showing densely overlapping scales, photo: D. Purvis.

Rhododendron whiteheadii is more problematic than *R. nortoniae*. It was first collected by John Whitehead, an Englishman after whom it was named. Whitehead was primarily an ornithologist but also collected plants which he donated to the Natural History Museum in London (BM) (Steenis–Kruseman 1950). He is perhaps most famous for collecting the first scientific specimens of the Philippine, or monkey-eating eagle (*Pithecophaga jefferyi*) which he named after his father. The locality of the type collection of *R. whiteheadii* is somewhat doubtful. Rendle (1896, p. 356) gives the locality as ‘North-west-central Luzon, highland of Lepanto’ but Sleumer (1960) gives the locality as Mount Polis which was followed in Argent (2006, 2015). Lepanto was a subprovince that is now in the western part of Mountain Province. Mount Polis is on the border between Ifugao and Mountain Province, which is further to the east. Therefore, it is not immediately obvious if these are the same localities. The type specimen of *R. whiteheadii* (BM) is without a date but was probably collected in 1893 on Whitehead’s second visit to the Philippines when he first visited Luzon and then went on to Mindanao, but there is a lack of detail of his itineraries. The specimen of *R. whiteheadii* was said to have been received ‘recently’ at the BM when published in 1896 (Rendle p.355). It was published on the same page as *R. lussoniense* Rendle which Copeland (1929) accepted as a good species separate from *R. whiteheadii*, but Sleumer reduced both these species into synonymy with *R. vidalii* Rolf (Sleumer 1960). Both *R. whiteheadii* and *R. lussoniense* would appear to be associated with the complex of species associated with *R. vidalii* which would also include *R. taxifolium* Merr. and

R. rousei Argent. Copeland (1929, p.156) pointed out a discrepancy between Rendle's description of *R. lussoniense* 'the flowers have been pink or tinged with pink' and Whitehead's field note 'flowers pure white'. The holotype in the BM does not mention flower colour but the sheet does say 'Sheet damaged by enemy action on 10 September, 1940' so it is possible that the notes have been lost in remounting. Sleumer (1973) changed his mind about the status of *R. whiteheadii* on seeing a red flowered *Rhododendron* collection from Mount Pulog (Mount Pulag) with fruits which he stated were distinctly larger than those of *R. vidalii* and concluded 'Colour of the flowers and size of the fruit now allow to separate *R. whiteheadii* from *R. vidalii* rather satisfactorily, though intermediates with pink corollas seem to exist' (Sleumer 1973, p.371). The recent observations of *R. whiteheadii* from the Northern Negros Natural Park (Figs.I–K) appear to confirm the distinctness of *R. whiteheadii* from *R. vidalii* and agree closely with the type specimen of *R. whiteheadii* in the BM, Natural History. These two species are separated at couplet 7 in Argent (2015, p.223) on 'stems with coarse hairs, flowers red *R. whiteheadii* vs stems with short fine hairs, flowers white *R. vidalii*'. There would also appear to be a leaf shape difference, with *R. whiteheadii* having mostly broadly obovate to sub-circular leaves with rounded apices whereas *R. vidalii* has more narrowly obovate leaves which are often broadly pointed. There remains some doubt about the status of *R. lussoniense*: whether it is a good species or to be regarded as a synonym of either *R. vidalii* or *R. whiteheadii*. Similarly, the status of the Mount Pulag plants is uncertain as a Kew collection from that mountain (Jacobs 7308), collected by Mr Mendoza and determined by Sleumer as *R. whiteheadii* exhibits leaves which are more than twice the size of those of the type collection, elliptic rather than obovate with a less rounded, obtusely pointed apex and more pronounced leaf venation. Sleumer was obviously still uncertain of the status of the species close to *R. vidalii* and thought: 'The whole question can be settled only by future research in the field' (Sleumer 1973, p.371). Whereas more field observations and collections are certainly badly needed, species delimitation questions are more likely now to be settled with future DNA sequencing. We are confident that the photographs taken in the Northern Negros National Park, Occidental Province, Barangay Gawahon conform to *R. whiteheadii* as represented by the type specimen in the BM and thus represent an extension of range of this species from Luzon.

Illustrations: *Rhododendron whiteheadii*. I: habit showing disposition of flowers. J: Leaf showing rounded apex. K: Flower showing stamen disposition. Photos: P.B. Pelsner & J.F. Barcelona (additional photos are available from the PhytoImages website (Nickrent et al. 2006 onwards)).



A: *R. nortoniae* epiphytic habitat.

B: *R. nortoniae* stem and flowers, showing characteristic long acuminate leaf apices.





C: *R. nortoniae* single leaf.

D: *R. nortoniae* flower opened to show hairy filaments.





E: *R. nortoniae* underside of leaf to show space between the scales.

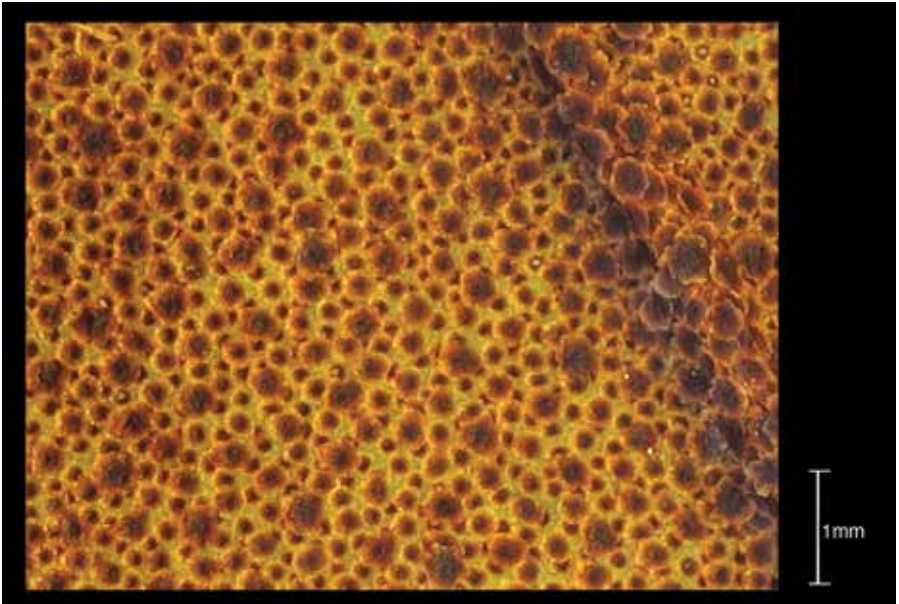
F: *R. apoanum* habit, showing smaller flowers than *R. nortoniae* and more shortly pointed leaves.





G: *R. apoanum* single leaf showing typical shape.

H: *R. apoanum* close up of scales.





I: *R. whiteheadii* habit showing disposition of flowers.

J: *R. whiteheadii* leaf showing rounded apex.





K: *R. whiteheadii* flower showing stamen disposition.

Acknowledgements

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Rhododendron occidentale

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Scanning electron microscope observations of leaf scales in *Rhododendron cravenii* Danet and *R. gardenia* Schltr.

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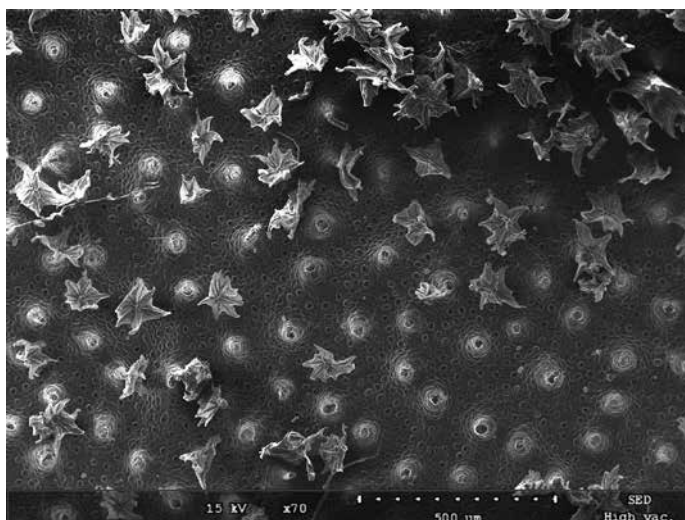
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Rhododendron cravenii Danet and *R. gardenia* Schltr. are endemic to the Central Range of New Guinea. Both species are epiphytic in primary *Nothofagus* forests or terrestrial in disturbed habitats. *R. gardenia* is distributed in the east-central part of the cordillera whereas *R. cravenii* is known from the west-central part. They are found growing in sympatry in the Star Mountains where their respective distributions overlap. These species can easily be confused because their leaves and flowers are very similar. Among the morphological characters differentiating these species, the most striking are the ovary indumentum (3–8-rayed stellate hairs for *R. cravenii* vs simple hairs for *R. gardenia*), the leaf blade base (sub-cordate vs acuminate to rounded) and the indumentum of scales on the underside of the leaf blade. The scales have previously been illustrated by a drawing for *R. cravenii* (Danet 2015) but not for *R. gardenia*. In order to clarify the differences between the scales of these two species, samples of mature leaves were observed with a scanning electron microscope. The images show that for *R. gardenia* (voucher Danet & N. Setamanki 4725 from the Star Mountains, Figure 1), each scale is lobed-substellate, with a medium-sized center, sessile and impressed on a smooth surface, whereas for *R. cravenii* (voucher Danet 4704 from the Baliem Valley area, Figure 2) each scale is stellate, with a relatively small center, stalked and on the top of a small epidermal protuberance which persists giving a verruculose surface after the scales have gone. These differences of scale type place *R. cravenii* and *R. gardenia* in different informal groups in the subsection *Euvireya* H.F.Copel. (sensu Craven *et al.* 2011). *R. gardenia* belongs to the informal group 'Euvireya' whereas *R. cravenii* belongs to the informal group 'Phaeovireya'.

Fig. 1.
Rhododendron gardenia Schltr.,
 scales on the
 leaf underside
 (Danet & N.
 Setamanki 4725,
 LYJB010518).
 Scanning electron
 micrograph by
 Anaïs Chaumeret.



Fig. 2.
Rhododendron cravenii Danet,
 scales on the
 leaf underside
 (Danet 4704,
 LYJB010515).
 Scanning electron
 micrograph by
 Anaïs Chaumeret.



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A short note on Rhododendron of Mount Tujuh, Sumatra with a sight record of potential pollination by butterfly on Rhododendron sessilifolium

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During August 2017, we were fortunate to visit one of the most iconic landscapes in Central Sumatra, Mount Gunung Tujuh, where the highest volcanic lake in Southeast Asia is located. The lake – Lake Gunung Tujuh – is surrounded by many peaks (Fig. 1). The area is just contiguous to the now active volcano, Mount Kerinci.

The forest on Mount Tujuh is largely cleared up to 1,600 m (Fig. 2), and in some areas, up to about 1,900 m. The forests are predominantly montane forest up to 2,250 m where mossy forest commences. In the montane forest, rhododendrons were found growing close to ground level on mossy logs and rocks. No rhododendron species were observed growing on land under cultivation.



Fig 1. View of some peaks around Lake Gunung Tujuh. The highest point on the right is the Mount Tujuh, followed by two lower peaks in the left where *Rhododendron retusum* grow.



Fig 2. Forest clearing for the crop is one of the major threat in the area of Gunung Tujuh, Kerinci Seblat National Park. All cleared land in the picture above are all inside the national park, which remnant forest still can be seen in the left and midline, seen from about 1,600 m above sea level.

Three species of rhododendron were found during a one week expedition on Mount Tujuh. One of them was found in sterile state and could only be identified to genus level. The two others are the common *Rhododendron retusum* var. *retusum* and *Rhododendron sessilifolium*.

Rhododendron retusum var. *retusum* have been found to be common in this area. The first specimen observed was found growing terrestrially on mud-soil just at the margin of Lake Gunung Tujuh. The habitat is marked by the presence of large, tree-sized *Pandanus* (*Pandanaceae*) (Fig. 3). The second sighting was on the nearby summit where it was growing in the mossy forest at an elevation of about 2,300 m. Fallen flowers were also found under tall trees at about 2,100 m, presumably with the specimen growing epiphytically in the canopy above.

Rhododendron retusum var. *retusum* is a medium-sized shrub with a slender stem (Fig. 4). The corolla is bright red, funnel-shaped with a dilated base and marked with distinct patent hairs (Fig. 5). This species is widely distributed on Sumatra and in several areas of Java and can be found at the elevation from 1,350 to 3,400 m (Argent 2015).



Above Fig 3. Habitat at the edge of the Lake Gunung Tujuh where two species of *Rhododendron* (*R. retusum* var. *retusum* and *R. sessilifolium*) can be found. Note the beautiful and large *Pandanus* with distinctly glaucous leaves.

Below Fig 4. Branches and leaves of *Rhododendron retusum* var. *retusum* with late inflorescence.





Fig 5. Flower of *Rhododendron retusum* var. *retusum*.

Rhododendron sessilifolium is the second species identified. It was found growing as an epiphyte on trees at an elevation between about 1,600 m and 2,000 m. At higher altitudes the plants had a whitish throat (rather than the typical pure-yellow corolla), and further examination is probably needed to determine whether these are pure *R. sessilifolium* or hybrids with another species. The plants were found growing on dead wood and also terrestrially on a muddy streambank, where it reached almost 2 m tall. Based on Argent (2015) and recent observation, this species can be recognized by the short petiole and by its pure-yellow corolla, which differentiate it from *Rhododendron javanicum*, a similar species that also occurs in Sumatra. Besides that, the difference between the two species can be found in the corolla, that is up to 4 cm in *R. sessilifolium* and usually much longer in *R. javanicum*.

During the field survey, we observed a potential pollinator of *R. sessilifolium*. The flowers were visited by a large butterfly from the genus *Papilio* (Papilionidae). Unfortunately, no specimen of the butterfly was collected, however comparing photographs taken against the field guide (Kirton 2014), the butterfly closely resembled *Papilio helenus* (Fig. 6 and 7).



Figs 6–7. The *Papilio helenus* visiting the recently collected flowers of *R. sessilifolium*. The picture above shows *P. helenus* showing the dorsal side of the wing and the picture below vice versa.





Above Fig 8. A bumble-bee visiting the flower of *Vaccinium laurifolium* (Ericaceae) in Lake Gunung Tujuh, Mount Tujuh area.

Below Fig 9. Another photograph of bumble-bee with the wing showed visiting the flower of *Vaccinium laurifolium* in Mount Tujuh area.



Pollination in vireya rhododendrons is poorly known. Sleumer (1966), records two species of honey birds, bumble bees and possibly also the Sphingidae moth as visiting flowers of vireya rhododendrons

Our record of a butterfly visiting a rhododendron is a rare *in situ* observation of the role of butterflies as potential pollinators in vireya rhododendrons. It is possible that vireyas with the same morphology of flowers are potentially butterfly pollinated, though more field observations are needed.

Vireya rhododendrons naturally hybridise and many natural hybrids are recognised (Argent 2015). Butterflies may also play a role in the creation of natural hybrids through carrying pollen between different species growing in close proximity.

Further study will be a great contribution toward the understanding of the evolutionary process of Malesian Ericaceae, especially with regard to better understanding the pollinators of this plant family.

Acknowledgments

Authors thank OMPT Canopy, Department of Biology, Universitas Indonesia, who have organized a travel to the Mount Tujuh area, as well as the Staff of Kerinci Seblat National park for giving the permission. KSHL Comata personnel, M. Muhaimin, and I. Permatasari for various help in the field.

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ARS Trip to Sabah, Borneo

May 2018

HENRY HANCOCK AND ANDREW ROUSE

The opportunity to join a rarely offered expedition to see some of Sabah's 42 native vireya rhododendrons in the wild was quickly taken up by eight ARS members – Prue Crome (Vic), Neil Puddey (NSW), Ray Weeks (Vic), Henry Hancock (SA), Chris Hodgman (Qld), Enrico Ciarrocchi (San Benedetto, Italy), Andrew Rouse (Vic) and Dale Shubert (Qld).

Six of the tour group travelled via Singapore, specifically to accept the hospitality of the horticultural team at Gardens by the Bay botanic gardens complex, and particularly to visit the Cloud Forest, a conservatory that houses a four-storey structure in which montane tropical plants are grown (Figures 1 & 2). Neil Puddey has been supplying vireyas to the Cloud Forest for over ten years, and it was amazing to see how integral these plants are to the floral display in the Cloud Forest (Figures 3 & 4). He wistfully told us that the Singaporeans grow and flower their specimens better than he has seen or achieved! The Cloud Forest, and the neighbouring Flower Dome are 'must see' attractions if visiting Singapore, with the surrounding 101-hectare Botanic Garden, the architecture, their contents and manner of their display attracting 6.5 million visitors per year – twice that of Kew Gardens.

The whole group then met in Kota Kinabalu and travelled on to Mount Kinabalu. After a night near the park headquarters, we commenced the 8.5 km walk up the summit trail to the Laban Rata Guest House accommodation at 3,270 m. This sensational 1,800 m ascent allowed us to see not only the magnificent geography (Figures 5 & 6) and forest but flowering specimens of *R. cuneifolium*, *R. javanicum*, *R. crassifolium*, *R. fallacinum* (Figure 7), *R. rugosum* (Figure 8), *R. stenophyllum*, *R. acuminatum* (Figure 9), *R. lowii*, *R. buxifolium* and *R. ericoides* (Figure 10). A highlight was *R. buxifolium* in full flower around Laban Rata Guest House (Figure 11), with busy Mountain Blackeyes (*Chlorocharis emiliae*), one of the locale's pollinators, seen at intimate distance (Figure 12). We were also fortunate to find *R. lowii* in flower at Paka Cave on a 30 minute detour from the much trodden trekker's route (Figure 13). Three of the group summited the 4,096 m Kinabalu peak, leaving at 2 a.m. to arrive for a sunrise spectacular and stunning views of the foothills below (Figures 14 & 15). Within a couple of hundred metres of the summit are plants of *R. ericoides* growing in cracks in the rock (Figure 16). These plants are exposed to harsh conditions,



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Figure 1: Cloud Forest, Gardens by the Bay, Singapore



Figure 2: Cloud Forest, Gardens by the Bay, Singapore.

bitterly cold nights, strong winds and storms, and grow horizontally, with some up to 2 metres long though barely 50 cm above ground level.

The descent for Kinabalu was slowed for three less fortunate members who met a virulent rotoviral infection, luckily largely controlled by journeyman's pharmacy!

We then visited the abandoned Mamut Copper Mine on the south-east flank of Mount Kinabalu. The mine site is at about 1,500 m, the same altitude as the Kinabalu Park Headquarters. The mine was closed in 1999 and left un-rehabilitated. Twenty years on, it is fascinating to see the natural regeneration that has occurred, with vireyas one of the major pioneers growing terrestrially on the exposed slopes (Figure 17 & 18). Here we observed *R. orbiculatum* (Figure 19), *R. polyanthemum* (Figure 20), *R. stapfianum* (Figure 21), *R. javanicum* ssp. *brookeanum* v. *kinabaluense* (Figure 22), *R. praetervisum* (Figure 23), *R. suaveolens*, *R. borneese* (Figure 24) and possibly *R. bagobonum*, growing amongst moss, ferns and several extraordinary *Nepenthes* species on the ground (Figure 25). The vireyas seem to enjoy the conditions, and the high sunlight and low competition environment has produced some magnificent specimens. The hut accommodation, and hospitality of our host were added highlights, with Mount Kinabalu providing a stunning backdrop (Figure 26).

The group continued on to Poring Hot Springs in the lowlands, where the sulphurous hot baths provided much needed reborative qualities to aches and pains. The water gushes from the hill side at 94°C, far too hot for mammalian survival, but cools to 40°C in a series of pools, providing a highly therapeutic indulgence. We then travelled on to Gunung Alab (1,838 m) in the Crocker Range. Around the park headquarters had been planted specimens of *R. burttii*, *R. orbiculatum*, *R. suaveolens*, *R. fallacinum* and *R. crassifolium*. A short walk in the forest around the park headquarters did not expand on this list.

The final destination was Trus Madi. At 2,642 m it is Sabah's second highest mountain and a more remote, less visited mountain than Mount Kinabalu. We commenced the 8 km, five-hour walk from Camp Dennis (500 m), walking through farmland before entering lowland rainforest where a spectacular single specimen of *R. longiforum* was discovered growing high up in a giant tree (Figure 27). A couple of river crossings were navigated (Figure 28) before ascending on a steep track through montane forest to the camp site in the mossy cloud forest at about 2,000 m. Walking the last hour or so in the driving rain was a test of resolve and our wet weather gear! Similarly, the persistent and plentiful leeches attempting to hitch-hike on our moistened team members made for an amusing distraction. Needless to say, it was a welcome relief to arrive in camp, where we were rewarded with spectacular views of the valley below (Figure 29).

The following day, the group trekked to the summit of Trus Madi. Whilst only 4 km, the return trip took most of the day, along rough, muddy and at times, precarious trails (Figure 30), with additional magnificent views through mostly very thick cloud forest (Figure 31). Along the way, we observed *R. fallacinum*, *R. cuneifolium*, *R. suaveolens*, *R. crassifolium* (including a fine salmon-pink form in flower – Figure 32), *R. rugosum*, *R. stenophyllum*, *R. himantodes* and *R. lamrialianum* – the latter abundant on the summit (Figure 33). The campsite accommodation, whilst basic, and generous catering provided by our guide and his team made for a truly wonderful experience in one of Sabah's more remote regions.

The trip was a huge success, with great and lasting friendships made amongst the fortunate expeditioners, and provided a unique opportunity to re-energise the vireya interest in the Society. The trip wasn't all rhodos. A visit to the Sandakan POW's March Memorial in Ranau added poignancy and allowed us to focus not just on our own interests, but the region's history, the challenges the local people and the environment face and the incredible suffering that the tropical jungles have previously witnessed.

A special thankyou goes to Dale Schubert who first suggested a Society trip to Sabah, and then took on organising the trip including all the arrangements with our tour guide.

Figure 3: Vireya rhododendrons, supplied by Neil Puddey, well established on the near vertical walls in the Cloud Forest.





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Above Figure 4: ARS members Chris Hodgman, Ray Weeks, Enrico Ciarocchi, Henry Hancock, Andrew Rouse and Neil Puddey at the top level of the Cloud Forest.

Below Figure 5: Mount Kinabalu from the park headquarters, showing extensive landslides from the 2015 earthquake.



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Above Figure 6: *Melaleuca recurva* and Mount Kinabalu.

Below Figure 8: *R. rugosum* on summit trail.



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Figure 7: Neil Puddey and Chris Hodgman admiring *R. fallacinum* in full flower.



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Above Figure 9: *R. acuminatum* overhanging the summit trail.

Below Figure 10: large specimen of *R. ericoides*, summit trail near Laban Rata Guest House.



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Above Figure 11: 2–3 m high plants of *R. buxifolium* in flower; Laban Rata Guest House.

Below Figure 12: Mountain Blackeye are commonly seen on the summit trail.



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PHIL CROWE

Above Figure 13: *R. lowii* flowering at Paka Cave.

Below Figure 14: View to foothills from trail just below summit of Mount Kinabalu.



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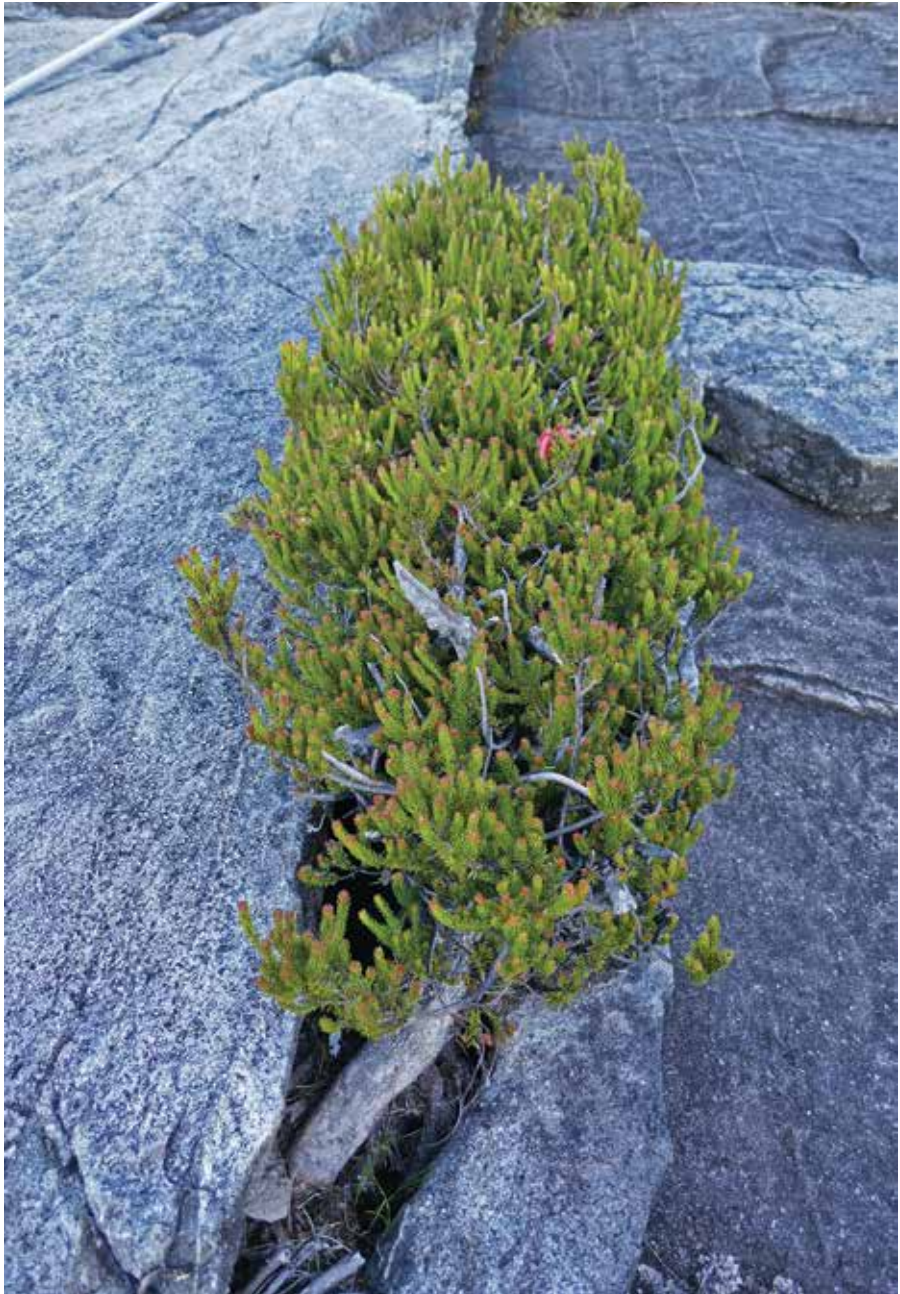
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Above Figure 15: View from trail down to Laban Rata Guest House.

Below Figure 17: Mamut mine site, with rhododendrons growing terrestrially amongst ferns, moss and other pioneer species.



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Figure 16: Large specimen of *R. ericoides* growing amongst rocks near summit.



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Above **Figure 18**: Large specimens of *R. orbiculatum* growing terrestrially in full sun, Mamut mine site.

Below **Figure 19**: *R. orbiculatum*, Mamut mine site.



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Figure 20: Dale Schubert inspecting a specimen of *R. polyanthemum*, Mamut mine site.



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Figure 21: Found you at last! Henry Hancock and Dale Schubert with specimen of *R. stapfianum*.

Figure 22: *R. javanicum* ssp. *brookeanum* var. *kinabaluense* growing on swampy ground, Mamut mine.



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Figure 23: Dale Schubert inspecting *R. praetervisum*, with flooded mine pit below, Mamut mine.



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Above Figure 24: *R. borneese ssp. villosum* growing terrestrially amongst ferns, Mamut mine site.

Below Figure 25: Dale Schubert with a fine specimen of *Nepenthes* species.



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Above Figure 26: Southern aspect of Mount Kinabalu from accommodation, Mamut mine site.

Below Figure 28: Creek crossing, Trus Madi trail. Not for the faint hearted!



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Figure 27: Giant forest tree, lowland forest, Trus Madi. A large specimen of *R. longiflorum* was growing from the side of the tree close to the canopy. It was only spotted as there were spent flowers at the base of the tree.



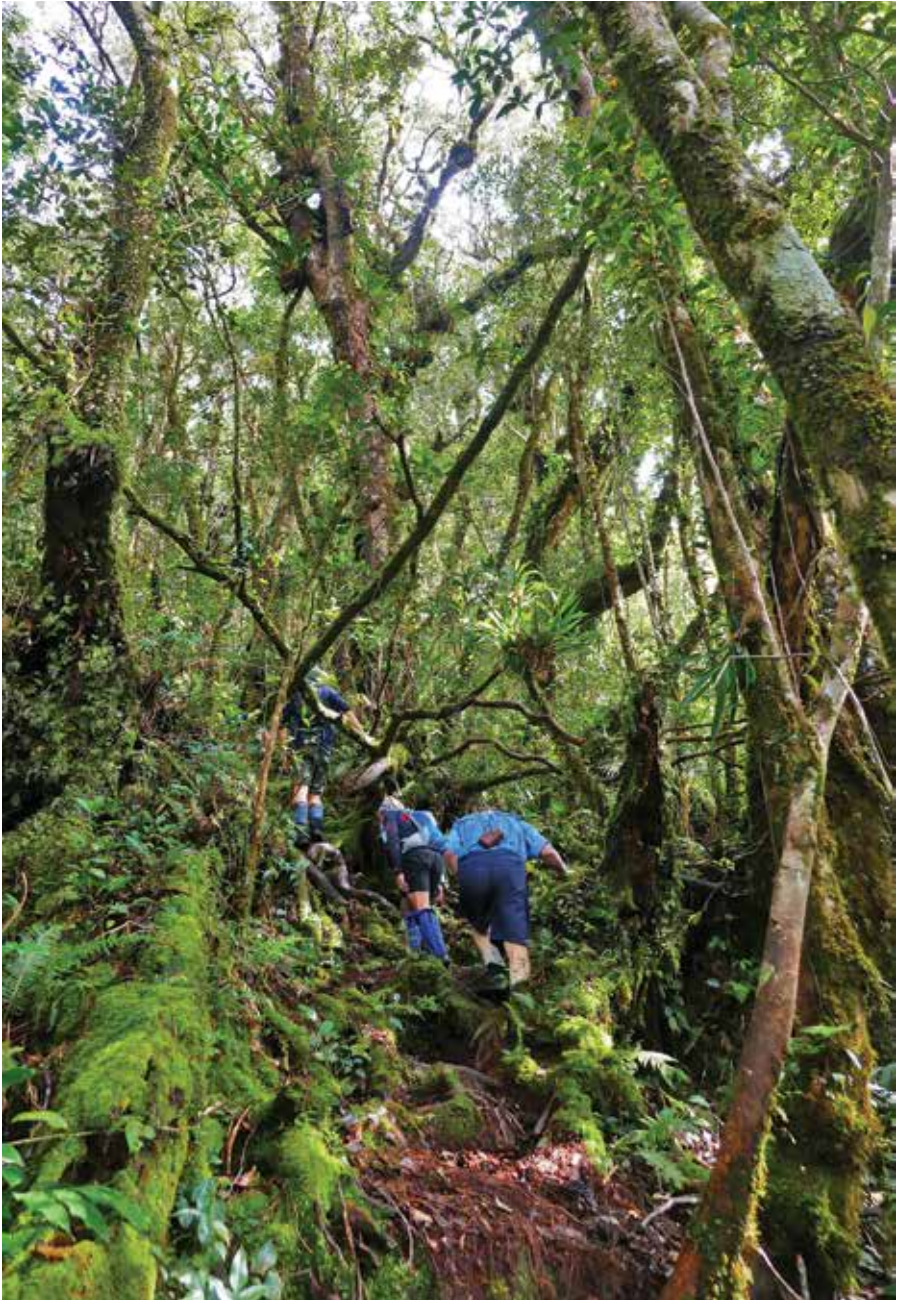
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Above **Figure 29**: View from Trus Madi campsite at about 2,000 m.

Below **Figure 31**: Approaching saddle before final ascent of Trus Madi.



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Figure 30: Trus Madi trail in mossy forest at about 2,200 m.



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Above Figure 32: Salmon-pink form of *R. crassifolium* growing epiphytically, Trus Madi at about 2,200 m.

Below Figure 33: *Rhododendron* assemblage on summit of Trus Madi, with *R. rugosum*, *R. cuneifolium* and *R. lamrialianum* visible.



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*The next chapter: the collection of *R. viriosum* and *R. lochiaie* held at Dandenong Ranges Botanic Garden*

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Background

During 2016 and 2017, the Australian Rhododendron Society collaborated with Professor Darren Crayn and Stuart Worboys at the Australian Tropical Herbarium (ATH) in the project *Saving the unique plants of Australia's tropical mountaintops through understanding the threats*.

Many ARS members participated in collecting trips to North Queensland, and the *R. lochiaie* and *R. viriosum* collected are now held at Dandenong Ranges Botanic Garden (DRBG). The findings from the trips were published in last year's journal (Worboys, 2017).

Collection held

The project has exceeded all expectations, and we have established in cultivation at DRBG a living collection of *R. viriosum* and *R. lochiaie* from 12 different populations, comprising:

- a) *R. lochiaie*: specimens from all known populations (Bell Peak North, Bellenden Ker and Bartle Frere);
- b) *R. viriosum*: specimens from the Carbine Tableland (an extensive upland area home to multiple rhododendron populations, with samples taken from near Mt Lewis, Mt Spurgeon, Devil's Thumb, and another near Mt Lewis discovered by the project team), Windsor Tablelands (two populations), Mt Finnigan, Thornton Peak and the nearby Pieter Botte. Only two known populations of *R. viriosum* were not visited by the project team.

Cuttings were collected from 2–3 plants in each population, and with a couple of repeat visits to some mountain-tops, we collected a total of 47 discrete provenances. To date, only two have failed, so we currently hold 45 provenances across these two species. The *R. lochiaie* and *R. viriosum* now held represents the most complete ex-situ collection of any vireya *Rhododendron* species, and quite possibly for the genus *Rhododendron*.

The plants were received as unrooted cuttings, and like most wild-collected material, it proved challenging to keep cuttings in good condition during the trip and in-transit. In addition, some cuttings collected had short

internodes or were woody, far from ideal cutting material (Figure 1). So, whilst we did have losses, overall we are very pleased with the success rate.

The plants held at DRBG are linked to herbarium specimens held at ATH that were taken from the same plant in the wild at the time the cuttings were taken. This means that comparisons can be made between living plants and herbarium specimens, and when our specimens flower, these can be sent to ATH to supplement their herbarium specimens (very few wild plants were flowering at the time of collection).

Some plants are still on a bottom-heat propagation bench, however in time the entire collection will be maintained by ARS–Vic as potted specimens on a dedicated bench at DRBG (Figures 2 & 3).

At the time of wild collection, leaf samples were also taken and sent to Dr Sue Gardiner and her team at Plant and Food Research NZ who will conduct DNA analysis of these specimens and other vireya *Rhododendron* species. This will help to advance our understanding of the genetic diversity within the populations and species in North Queensland and their relatedness to other vireya species. This work will hopefully be completed by early 2019.



Figure 1: Cuttings of *R. viriosum* from Mount Finnigan.



Figures 2 & 3 (opposite): Potted specimens of *R. viriosum* at the Dandenong Ranges Botanic Garden.



Value of the collection

The collection is important for the following reasons:

a) ***Taxonomy***

As these plants mature, we can use this collection to determine the physical (morphological) differences within populations, between

populations and between the two species, and how this compares with the results of the DNA analysis. Some authorities, including the Queensland Herbarium, recognise just one Australian species (*R. lochia*) and a convincing case for the listing of *R. viriosum* as an accepted species on the Queensland and Australian Plant Censuses will hinge on genetic and morphological data. Furthermore, there has been ongoing speculation that *R. viriosum* from Mt Finnigan, the northernmost and most isolated population of this species, is sufficiently different from other populations to warrant closer examination as to its taxonomic status. The ex-situ plants from Mt Finnigan are readily identifiable from other locales even when not in flower.

Field observations showed considerable differences in the physical characteristics within plants in a population; comparing the ex-situ plants from these populations will help our understanding as to the extent that these differences are genetic or environmental.

b) **Conservation value**

Most of the populations of *R. lochia* and *R. viriosum* visited are above 1,000 m, with the plants growing terrestrially in boulder fields. These small, discrete populations are at risk from threats ranging from introduced pathogens to climate change. The ex-situ collection helps to safeguard these species by holding in cultivation genetic diversity from a range of populations. In time, we plan to share plants with other Botanic Gardens interested in the conservation of these species.

c) **Education and public display**

Very few people will have the opportunity to see these rhododendrons in the wild, with most of the populations being remote and physically challenging to reach. The collection at DRBG provides the opportunity to showcase our local rhododendrons and increase public awareness of them and their mountain-top companion plants.

Next Steps

ARS-Vic and Parks Victoria have an ongoing commitment to maintain the potted collection. Priorities are:

- Taking back-up cuttings for those provenances low on numbers;
- Maintaining label integrity;
- Commence measurement of plant characteristics to record morphological differences (vegetative and floral) within and between populations;
- Secure interest from other Botanic Gardens to hold representative

examples of the collection, to help safeguard these species in cultivation;

- Assist, as requested, with publication of results of DNA analysis;
- Establish an in-ground display of these rhododendrons and their companion plants (see below).

In early 2018, the ATH submitted an application to the Ian Potter Foundation for a follow-up project *Securing the future of Australia's threatened tropical mountain flora for science and society*. This project aims to revisit the North QLD mountain-tops and establish in cultivation the mountain-top endemic plants that grow alongside the native rhododendrons.

Professor Darren Crayn, ATH established a project consortium comprising ATH, ARS-Vic and DRBG, Brisbane Botanic Garden, Cairns Botanic Garden, Mossman Botanic Garden, Royal Botanic Gardens Sydney, Royal Botanic Gardens Victoria (Cranbourne), Wet Tropics Management Authority and the artist Donna Davis.

In September 2018, ATH was notified by The Ian Potter Foundation that the application was successful and the Foundation has awarded the full amount of \$500,000 requested. The project will run from early 2019 to 2023.

The ARS-Vic and DRBG's role in the project is to receive rooted cuttings of the mountain-top endemics from other project partners, and in due course, establish them alongside the native rhododendrons in a dedicated North Queensland Mountain-top bed. The rooted cuttings are likely to be received in Year 2 (2020), however ARS-Vic and Parks Victoria can establish the bed prior to that using the rhododendrons already in the collection.

Parks Victoria has recently secured additional land from the defunct Olinda golf course. Its proximity to the entrance and infrastructure make it a good option for the North Queensland Mountain-top Bed. For further information on the collection, please contact Andrew Rouse (awrouse@bigpond.com)

Acknowledgements

ARS-Vic would like to acknowledge the support of The Ian Potter Foundation, and Simon & Marcia Begg, for funding the project that enabled this *Rhododendron* collection to be established.

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A new species of Rhododendron from Sikkim, India

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BOTANICAL SURVEY OF INDIA, ARID ZONE REGIONAL CENTRE,

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Abstract

A new species, *Rhododendron shingbae* C.S. Purohit et Ram. Kumar sp. nov. (Ericaceae) is described from Shingba Rhododendron Wildlife Sanctuary, Sikkim, India. A detailed description along with comparative photo plates are provided.

Key Words: *Rhododendron*, Ericaceae, Sikkim, India.

Introduction

Rhododendron Linnaeus (1753: 392) is one of the largest genus (ca 1,000 species) of family Ericaceae and is mainly distributed in Asia, Europe, North America and Australia. Most of the species are concentrated in the temperate regions of the Northern hemisphere especially Sino Himalayas (East Himalaya and West China). The genus is divided into 9 subgenera (Mingyuan *et. al.* 2005); 4 are represented in India viz. *Azaleastrum*, *Tsutsusi*, *Rhododendron* and *Hymenanthes*.

Rhododendron subgenus *Rhododendron* comprises about 500 species distributed in temperate Asia to Central and Eastern Europe and extending to North America. In India ca 48 species from three sections (*Pogonanthum*, *Rhododendron* and *Vireya*), are further divided into 18 subsections that includes six species endemic to India (Cullen, 1980; Chamberlain, 1982; Mingyuan *et. al.*, 2005; Sanjappa & Sastry, 2014). Previous field investigations of *Rhododendrons* of Sikkim Himalaya had reported about 36 species and 8 subspecies belonging to 2 subgenera, 4 sections and 21 series respectively (Pradhan & Lachungpa, 1990).

During a floristic exploration undertaken in 2013 to document the phytodiversity of Shingba Rhododendron Wildlife Sanctuary, North Sikkim, one of the authors collected specimens of a species which was quite dissimilar to other species found in the area. After critical study and review of the literature, the specimens could not be matched with known *Rhododendron* taxa and thus is described here as a new species.

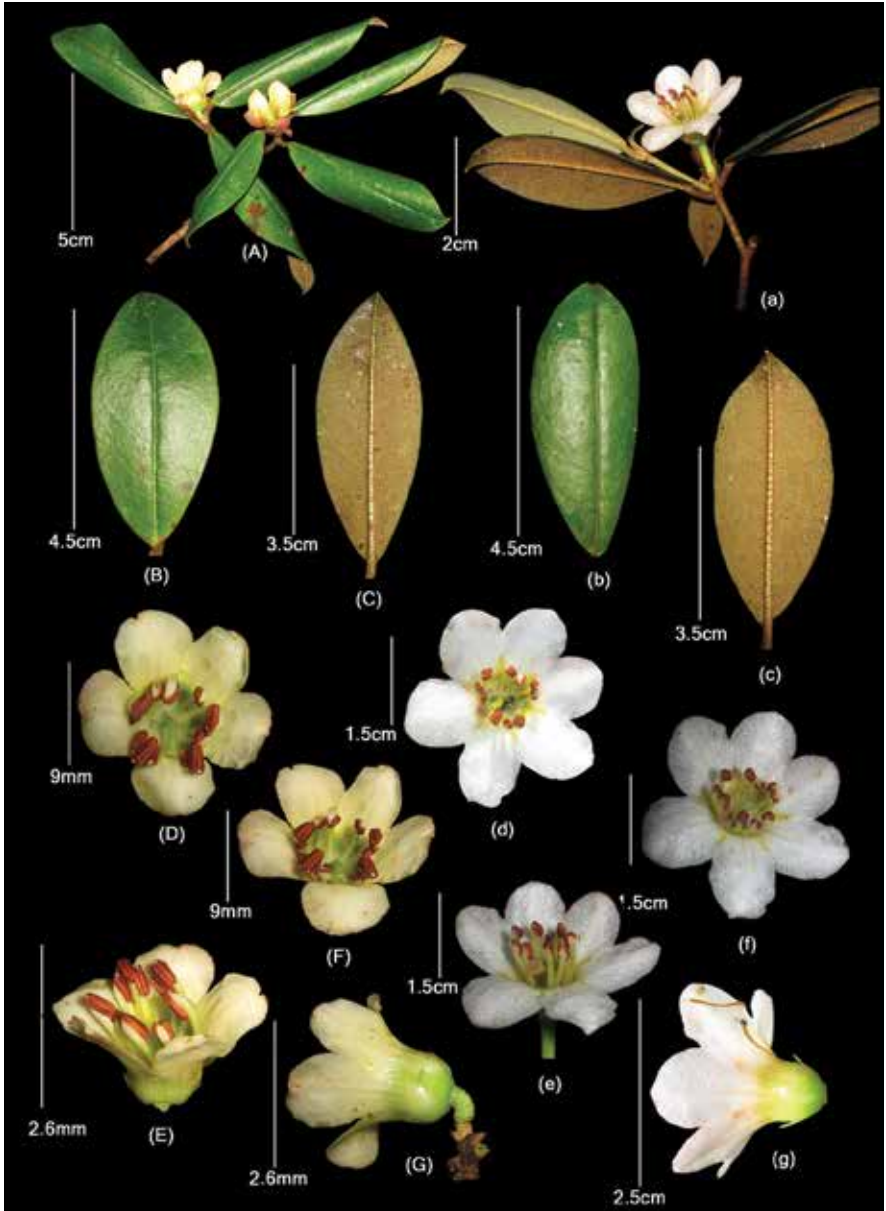


Figure 1: *Rhododendron camelliiflorum* Hook.f.: (A) inflorescence; (B) dorsal side of leaf; (C) ventral side of leaf; (D to G) different view of flower; *Rhododendron shingbae* C.S. Purohit et Ram. Kumar sp.nov.: (a) inflorescence; (b) dorsal side of leaf; (c) ventral side of leaf; (d to g) different view of flower.

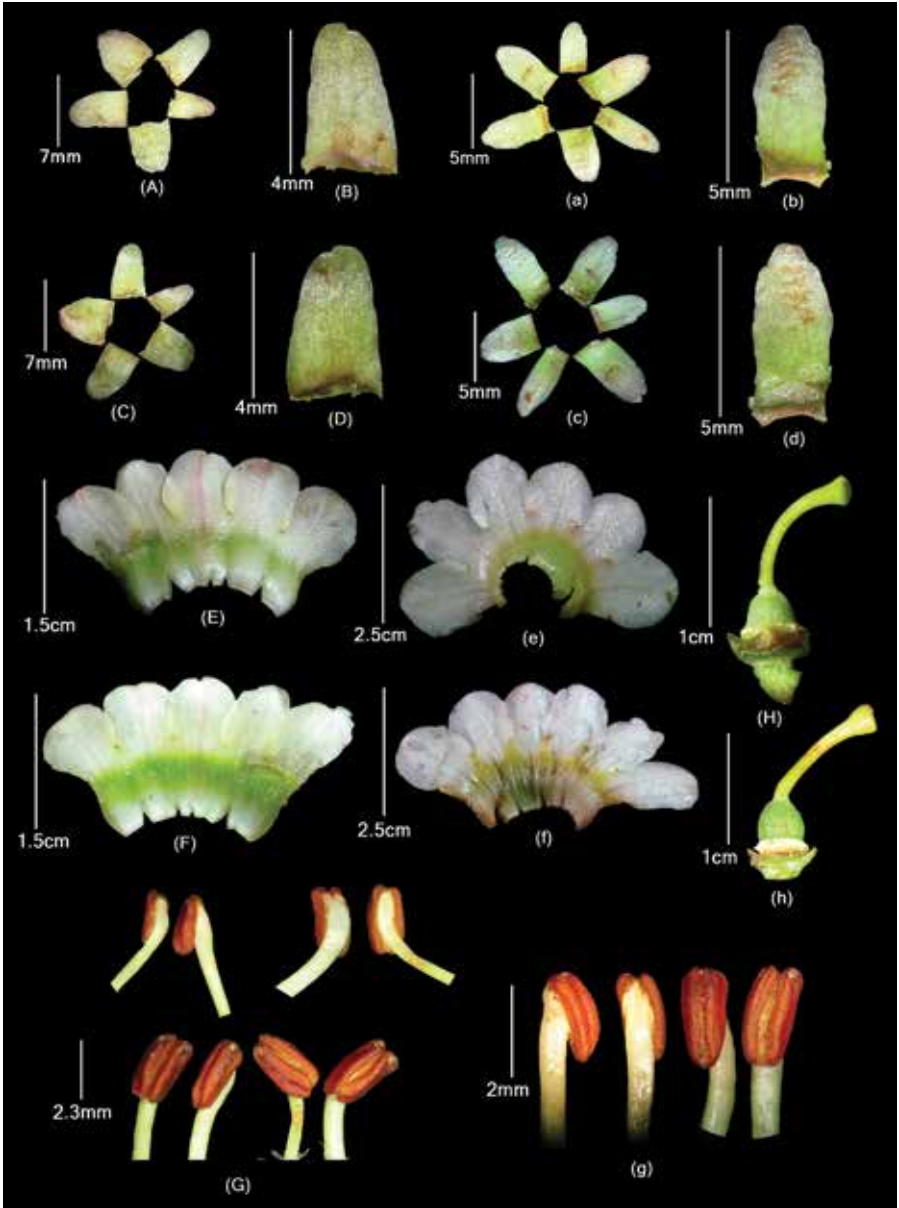


Figure 2: *Rhododendron camelliiflorum* Hook.f.: (A & B) calyx dorsal side; (C & D) calyx ventral side; (E) corolla dorsal view; (F) corolla ventral view; (G) stamens; (H) pistil.

Rhododendron shingbae C.S. Purohit et Ram. Kumar sp.nov.: (a & b) calyx dorsal side; (c & d) calyx ventral side; (e) corolla dorsal view; (f) corolla ventral view; (g) stamens; (h) pistil.

***Rhododendron shingbae* C.S. Purohit et Ram. Kumar sp. nov.**

Allied to *Rhododendron camelliiflorum* but differs in having straight pedicel, 6-lobed calyx and corolla with 10 stamens, style glabrous lepidote and ovary lepidote.

Type: INDIA. Sikkim: North District, Shingba Rhododendron Wildlife Sanctuary, 3,200 m, 22 July 2013, C.S. Purohit 37438 (holotype: BSHC); C.S. Purohit 37438A (isotype: BSHC)

Taxonomic treatment

Terrestrial shrub up to 1–2 m; young shoots lepidote; branches slender, pendulous. Leaves sub-opposite to opposite; lamina oblong-elliptic to oblanceolate, 5–8 × 2–4 cm, cuneate, oblique at base, acute at apex, glossy deep green above, pale green and densely lepidote beneath; scale of lower surface brown, contiguous circular, hyaline, varying in size; midrib prominent and raised above; petioles 6–9 mm long, lepidote. Inflorescence axillary, 1–2-flowered; pedicels straight, 7–11 mm long. Calyx deeply 6-lobed, green rarely pinkish tinge above; lobes rounded, 5–6 mm long, lepidote at base inside. Corolla deeply 6-lobed, tubular-campanulate, 2.5–3.5 cm long, white with pale pink tinge; tube 5–9 mm long, sparsely lepidote outside, densely villous inside at the base along with yellowish stripe; lobes 9–14 × 7–9 mm, rounded at apex, lepidote outside. Stamens 10, exerted; filaments 1–1.5 cm long, hairy in the middle; anthers 2–3 mm long, brownish red. Ovary 4–5 mm long, lepidote; style 10–12 mm long, deflexed at base, glabrous lepidote; stigma clavate. Fruit capsule, ovoid. (Figure 1 & 2).

Flowering & fruiting: July–August.

Ecology: It grows on rocks in associated with *Rhododendron camelliiflorum* Hook.f., *Arisaema concinnum* Schott, *Abies densa* Griff., *Epilobium amurense* Hausskn., *Mazus surculosus* D. Don, *Piptanthus nepalensis* (Hook.) D. Don, *Strobilanthes oligocephala* T. Anderson ex C.B. Clarke, usually up to 3200m.

Distribution: Currently known from the type locality (Figure 3).

Etymology: The species is named after its type locality (Shingba Rhododendron Wildlife Sanctuary).

Conservation status: Critically Endangered CR B2ab(ii,iii,v). The known population of this species is only around 2–3 km² with only six plants observed. The area is of high risk for landslides, greatly threatening the population.

Notes: This taxon is closely related to *Rhododendron camelliiflorum* Hook.f. but differs from that species in growing terrestrially, an oblique leaf base; 7–11 cm long pedicel; deeply 6-lobed calyx and corolla with yellowish stripe and

densely villous along with stripe inside at the base; stamens 10; ovary 4–5 mm long, elepidote; style 10–12 mm long, deflexed at base, glabrous lepidote. Other key differences noted in Table 1.

	<i>Rhododendron camelliiflorum</i> Hook. f.	<i>Rhododendron shingbae</i> C.S. Purohit et Ram. Kumar sp. nov.
Habitat	Epiphytic shrub	Terrestrial shrub
Leaf base	Leaf base equal	Leaf base oblique
Pedicel	Slightly curved, up to 5 mm long	Straight, 7–11 mm long
Calyx	Deeply 5-lobed	Deeply 6-lobed
Corolla	Deeply 5-lobed, rarely yellowish spots and slightly villous inside at the base	Deeply 6-lobed, yellowish stripe and densely villous along with stripe inside at the base
Stamens	(11) 12–14 (16)	10
Ovary	2–3 mm, densely lepidote	4–5 mm long, elepidote
Style	8–10 mm long, sharply deflexed, elepidote	10–12 mm long, deflexed at base, glabrous lepidote

Table 1: Comparison with *Rhododendron camelliiflorum* Hook.f.

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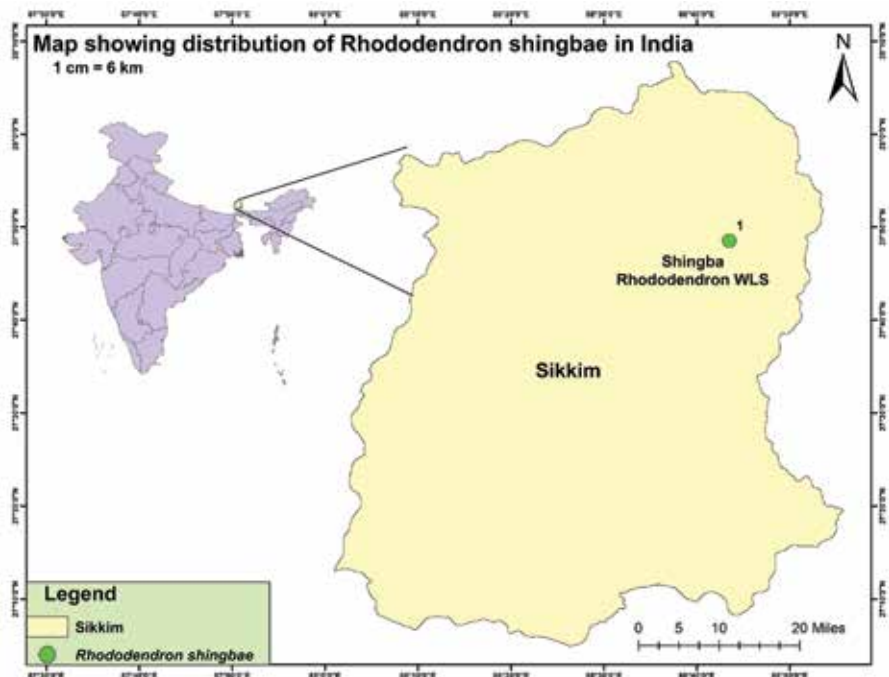


Figure 3: Map showing distribution of *Rhododendron shingbae* in Sikkim (India).

New Registrations 2017–2018

LESLEY EATON

The following is a listing of registrations submitted by the Australian Rhododendron Society Plant registrar, and approved by the Royal Horticultural Society during the year 2014–2015.

Colour numbers refer to the R.H.S. Colour Chart. Accompanying colour names are taken from *A Contribution Towards Standardization of Color Names in Horticulture*, R.D. Huse and K.L. Kelly, edited D.H. Voss (ARS 1984).

Parents of plants are reported in the conventional order – seed parent × pollen parent.

Abbreviations used: H hybridized by
G grown to first flower
S selected by
N named by
I introduced by
R registered by

Included in the description are broad colour definitions after the RHS Colour Chart numbers. This will enable members without access to the chart to have some idea of the colour of the flower.

‘Mrs Sylvia E. Gray’ Elepidote hybrid of ‘Jeanette Clarke’ × *R. arboreum* (red, introduced by J. O’Shannassy). H: L. Begg (2003). G: John C. Gray (2010). N & R: John C Gray (2018). I: Brindabella Country Gardens (2018). Truss: ball consisting of 14 campanulate-shaped flowers. Corolla: 44mm × 55mm. Lobes: 5, wavy. Buds: 55A (bright rose pink). Corolla: Inside 54B (deep rose pink). Red spots on upper lobes. Outside: 54C dusky rose pink). Leaves: Elliptic 135mm × 55mm. Leaf margins: Flat. Upper surface: Matt. Height: 2m × 1.5m in 10 years. Flowering time: September. Very heat tolerant. Free flowering and vigorous.



R. 'Mrs Sylvia E. Gray'.

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Whibley and his Hybrids — see page 20



Whibley hybrids 'Mrs F.Young' (above) and 'Sir Edward Stirling!' (below).



