



The
Rhododendron
The Australian Rhododendron Society Inc.

Volume 56

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The
Rhododendron
Official Journal of the Australian Rhododendron Society

2016

Volume 56

Contents

Editorial · <i>Andrew Rouse and Barry Stagoll</i>	3
President's Report · <i>Simon Begg</i>	4
Reports – Australian Rhododendron Groups	7
<i>Rhododendron × helodes</i> in New Guinea · <i>Frédéric Danet</i>	14
Neriiflora identification in Yunnan · <i>Prue Crome</i>	26
In search of <i>Rhododendron rousei</i> · <i>Dale Schubert</i>	37
Rhododendron, Camellia and Magnolia Group Centenary · <i>Robert Hatcher</i>	46
Australian Rhododendron Society contact information	52

Front cover *Rhododendron forrestii* photographed by Prue Crome in Yunnan (see page 24).

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 56.

Editorial

ANDREW ROUSE AND BARRY STAGOLL

It is with pleasure that we present the 2016 volume of *The Rhododendron*, bringing you news and stories from around the globe.

We welcome back Frédéric Danet as a contributor. Frédéric has collected widely in West Papua, and on one of his trips, rediscovered *R. helodes*, a vireya species not seen for over 60 years. Frederic observed this species growing in association with *R. saxifragoides*. Close examination showed that *R. helodes* shares many morphological similarities with *R. saxifragoides*, and in this article, Frédéric reclassifies it as *R. × helodes*, a natural hybrid of *R. saxifragoides* and another species (possibly *R. brassii*). The Society is most appreciative that Frédéric has published this article in our journal.

Three of our members present reports on overseas expeditions. Prue Crome recounts her six-day trek to a remote mountain region in far west Yunnan (close to the border with Myanmar), where she and a group of other plant enthusiasts were amongst the first visitors to this botanical paradise. Prue has a particular interest in the Neriiflora group, and her article describes the many species she observed, including *R. forrestii*, *R. citriniflorum* and *R. aperantum*. The group positively identified 37 species of *Rhododendron*, with another 15 possible species!

Robert and Jacki Hatcher represented the Society at the Centenary celebrations of the Rhododendron Society, now the Rhododendron, Camellia and Magnolia group of the Royal Horticultural Society (RHS). The celebrations were held at the RHS's garden at Wisley, where the celebrations coincided with their show; Robert and Jacki also visited a number of public and private gardens famous for their rhododendron collections.

In March 2015, Dale Schubert, one of our most intrepid members, visited Sibuyan Island, Philippines where he and a group of other amateur botanists, climbed Mount Guiting Guiting, the only known location of *R. rousei*. As far as we know, this is only the second time this species has been observed in the wild, and Dale's article is an important update on the extent of the population. Dale has previously botanised in West Papua, Sulawesi and other islands in the Philippines.

We include reports from the Society Branches and gardens; if you haven't been in contact with your local Branch or garden, perhaps the arrival of this journal might prompt you to do so? We have not received any registrations for 2015, however Lesley Eaton, our Registrar, has informed us that there 2016 will see an uplift in registrations! Please consider registering

new varieties with horticultural potential; Lesley can help with the registration documentation.

We welcome feedback on articles you'd like to read in future issues, and encourage our members to submit articles.

Andrew Rouse and Barry Stagoll

(very appreciative of Andrew's most thoughtful and expert assistance in bringing together this volume, as well as the quality content provided by our contributors)

President's Report

SIMON BEGG

This is my second, and last, President's Report.

In October 2014 I set myself three objectives:

- furthering the North Queensland Project of obtaining properly provenance samples of Australia's native Rhododendrons from their North Queensland mountaintop habitats both to enable DNA analysis and to establish *ex situ* collections of them at Olinda, Mount Lofty and Emu Valley to further the study of these plants.
- revising ARS Rules so as:
 - to reduce the cost of running ARS to the minimum needed for the core objectives of publication of *The Rhododendron*, maintaining the ARS website and satisfying the statutory requirements of an Annual National Council meeting and an Annual General meeting.
 - to ensure that no Branch (or its members) is bound by any ARS decision to do or pay anything unless it votes in favour.
 - to facilitate, as ARS projects, those projects that Branches prepared to fund.
- re-establishing Emu Valley as a Branch and encouraging Blackheath to become a Branch.

What has happened?

The North Queensland Project

The Project secured funding from the Ian Potter Foundation.

James Cook University's Prof Darren Crayn (Cairns) and Plant & Food Research Co's Principal Scientist, Team Leader, 'Mapping and Markers' Dr Sue Gardiner (Palmerston North, New Zealand) have agreed on an outline of how the project will proceed:

- Professor Crayn, James Cook University, is Project Director to oversee collection of samples. JCU has, or can obtain, requisite permits save for some sites where negotiation with the Indigenous People is required, particularly, and unfortunately, Mount Finnegan which is a key site. Fortunately samples dating back to the 1970s are held.
- samples have been collected from
 - Mount Lewis *viriosum*
 - Bellenden Ker *lochiae*
 - Bell Peak *lochiae*
 - Mount Spurgeon *viriosum*
 - Windsor Tableland, two sites, *viriosum*
 - Thornton Peak *viriosum*
- Dr Gardiner's team will do the DNA analysis.
- Both JCU and Plant and Food Research will co-author the research papers.
- ARS members have participated in collection of the samples from Mount Spurgeon and Windsor Tableland.
- cuttings from the 2015 and 2016 collections either have been potted on or soon will be.
- ARSV, at Olinda, and Adelaide Botanic Garden and, hopefully, Emu Valley Rhododendron Garden will establish ex situ collections from the collected samples for further study.
- ARSV has provided funding.
- an Agreement between JCU and ARSV has been entered into.
- the text of an Agreement between Plant and Food Research and ARS has been agreed and the Agreement will be made in the next few days.
- ARS will contribute NZ\$4,000 funding to Plant and Food Research.
- hopefully ARS SA Branch will also contribute funding towards making up the funding gap to do the DNA analysis at the best level current technology allows.

I think ARS Branches and their members can feel confident the project will proceed to finality. It will determine with confidence how many Australian native *Rhododendron* species there are; one, two, three or more. It will also shed light on the source of these plants in Australia, their evolution and relationships with New Guinea relatives.

ARS Rules

New Rules for ARS were adopted by special resolution in 2015 and are now in force. They now set ARS as a voluntary organisation with minimum operating costs, as befit the times with core functions of production of *The Rhododendron* and the ARS website. Other activities are a matter for those Branches that agree to participate and provide funding.

Re-establishing Emu Valley as a Branch and gaining Blackheath as a Branch

Emu Valley has rejoined. I attended on Blackheath and await an outcome.

New Zealand

Marcia and I have just returned from Hamner Springs where we attended the NZRA 2016 conference in the first week of November. As always, lovely gardens and wonderful hospitality. We even went for a swim in the hot springs. Luckily for us we returned a week ahead of the latest earthquake. Having seen the damage in Christchurch five years on we know that New Zealand is not called the shaky isles for nothing.

While we were there one of the NZRA council members mentioned that they were considering holding a conference in Australia. I hope my successor will follow this through.

The Rhododendron

Barry Stagoll has been chair of the Editorial Committee since 2000. The journal enhances ARS' reputation internationally, and the quality of the journal is due to Barry's dedication to the publication over many years. Like me Barry is stepping down. My hope is his efforts both in the case of the journal, and before that as ARS secretary and organiser of ARS' 2000 conference will be recognised at ARS AGM 2016.

It would be wrong to leave Jeff Jenkinson, as my successor, nothing to do. But a start has been made. Jeff, no doubt, will add objectives of his own.

I would like to thank National Council and the Branches for their support in my term of office. I can't name everyone but I mention particularly Jackie and Rob Hatcher, Andrew Rouse and my wife Marcia.

Simon Begg

Reports – Australian Rhododendron Groups

Campbell Rhododendron Gardens, Blackheath, NSW

For the past twelve months the grounds of the Gardens seem to have been a constant construction site, with preparatory work being done before the building of our new disabled toilet block can commence early in 2017 (at long last!). This work has included connecting the existing buildings to the sewer, and laying new water pipes to replace those initially laid in the 1970s. In addition, silt traps have been installed to improve the quality of water which flows through the Gardens, eventually passing through the Grose Valley and into one of Sydney’s major waterways. Some new paths have been created and others upgraded to improve visitor safety, with the major car and coach parking area at the entrance to the Gardens being re-graded and asphalted.

Over the last few years a number of trees and branches have come down, mainly in that part of the Gardens that is in a natural ‘native bush’ state, and which have added to the fuel load on the ground. While still waiting for a hazard reduction burn to be carried out by the authorities we were able to carry out a burn of large piles of dead wood near the Conifer Garden. This will enable us to establish a Proteaceae Garden there to showcase members of this family – especially those that flower in winter.

The Gardens receive many visitors throughout the year, with many Blackheath locals taking advantage of our “Dogs on Leash” policy to exercise their dogs (and themselves) as often as they can. During the peak flowering



season in spring we welcome up to 15,000 visitors to the Gardens – not just from the Blue Mountains and Sydney, but from all over the world. We find many visitors return year after year, often bringing more of their friends with them. Even though we advertise the Gardens widely, on our own and tourism websites, at National Parks Information Centres, etc., we find word-of-mouth advertising is about the best you can get.

This year our Lodge is open from 30th September to 6th November for the sale of ‘Aussie Teas’, souvenirs, our famous calendars and some plants. However, this year the flowering season seems to be running a few weeks late (who can say what Mother Nature will do from one year to the next) – but this will mean the Blackheath Rhododendron Festival street parade on the 5th November will have an abundance of flowers available!

Readers can find out more about the Gardens, and the Society that runs them, on our website – www.rhodogarden.org.au – and visitors will be warmly welcomed at the Gardens at Bacchante Street, Blackheath, NSW.

Alan Lush

President, Blue Mountains Rhododendron Society

Emu Valley Rhododendron Garden

Being Chairman of Emu Valley has been a sharp learning curve and during the first full twelve months in the position has certainly bought one important message home to me, loud and clear. This being that the members do not want The Garden to lose its stand alone identity.

Be it the Business Review being undertaken or relationships we have with other gardens or organisations it is important that Emu Valley Rhododendron Garden continues as a non for profit, private garden, owned by its members. Having said this it is also important that we continue to build for the future.

The past year has seen the arrangement with training organisation Global Net for horticultural students to be at the garden once a week extended through to 2017.

During the 2016/2017 year we assisted Nepal after the catastrophic earthquake by means of sending a donation to our International Patron Ken Cox, continued to assist organisations who care for the disabled and disadvantaged by means of reduced entry to the garden and morning and afternoon teas and welcomed people who volunteer as they recuperate from personal issues. Emu Valley is certainly not the ‘every day run of the mill garden!’

Around the garden it has been a very busy year. As well as the daily tasks of general tidying up, unblocking drains, manual irrigation set up and

attention to detail of our grassed area, all walking tracks have been widened, trimmed back and blue metal compacted.

The higher areas of the garden has seen new tracks created and gabion wall structures have been put in place for the management of erosion control on the steep banks. The Japanese section of the garden has also had a makeover with a slate Japanese style walkway on one half of the lake.

One of our main focus points has been the nursery upgrade where we have modernised our facilities to enable more efficient operation design to achieve ease of carrying out the various tasks involved in the propagation of plants for the garden and for sale.

Our seed raising and propagation area is now connected to the potting shed and from there the plants go on to beds in a climatic controlled environment before they are transferred out to a new shade area where they harden off and grow on ready for planting the following autumn or for sale. There is still work to be done on the project and hopefully, like the slate Japanese walkway, if there are sufficient funds completion will not be too far off.

This last year we planted out 623 plants – 572 were species and of those 28 were new to the garden. These species ranged from Nepal through each of the Himalayan countries, many provinces of China into Japan, Taiwan and North America.

2016 sees Emu Valley celebrate its 35th year and as much as there will be a great deal of reminiscing there will no doubt also be discussion as to what the future holds.

Geoff Wood

Chairman, Emu Valley Rhododendron Garden Inc.

Tamborine Mountain Botanic Gardens

As with most years, it has been a busy time at the Gardens as we continue to develop, and maintain the 22 acres, that are now 33 years old.

Our major project has been the continuation of the Sooty Owl Creekside Trail, a walk through rainforest, designed for Children but loved by adults as well as the kids.

Work here has meant clearing the huge number of palm fronds from the Piccabeen Palms that are native to the area, building numerous bridges and pathways, and constructing features such as the Crooked Mill House with it's working Water Wheel.

There has been a huge planting of shade loving species, and the installation of various carvings of lizards and owls, with more to come.

Education signage has been in place, aimed at children, giving them



information regarding things to look for on the walk, and explaining the history and nature of the various plants and features.

A mass planting of Birdwing Vine (*Pararistolachia praevenosa*) has also taken place to encourage the Richmond birdwing butterfly to breed in the area. Maintenance has concentrated on upgrading the irrigation system throughout the gardens, and resurfacing most of the roadways and pathways.

We have also extended the Orchid house, which is now twice its original size.

Our major fund raiser, the Springtime on the Mountain Festival, held over three days on the last weekend in September was a great success raising valuable funds for us to continue our work in the Gardens.

We have a core of about 25 to 30 volunteers, average age about 75 years old, who do an outstanding job maintaining the gardens to a high standard.

Roger Lenehan

General Manager, Tamborine Mountain Botanic Gardens

South Australian Branch

A very successful start to propagation of cultivars by members has put us in a position to be able to see a way of gradually replacing the annual import of plants from Victoria, as well as help our members gain skills in propagation. The cutting day has again proved a good thing both socially and productivity wise.

Many thanks to Milton for the use of his facilities and to Bron and Richard Illman or their tireless efforts.

Attendance at our meetings has continued to be good and the support for the trading table idea shows this is an added bonus for the Branch.

Presentations by this past years' speakers have included The Singalila Ridge Trek Jacki and I took last year took last year, and the two trips made by Cameron Peoples to Yunnan in Spring and Autumn.

Visiting the UK and being part of the Centenary of the *Rhododendron* *Camellia* and *Magnolia* group of the RHS was also something of a high for me personally. Last years' quiz after the AGM was good fun and hopefully this years' will be too.

We had another visit from Neutrog and continue to enjoy a very healthy relationship with that company.

I have enjoyed being President during this last twelve months working to bring in a new slightly modified constitution that hopefully reflects what we as a society of *Rhododendron* lovers wish to achieve. I would like to thank all the members for their continued support of this Branch and the work of all the committee. The Newsletter continues to be a great communication medium and is a credit to Bron and Natalya.

I look forward to working with the new President and the rest of the executive to continue to deliver a good program for the next twelve months.

On another personal note the end of this last 12 month period has capped off a dream started in 2010 when Simon Begg and I flagged with the National Council the wish to get new collections of the Australian *Rhododendron* species.

It has been a long and winding route to get to where we now have several representations already propagated in the nursery at NRG Olinda. Being part of this project has been very fulfilling and I look forward to continuing with it and establishing a display of *R. viriosum* and *R. lochiaie* at Mount Lofty Botanic Garden in the coming years.

Robert Hatcher
President, South Australian Branch

Southern Tasmanian Branch

With the sun shining through the golden wattles, blossom trees bursting into flower and the early *Rhododendron* in full bloom it all heralds the beginning of the new *Rhododendron* year. So what has happened over the last year for our society?

We seem to have fallen into a comfortable pattern of garden visiting with a formal meeting tossed in now and again. Once more our meetings commenced with a very well attended propagating day. This year Kerry and Harry van den Berg opened up one of the old glasshouses at Woodbank Gardens. It was a great day with, firstly a walk around the garden gathering cuttings, then lunch before we all learnt how to best treat these cuttings to

ensure successful rooting. Isn't the Society fortunate that it has found two great new members willing to share a favourite garden? I know this propagating meeting will become firmly established as the first meeting of the year.

It has been a year of predominately visiting gardens of our members. Joy Stones and Ted Cutlan's Jubilee Gardens in Cascades remains a popular venue as is Ken and Lesley Gillander's newly established garden in Kingston, Dorothy and Robin Lane's garden at Neika and Neil and Sandra Harwood's garden at Claremont. It was great to welcome back Kaye and Gordon Hagan and to visit their wonderful collection of vireya rhododendrons in their garden also in Kingston. Vireyas seem to be so often the forgotten branch of the *Rhododendron* family, but once you see the burst of vibrant colour, quite different from the well known cultivars, you can't help but want to try something different in your own garden. Once again we returned to Di and Phil Cooper's Glenlusk Gardens to celebrate the Christmas season. It is always a pleasure to have a leisurely ramble around the garden before coming in to the great spit roast which Phil provides. A couple of extra garden visits were also organized and these, too, were well attended.

A special thanks must be given to our generous members who cheerfully open up their homes and gardens to us on such a regular basis. Thanks, also, to our members who support the blooms competition. Not only do we see a wide range of rhododendrons but also a great variety of very interesting companion plants. Our last function of the year is our traditional July luncheon. A small, elite group enjoyed a lovely lunch at the Huon Manor in Huonville. Illnesses, hospitalization and members travelling kept the numbers down this year, but that certainly didn't deter those who attended from having a most enjoyable time.

My main regret is that the wonderful wealth of knowledge of the genus gained over the years by our older members is not being passed down to a new generation of rhododendron lovers. This is an issue which is worldwide. Finding new, young members to enjoy our passion is becoming increasingly more difficult so, please everyone, put on your thinking caps and bring forward any ideas you may have for the members' consideration. We don't want our rhododendrons or our Society to fade away into oblivion.

Lesley Eaton
President, Southern Tasmanian Branch

Victorian Branch

As has been the case for the last few years, the activities of the Victorian Branch (VB) this year have been confined to weekly gatherings at Olinda (each Tuesday) and the odd special event.

The Tuesday Olinda group continues to be active in propagating plants, for the Garden, the members, the public and for their own interest (and get to keep some for themselves). As nurseries stocking rhododendrons become fewer and the range available becomes more limited, this ARS activity becomes more and more necessary.

This group also remains vital to maintain significant parts of the Garden and to continue the work of properly documenting the plants in the Garden. The ARS(VB) is also active in lobbying Government for improvements and development of Olinda.

The special events held this year were indeed very special, on each occasion being something not likely to have been experienced other than through the Society. On October 25 a group of ARS members toured Alistair and Julie Watt's Arboretum at Laver's Hill. This garden has an outstanding collection of plants and is the product of an extraordinarily active lifetime of plant hunting around the world. This was followed on November 29, by the ARS(VB) conducting visits to two lovely inner Melbourne gardens, the gardens of David Wilkinson and Clare Rouse. These two gardens showed the results of many years of toil and enthusiasm for plants and were both beautiful oases in the built suburban landscape.

The third event in collaboration with the general ARS, which will be covered in detail in next year's journal, was the North Queensland expedition. This expedition resulted from many years of hard work by various members of the ARS, foremost of whom were Simon Begg, Robert Hatcher and Andrew Rouse. For the purposes of this report it is sufficient to say that the opportunity to visit and stay in remote forest wildernesses like Mount Spurgeon and Windsor Tableland behind locked gates with a group of similarly weird plant fanatics makes my 40 years of ARS membership worthwhile.

I will add that the remarkable range of skills, experiences and talents of our members constantly and pleasantly surprises me. The Society's ability to draw together such people and provide outlets for their abilities is as needed now as it ever was. The ability to successfully tackle projects the Society works on augers well for its future, albeit that the Society's future will for some time, be as small groups of active and enthusiastic members developing and preserving what we can. The growing and appreciation of rhododendrons in Australia requires the work of the various Societies to continue it also requires that these Societies increasingly pool their resources.

*John O'Hara
President, Victorian Branch*

Rhododendron × *helodes* Sleumer
(Ericaceae) in New Guinea: an
amphistomatous hybrid of *R.*
saxifragoides J.J.Sm.

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Abstract

Rhododendron × *helodes* was recognized until now as a threatened species, only known from the Lake Habbema area in New Guinea. Not seen for over 60 years, it was rediscovered in a second location 15 years ago. On this occasion, this taxon was strongly suspected of being a hybrid because of many morphological similarities with *R. saxifragoides* with which it grows sympatrically. The hybrid nature of *R. × helodes* is now confirmed with the discovery of the amphistomatous character of its leaves which was previously known in *Rhododendron* only in *R. saxifragoides*. This hybridity calls into question the presence of *R. × helodes* on the IUCN Red List. A new description of *R. × helodes* is given from the type material and new collections.

Key words

Ericaceae, *Rhododendron*, *Schistanthe*, New Guinea, Indonesia, hybrid, amphistomatous, stomatal distribution.

Introduction

Rhododendron × *helodes* Sleumer (Ericaceae) had been described from specimens collected by Brass in 1938 at Lake Habbema during the third Archbold Expedition to New Guinea (Brass 1941). This taxon had not been seen again



Fig. 1. *Rhododendron* × *helodes*, shrub in boggy grassland, Nejawi karume, New Guinea.

Fig. 2. *Rhododendron saxifragoides*, cushions on poorly drained slope, Nejawi karume, New Guinea.



until 2002 on the occasion of botanical surveys on Mt Yonowe (Fig. 1), about 40 km north-west of Lake Habbema. At this rediscovery, a hybrid origin was suspected due to the strong morphological affinities with *R. saxifragoides* J.J.Sm. (Fig. 2) with which it grows in boggy grasslands. *R. × helodes* can be distinguished from *R. saxifragoides* by having an erect growth habit, a shorter pedicel, and more widely spaced and broader leaves (Fig. 3). Traditionally recognized as a species (Sleumer 1960, 1966; Royen & Kores 1982; Argent 2006, 2015), the strong presumption of the hybrid nature of *R. × helodes* is supported by the discovery of amphistomatous leaves (stomata on both sides of the blade). This character is only shared in the genus with *R. saxifragoides*. In spite of the absence of molecular evidence, the hybrid nature of this taxon is conclusively demonstrated from observations on herbarium specimens, field observations and this new anatomical evidence. This has consequences for its conservation status.

Material and methods

This study was conducted from herbarium material collected in the field in New Guinea and in the garden of Andrew Rouse in Melbourne.

For each sample of mature leaf, a 0.5 cm square was mounted on the microscope's support for this purpose, with double-sided tape. Samples were observed with the Scanning Electron Microscope Hirox 3000, under vacuum. Temperature is set at -50°C and the electronic beam is set on 5 or 10 kV. Scales are displayed on the pictures.

Stomatal distributions in Rhododendron

During photosynthesis, plants combine carbon dioxide (CO_2) with water to develop sugars and use light energy for this purpose. Photosynthesis intensity is limited by the factor that provides the minimum value. Loss of water via transpiration and CO_2 uptake are regulated by stomata that are small apertures occurring on leaves and other aerial portions. There is great variation between species in the stomatal distribution and density on the leaf. Leaves may be hypostomatous (i.e. have all the stomata on the lower epidermis) or hyperstomatous (all the stomata on the upper epidermis) or amphistomatous (with stomata on both sides). Hypostomaty is more prevalent in species which live in deep shade and amphistomaty in species living in non-shaded environments, hyperstomaty can be found in some floating plants (Peat & Fitter 1994).

An earlier survey of stomatal distributions in *Rhododendron* demonstrated that in over 200 examined species, all are hypostomatous with the exception of *R. saxifragoides* that is amphistomatous (Nilsen & Webb 2007). Hubrecht



FREDERIC DANET

Fig. 3. *Rhododendron saxifragoides* (Danet 4258) and *Rhododendron × helodes* (Danet 4257), cut flowering branches, Nejawi karume, New Guinea.

(2015, com. pers. 2016) examined more than 50 species that proved to be hypostomatous. It would seem that most *Rhododendron* species have stomata on the leaf underside only, protected from external influences (direct sunlight, rain, epiphyllous algae, lichens and mosses, etc.) that would impair photosynthesis.

Amphistomaty in R. saxifragoides and its hybrids

Amphistomaty may have evolved in species living in unshaded environments where CO_2 is limiting the rate of photosynthesis since it would increase maximum leaf conductance to CO_2 (Mott *et al.* 1982; Peat & Fitter 1994). Mott *et al.* (1982:459) suggest that both amphistomaty and environmental conditions favouring high maximum leaf conductances are characteristic of open area plants: full-sun herbs, low shrubs, early successional deciduous trees, desert plants, and marsh, swamp, lakeside and phreatophytic plants. These plants, living in full sun, show high photosynthetic rates and grow quickly when water is available. *R. saxifragoides* is typically a low shrub living in swamp in full sun (Fig. 4).

Using scanning electron microscopy, our study confirms the amphistomaty of *R. saxifragoides* (Fig. 5) and shows that this character is present in its hybrids *R.* ‘Saxon Blush’ (= *R.* ‘Hot Tropic’ \times *R. saxifragoides*) (Fig. 6) and *R.* ‘Rogue Red’ (= *R. saxifragoides* \times *R. womersleyi*) (Fig. 7). The presence of amphistomaty in *R.* \times *helodes* (Fig. 8) suggests that it is a natural hybrid of *R. saxifragoides*.



Fig. 4. *Rhododendron saxifragoides*, cushions in boggy grassland, Nejaw karume, New Guinea.

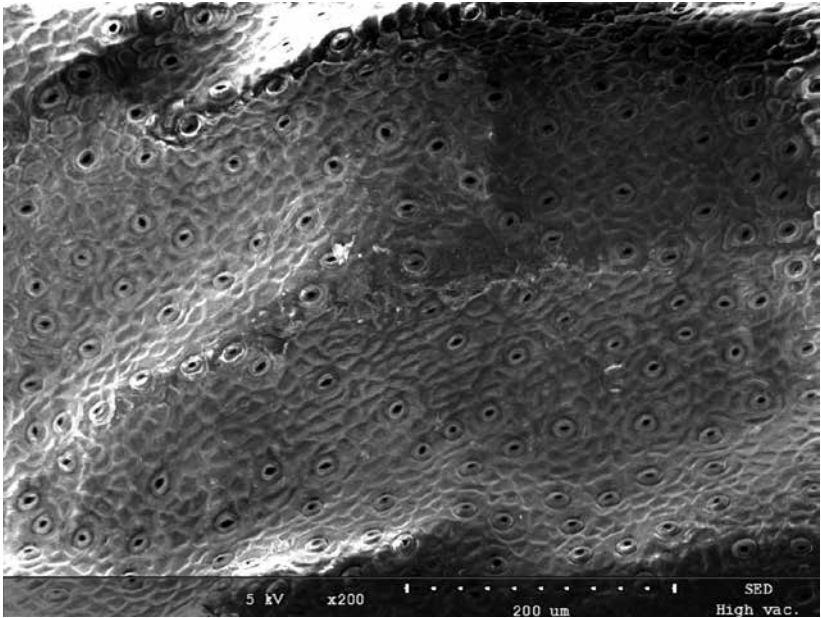


Fig. 5. *Rhododendron saxifragoides* (Danet 4222), stomata on the leaf upper side.

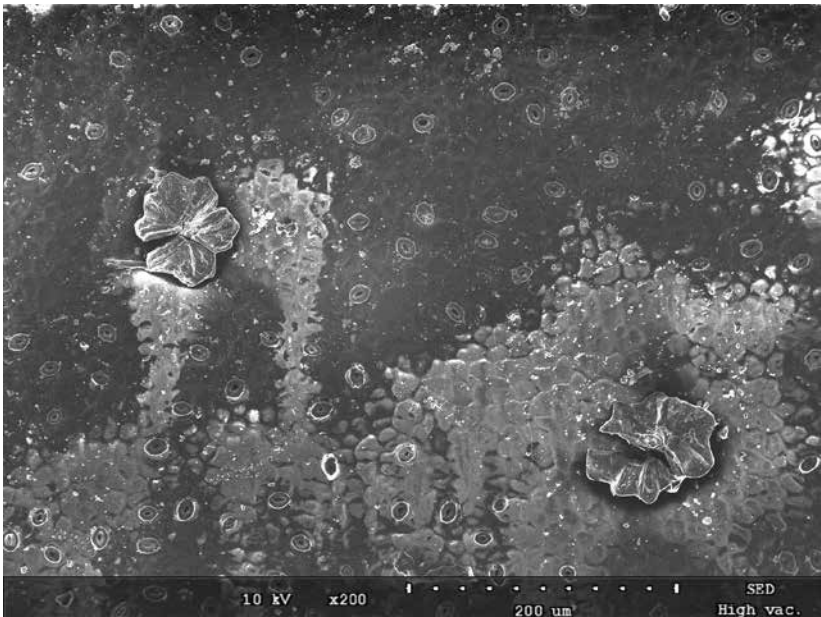


Fig. 6. *Rhododendron* 'Saxon Blush', stomata and scales on the leaf upper side.

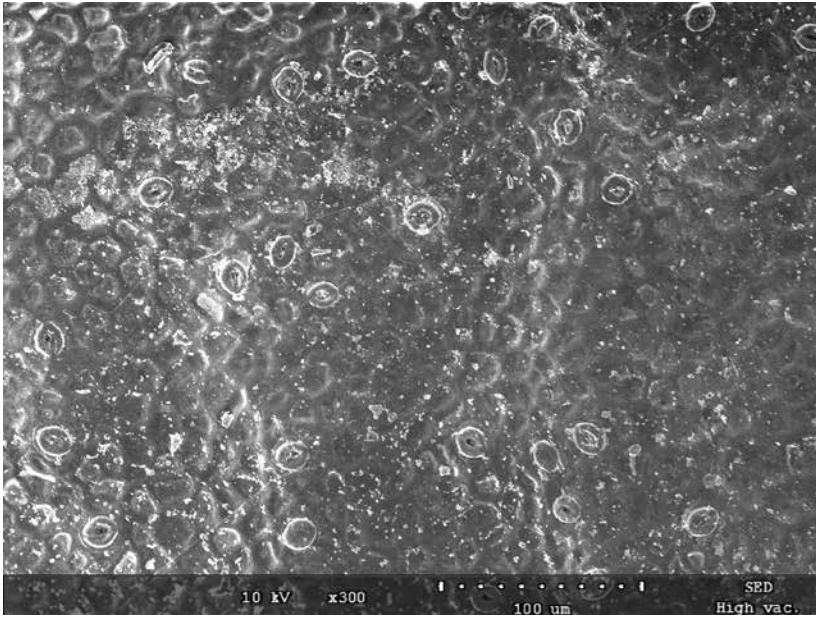


Fig. 7. *Rhododendron* 'Rogue Red', stomata on the leaf upperside.



SCANNING ELECTRON MICROGRAPHS BY ANAS CHAUDHET.

Fig. 8. *Rhododendron* × *helodes* (Danet 3905), stomata and scales on the leaf upperside.

Systematics

Rhododendron × *helodes* Sleumer (= *R. brassii* Sleumer ? × *R. saxifragoides* J.J.Sm.), *Reinwardtia* 5: 161 (1960), pro sp.; *Flora Malesiana* ser. I, 6(4): 594 (1966), pro sp.; Royen & Kores, *Alpine Fl. New Guinea* 3: 1647 (1982), pro sp.; Argent, *Rhododendrons of subgenus Vireya*, 1st ed.: 222 (2006), pro sp.; Argent, *Rhododendrons of subgenus Vireya*, 2nd ed.: 262 (2015), pro sp.—Typus: Indonesia, Prov. Papua, Lake Habbema camp, 3225 m, frequent in low shrubberies on long-grass marches, fl. red, VIII.1938, fl., *Brass* 9316 (holo-, L! [L0007492]; iso-, A [A00015743] image!, BRI [BRI-AQ0189302] image!).

Description

Terrestrial shrub, erect, ramose, up to 50 cm tall; twigs terete, (1)–2–12 cm long, 2–4 mm in diameter, relatively strong compared with leaves, laxly to densely lepidote, soon glabrescent. Leaves spreading to erect, 1–5 irregularly alternate and 6–10 in pseudowhorls on each of the upper 2–3 sympodial units. Petiole semi-cylindrical, channeled above, robust, 2–5 × 2 mm, densely lepidote. Blade narrowly to broadly elliptic, sometimes obovate, 2–4 × 0.8–1.6 cm, coriaceous, amphistomatous; base cuneate to attenuate, decurrent; margin differentiated, slightly thickened, recurved, sinuate, ± cartilaginous; apex obtuse, acute or shortly broadly acuminate, frequently apiculate by a small gland; upper side bright green, laxly lepidote initially, very soon glabrescent; underside light green, laxly and persistently lepidote (scales reddish brown initially, becoming colourless, lobed-substellate, impressed, with a small centre, sessile); midrib impressed above, prominent beneath throughout the entire length or only at base, then becoming obscure in the upper half; secondary nerves (2–3 pairs) impressed to obscure above, obscure beneath; tertiary nerves and reticulation obscure or invisible on both sides. Umbels (1)–2–4-flowered. Outer bracts triangular to ovate, caudate to cuspidate at the apex, lepidote on a broad median line outside, lepidote-fimbriate at the margin. Inner bracts oblong to elliptic, up to 2.2 cm long, cuspidate to apiculate at the apex, lepidote on a broad median line outside, lepidote-fimbriate at the margin. Flowers hanging or half-hanging, zygomorphic. Bracteoles linear-spatulate, c. 1.9 cm long, lepidote on a median line outside, entire to lepidote-fimbriate at the margin. Pedicel red, 2–3 cm long, c. 1.5 mm in diameter, densely lepidote. Calyx discoid, oblique, 4–5 mm in diameter, sub-entire to indistinctly 5-lobed, densely lepidote outside. Corolla red or yellowish red, tubular-infundibuliform, 3–4 cm long; tube straight or slightly incurved, sub-cylindrical, 1.8–2.7 cm long, 4–7 mm in diameter at the base, regularly widened up to 8–14 mm in diameter at the throat, sub-densely lepidote outside, pubescent at the base or without hairs inside; throat oblique to 2–4 mm; lobes 5, spreading-erect,

Morphological characters	<i>R. saxifragoides</i>	<i>R. x helodes</i>	<i>R. brassii</i>
Height	up to 30 cm	up to 50 cm	up to 4 m
Phyllotaxy	leaves densely alternate (obscuring branchlet) and in pseudowhorls at the top of the ultimate sympodial unit	leaves 1–5 irregularly alternate and 6–10 on pseudowhorls on each of the upper 2–3 sympodial units	leaves regularly and laxly alternate
Leaf blade			
Dimensions	1.6–3.4 x 0.3–0.7 cm	2–4 x 0.8–1.6 cm	3–6.3 x 1.3–3.7 cm
Margin	not differentiated, weakly revolute, entire, not cartilaginous	differentiated, slightly thickened, recurved, sinuate, ± cartilaginous	differentiated, recurved, minutely crenulate, narrowly cartilaginous
Stomatal distribution	stomata on the upper and the lower epidermis	stomata on the upper and the lower epidermis	stomata on the lower epidermis
Inflorescence	1(2)-flowered	(1–)2–4-flowered	3–6-flowered
Pedicel	3–10 cm	2–3 cm	2–2.5 cm
Corolla			
Length	3–3.5 cm	3–4 cm	4–5.5 cm
External indumentum	densely lepidote	sub-densely lepidote	glabrous
Internal indumentum	densely retrorsely pubescent at base	pubescent at the base or glabrous	glabrous
Colour	pink to red	red or yellowish red	dull yellow or greenish-yellow with a strong orange flush on the proximal half
Filaments	pubescent in the basal third	laxly pubescent at the base or glabrous	glabrous
Ovary	very densely lepidote and very densely pubescent	very densely lepidote and very densely pubescent	very densely lepidote
Style	lepidote and pubescent in the basal third, then with hairs only to c. halfway	lepidote and pubescent in the basal third or without scale	lepidote proximally for 1–10 mm, then glabrous

Table 1. Comparison between morphological characteristics of *Rhododendron saxifragoides*, *R. x helodes* and *R. brassii*.

overlapping, sub-orbicular to broadly elliptic, 8–14 × 6–11 mm, rounded or slightly retuse at the apex, lepidote on a broad median line outside. Stamens 10, unequal, about as long as corolla tube; filaments red, linear, laxly pubescent at the base or glabrous; anthers orange, obovoid, 2–2.5 × 1 mm; thecae rounded at the base; pores antrorse-latrorse or antrorse-introrse. Disc 10-lobed, pilose at the apex or glabrous. Ovary ovoid-oblongoid, 5–8.5 × 2.5–3 mm, attenuate towards the style, very densely lepidote and very densely pubescent; style red, lepidote and pubescent in the basal third or without scales; stigma capitate, 5-lobed, becoming exerted to 13 mm. Unripe capsule ellipsoide-oblongoid, c. 11 × 6 mm, 5-furrowed, lepidote and pubescent. Seeds not seen.

Ecology

R. × helodes is terrestrial among low shrubberies in long grass marshes and open boggy slopes, between 3100 and 3300 m altitude. Flowering was observed in April, August and December.

Additional material examined

Indonesia, Prov. Papua, Mt Yonowe: Nejawi karume, 3125 m, 30.IV.2002, fl., *Danet 3905* (LYJB); Langobah karume, 3280 m, 4.XII.2002, st., *Danet 4181* (LYJB); Nejawi karume, 3125 m, 5.XII.2002, fr., *Danet 4185* (LYJB); Nejawi karume, 3120 m, 12.IV.2003, fl., *Danet 4257* (LYJB).

Notes

A comparison of floral and vegetative characteristics (Table 1) shows that *R. × helodes* is morphologically intermediate between two species growing together: *R. saxifragoides* and *R. brassii*. The shared amphistomaty confirms the relationship of *R. saxifragoides*; however the identity of the second parental species, although likely, remains to be confirmed.

This taxon has been assessed as Vulnerable (VU D2) according to IUCN Red List criteria (Gibbs *et al.* 2011:46). However, assessments of the hybrids (except for apomictic plant hybrids which are treated as ‘species’) may not be included on the IUCN Red List (IUCN Standards and Petitions Subcommittee 2016: 6). Therefore, considering its hybrid nature, *R. × helodes* is no longer a priority among threatened *Rhododendron* taxa for *in situ* and *ex situ* conservation.

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Domingus Wenda, Kimanus Wenda, Kipenus Wenda and Mbimber Wenda. Andrew Rouse is thanked for reviewing the manuscript and providing leaves of *Rhododendron* ‘Rogue Red’ and *Rhododendron* ‘Saxon Blush’. Gerard Thijssse is thanked for providing access to the collections of the Nationaal Herbarium Nederland (L). George Argent is thanked for reviewing the manuscript and correcting the English.

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Neriiflora identification in NW Yunnan 2015

PRUE CROME

This article attempts to take a deeper look at field identification of rhododendrons, particularly the *Neriiflora* subsection, during a trip to a not often explored region close to the Myanmar border in northwest Yunnan in May–June 2015.

To give an insight, my interest in the smaller rhododendrons was ignited when I became a volunteer at the National Rhododendron Gardens (NRG) in Olinda, Victoria. My initial task was to overhaul the rockery and this is where I encountered the *Neriiflora* group. The plants nestling amongst the rocks included *R. forrestii*, *R. citriniflorum* and *R. dicroanthum*. The *Neriiflora* make good rockery specimens, as the plants are prostrate or low, compact shrubs, a good attribute for hybridization selection such as *R.* ‘Carmen’. Some have dense rust coloured indumentum and can have up to 20 tubular, usually lax flowers in a cluster. The corolla is often fleshy with five nectar pouches and the calyx can range from large to minute. But the really exciting feature is the flower colour range, going from rich reds to almost black, through to pinks, oranges, yellow and white.

The distribution of the *Neriiflora* is SE Tibet, NW Yunnan, NE Burma, with a few in Bhutan and Assam. They grow in wetter regions at altitudes from 2,500 to 4,600 m, on well-drained slopes.

Seeing plants in their native habitat is a thrill and gives me an insight into their horticultural requirements. One might not be able to replicate their environment but it is interesting to see how well they can grow in quite different localities, soil types and elevations. It is quite amazing how adaptable most plants are, to see alpine plants not just surviving but sometimes even thriving at much lower altitudes. It is also interesting that the morphology of each species doesn’t alter under these changed conditions (one of the conditions for species evaluation). On checking which species of *Neriiflora* are represented in the NRG, the Australian Rhododendron Society Victoria (ARSV) database shows an enticing array of species planted since the 1970s but alas many have died or have been over grown, so are now difficult to find. The more recent plantings are found in the rockery and it will be interesting to see how well they develop and flower. You can already see the plants sheltered from summer sun are doing better. There are around ten species planted in the rockery and seedlings coming along as well as cuttings from private collections.



From Kunming, we flew west to Baoshan then drove two days north beside the Salween River along the Nujiang Valley to Bingzhongluo. Our 6 day trek ran south along a valley, west over a pass to the special unnamed site by a lake, then north along a parallel valley back to Bingzhongluo.





Above Snow-capped Gaoligong range surrounding our campsite at 3,900m and in close proximity, the clumps of dark green vegetation containing numerous species of rhododendron.

Below Picture from 2014 of the hillside adjacent to our campsite in 2015 showing the continuous community of rhododendrons: *R. citriniflorum* var. *horeaum* (orange), *R. citriniflorum* (yellow), *R. haematodes* ssp. *haematodes* (red), *R. forrestii* (prostrate above), small pink *R. aperantum*, taller pale pink *R. eclectum* with the distant yellow *R. campylocarpum* var. *caloxanthum* amongst the conifers *Abies georgei*.



Trip preparation

Prior to the trip I researched rhododendron species distributions for this region. Given its remote location I extended the search area to include NE Myanmar and created a list of some 150 species.

The Trip

A group of plant enthusiasts from Australia, New Zealand, Germany and England joined a specialist expeditions company Whistling Arrow, run by Adrian Bottomley, www.whistlingarrow.com/destination/rhododendron-explorer. Adrian, assisted by Edward He, conducted a reconnaissance trip in 2014 whilst heading to the Dulong, where they found the flowering in these parallel valleys was so spectacular they organized a special 12-day rhododendron trip in 2015.

Two of the tour members have already written articles giving detailed accounts of plant species encountered on this amazing trek through stunningly subtropical broadleaf forest to alpine forest. Gordon Bailey's article can be found in *The Rhododendron 2015*, a NZ Rhododendron Association publication, and also on the ARS website <http://www.rhododendron.com.au/article/nw-yunnan-2015-plant-exploration/> and Rhododendron und Immergrüne Band 20 2015, has an article by Wolfgang Meinhausen.

Not wanting to duplicate their comprehensive commentaries of the six-day trek and the vast array of plants encountered, I thought it would be interesting to focus on one location, a place where we had time to investigate, an area where rhododendrons were the predominant species.

Campsite 3

Day three of the trek was supposed to end after an arduous climb over a 3,900m snow-covered pass and down to a campsite at 3,000m but the site was too wet so we pressed on. This entailed climbing back up to 3,900m through more driving wind, rain, river and creek crossings and thick bamboo forest. We arrived at approximately 7pm after a 12-hour trek with just sufficient time to set up our tents before darkness descended. Lucky for us the tenacious porters were carrying the heavy loads. The reward for this effort was to then spend two nights in one place. We woke next morning to catch a fleeting glimpse of Mount Gaoligong at over 5,000m with the adjoining range surrounding our protected valley, above a serene lake and delight in the knowledge that we had a whole day to explore!

The plants surrounding our campsite, on the only flat and semi drained location, comprised a mat of vegetation including mosses, dried grasses, *Rhododendron forrestii* and *R. pumilum* and *Dipensia purpurea*. The surrounding

snow covered mountains provided a constant trickle from the spring snowmelt, which flowed under the vegetation. When trodden on, it became quite boggy but the rhododendrons created raised humus clumps enabling adequate drainage above the quagmire.

Alpine rhododendrons often form large communities of maybe one or two species colonising expanses of terrain. They generally occupy slopes with a south easterly aspect and find shelter in this closeness from extreme winds. They have an important ecological function in stabilising the soil to mitigate erosion. Erosion is prevalent given the steep mountain terrain and constant grazing, which occurs in most places in China and Myanmar. This campsite was my first time encountering around 12 rhododendron species forming a continuous community in a relatively small area. The hillside bordering our campsite, on first glance, appeared flowerless but it became apparent that there were sufficient flowers for identifications to be made and these were supported by the photographic documentation from 2014.

Neriiflora Subsection

The *Neriiflora* group is deemed difficult to identify even by the most knowledgeable plants men such as Steve Hootman *pers. comm.* and Peter Cox in *Dwarf Rhododendrons*. This site contained numerous species of the *Neriiflora* group. The reference texts I carried were the *Pocket Guide to Rhododendron Species* and photocopied sections of *The Encyclopedia of Rhododendron Species*. I find books are still the best resource when beyond the modern conveniences of electricity. On my return I researched further, using my photographic documentation, other texts and website databases to assist in the identifications.

The following identifications are open to reconsideration, as a hand lens was not used. The field conditions were difficult, as the only place to make closer examinations, out of the wind and rain, was in the confines of a one-man tent. When identifying a plant I also use the feel of the plant, the gestalt or gizz; a blend of gut feel and general look of a plant that is familiar from previous experience. I am only just developing this ability but find it very useful given all the variables of botanical features listed. There are often contradictory features in the descriptions of each species in the different texts.

The caption describing each image hopefully helps to highlight distinguishing features. For more detailed specifications refer to reference texts. These identifications have assumed we encountered distinct species in their known range and not natural hybrids for which the *Neriiflora* and some other rhododendron Sections are renowned.



R. forrestii – stands alone as being an easy *Neriiflora* to identify due to its creeping habit, forming a large carpet. Shrub to 0.45m with the large red flowers, relative to leaf size, sitting above the shrub layer. The leaf with its distinctive shape and size being much smaller than any other *Neriiflora*.



R. citriniflorum var. *horeaum* – Shrub 0.3–1.5m, the distinctive fleshy two-toned orange flowers and the upper surface of leaf semi-bullate and under side with thick wooly indumentum.



R. temenium var. *temenium* – Shrub 0.3–1.2m leaf size similar to *R. eudoxum* but more elongated with smooth upper surface and glabrous below. Compact plant with 3 to 10 flowers ranging from white, pink to crimson.



R. haematodes ssp. *haematodes* – Shrub 0.3–1.2m, leaf larger than *R. temenium*, *eudoxum*, *aperantum* or *horaeum* with lower surface having a dense fawn to rufous indumentum, branchlets densely tomentose and corolla fleshy red to crimson.



R. eudoxum – Shrub 0.3–1.2m, similar to *R. temenium* in leaf size and corolla colour range but leaf under side has a hardly noticeable thin brownish or whitish indumentum. Corolla, range of pinks to crimson but not fleshy.



R. aperantum – Shrub height to 0.6m, compact plant with leaves crowded at end of shoots (I cannot say this was really noticeable), leaf size similar to *R. eudoxum* but underside of leaf with white or whitish waxy papillae. Corolla ranging from white, pink to crimson.



R. haematodes ssp. *chaetomallum* (*Neriiflora*) – Shrub 0.3–1.5m, young shoots and petioles bristly, calyx often large, indumentum more patchy than ssp. *haematodes* and the plant a more open habit.



R. eclecticum (Thomsonia) – Bushy shrub 0.6–3m, leaf leathery, smooth, glabrous on both upper and lower surfaces, new growth red bud scales, corolla fleshy with colour range whites, yellow, pinks, reds, to purples with or without spots. Thomsonia are generally larger than *Neriiflora*.



R. meddianum (Thomsonia) – Upright shrub 1–2.4m, leaf leathery, smooth, glabrous on both upper and lower surfaces, calyx smooth and cup shaped, corolla scarlet to dark crimson.



Above *R. cerasinum* (Thomsonia) – ? range extension – Shrub 1.2–3.0m, taller than *Neriiflora*, distinctive flower colour, white with a broad red band around edge of corolla, 5 deep purple nectar pouches, underside of leaf glabrous.



R. campylocarpa
ssp. *caloxanthum*
(*Campylocarpa*) – Shrub
0.6–2.5m, leaf elliptic,
shiny, somewhat glaucous
with glabrous upper and
lower surfaces, corolla
campanulate, yellow in lax
trusses.

Other species at this site based on 2014 photographic documentation and plant characteristics were *R. citriniflorum* var. *citriniflorum*. We have many specimens of this at the National Rhododendron Gardens at Olinda. We also encountered a very tiny leafed *Rhododendron* which I presume was *R. pumilum* (Uniflora) but there were no flowers. It is a range extension but highly likely to occur in this area which is close to NE Myanmar.

Neriiiflora found at other locations:



PHOTOGRAPHS BY RUIE CHONGE

Above *R. sanguineum* ssp. *sanguineum* var. *haemaleum*? (Neriiiflora) – Shrub 0.3–1.8m, corolla black, dark carmine to nearly black. This species differs from *sanguineum* ssp. *didymum*, which can be smaller and with hairy pedicel. Both species have white to fawn indumentum.



PRUE CROWE

Above *R. sanguineum* ssp. *sanguineum* var. *didymum*? (Neriiflora) – Shrub 0.3–0.9m.

We traversed stunning landscape with high floristic biodiversity from subtropical evergreen broad leaf forests at 1,800m through deciduous coniferous forest, subalpine coniferous forests, and higher still to alpine meadows at 4,200m. The *Rhododendron* species encountered were numerous, as well as the vast number of companion plants that we know and enjoy in our gardens around the world.

I include a list of the lower elevation *Rhododendron* species found, to further whet your appetite. There was only sporadic flowering once again, but sufficient for identifications.

Rhododendron racemosum, *R. nuttalii*, *R. edgeworthii*, *R. maddenii* var. *crassum*, *R. grande*, *R. megacalyx*, *R. cynocarpum*, *R. sphaeroblastum*, *R. calostrotum* var. *kelecteum*, *R. crinigerum* var. *crinigerum*, *R. oreotrephes*, *R. mekongense*, *R. selense*, *R. phaeochrysum* var. *agglutinatum*, *R. arizelum*, *R. rupicola* var. *chryseum*, *R. souliei*, *R. glishrum*, *R. trichocladum* ?, *R. sinogrande*, *R. yunnanense*, *R. arboreum* ssp. *delavayi* var. *peramoenum*.

This remarkable locality enabled us to see 37 identifiable species plus at least another 15 species too difficult to identify without flowers and demonstrates that this is truly a rich *Rhododendron* location. There could easily be more species and maybe even new species. I would love to have the luxury of spending a month or more in this region, hopefully this might happen soon! ❀

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In search of Rhododendron rousei (Argent)

DALE SCHUBERT

In March 2015, I was fortunate enough to have the opportunity to travel, with five good friends to Sibuyan Island in the Philippine archipelago. With an area of 445 km², Sibuyan is dominated by Mount Guiting Guiting, which rises to 2,058m. The island provides breathtaking scenery, relatively undisturbed tracts of montane vegetation and a vast diversity of flora and fauna. The isolation and inaccessibility of Sibuyan ensures it is seldom visited by western travellers. Of particular interest to our group were two plant genera, *Rhododendron* of the subgenus *Vireya* and the *Nepenthes*, commonly known as pitcher plants. The species of *Nepenthes* and *Rhododendron* described from Sibuyan are all endemic.

Sibuyan is only accessible by overnight ferry from Manila, and after negotiating chaotic traffic and hours of dockside delay we eventually departed. It soon became apparent that our vessel was in need of urgent maintenance, the pedestrian rate of travel causing one to question if the anchor had actually been lifted. Still, we were rewarded by a magnificent sunrise and extensive

Figure 1. Mount Guiting Guiting from the approaching ferry.



views of the spectacular knife-edge profile of Mount Guiting Guiting. The island rises abruptly from the Sibuyan Sea, soaring to 2,058m (Figure 1). Mount Guiting Guiting presents a daunting silhouette from the approach by ferry – it is roundly acknowledged as the most technical climb in the Philippines and was first climbed as recently as 1982. Our perspective of the mountain's vast jagged peaks and ridges changed constantly as we slowly circumnavigated the island, finally reaching Sibuyan's main jetty – five hours behind schedule.

We had planned to traverse Mount Guiting Guiting from east to west in three days. Local guides and porters had been engaged in advance to allow a 3am departure. Unfortunately, we found ourselves amongst a local power struggle over mountain guiding permits, and after trekking for three hours we were advised we must return to an alternate starting point. Frustratingly, the 'alternate' start point was in fact our planned destination – at the opposite side of the island. Many hours elapsed before we made our way back to our starting point, whilst interested stakeholders jostled over rights to these lucrative European visitors. We were finally permitted to proceed at 1pm, meaning that to have any chance of reaching Camp 1 before nightfall we had to move at a pace which left precious little time for appreciation of our

Figure 2. The knife-edge ridge on Mount Guiting Guiting.



surroundings. Typically, as for many tropical mountains, the approach through the cultivated lowlands – in baking midday sun – was both uninspiring and energy sapping. Thankfully the ascent of Mount Guiting Guiting from the lowlands is rapid, however the gradient is steep and unrelenting.

As we again ascended through the lowlands the influence of agriculture became less noticeable and the temperature more tolerable. Orchids of genera such as *Dendrochilum* and *Bulbophyllum* could be seen adorning the tall trunks of forest trees, whilst upon the forest floor we observed the beautiful variegated foliage of *Paphiopedilum hennisianum*. Owing to their horticultural appeal, *Paphiopedilum* species have been heavily poached on other Philippine islands, apparently the isolation of Sibuyan Island has allowed these populations some respite.

By way of our late departure, we did not reach our campsite at 1,100m until after 6.30pm. Thankfully all members of the party reached the campsite unscathed. We witnessed the last spectacular hues of orange light disappear over the horizon, though establishing camp under total darkness, amongst the dense windswept vegetation made for a rather interesting night. I was greatly appreciative that the usual evening rain failed to eventuate.

The morning sunrise awoke us to the magnificence of our surroundings, which had been masked by the darkness of our arrival and physical exhaustion the previous evening. Our camp was surrounded by ancient *Dacrydium* trees, gnarled and twisted from the prevailing winds, swathes of ghostly mosses clothed the upper branches and the ubiquitous masses of epiphytic orchids found homes upon various niches from the trunk to the smallest twigs. The ridge we had followed dropped sharply a mere 15 metres from our campsite. This afforded spectacular views to the adjacent knife-edge ridge, its cruel exposed ultramafic rock we would later traverse, clearly evident for the first time (Figure 2). Dense masses of stunted shrubs colonized the protected zone between the boulders and crags, leading me to wonder how I would ever locate the small-leaved *Rhododendron rousei* if my visit failed to coincide with flowering. George Argent had collected the type specimen in 1989, at a site known as Camp 3, a mere 200m above our present location. The close proximity of *R. rousei*, combined with the knowledge that locating it may be very difficult, provided inspiration to break camp quickly to maximize the time available in the vicinity of the ridgeline.

R. rousei is endemic to Mount Guiting Guiting, the specific epithet honours Dr John Rouse and the contribution he made to our current knowledge of vireya rhododendrons. Cultivated plants in Australia have been of rather poor form and flowering (Figure 3), which is in contrast to the glowing recommendation Dr Argent makes for species under cultivation



ANDREW ROUSE

Figure 3. *Rhododendron rousei*.

at the Royal Botanic Gardens in Edinburgh. As *R. rousei* had only ever been observed once in habitat (knowingly at least), I was curious to observe the extent of the population and the in situ growth habit. Argent describes it as a small shrub to approximately 1 metre in height, with small elliptic-obovate leaves 25–50mm x 15–30mm in size¹. The highly exposed nature of the ridge led me to believe the leaves would almost certainly be at the smaller end of the scale described. So as we approached 1,250m, I began scouring the masses of dense shrubs on either side of the poorly defined trail (Figure 4). Departure from the trail, often more like rock scrambling, is rather inadvisable; as the terrain was not only precipitous, but also that the almost impenetrable mass of shrubs hid the vicious, jagged profile of the parent ultramafic rocks. One step you could be knee depth in shrubs, the next you find yourself waist deep, or worse. The vegetation colonizing the exposed areas of Mount Guiting Guiting has assumed a generic palette of small, thick textured leaves – many at a glance resembling *R. rousei*. I quickly realized there would be insufficient time to thoroughly scour the surrounding landscape without severely impeding the progress of our group. The white flowers of *R. rousei* would be rather conspicuous, though somewhat unlikely to occur – however



DALE SCHUBERT

Figure 4. Trying to find the trail through the undergrowth on Mount Guiting Guiting.

the fruiting bodies, either spent or developing are often held on the plants for months. Though only measuring 8–12mm × 5–7mm, I expected them to be held above the surrounding vegetation, representing the best chance of locating plants in a sea of tightly packed foliage.

The first plant was found adjacent to a handhold just below 1,300m. As expected, the spent fruiting capsules were the giveaway on this scrappy individual. The plant was comprised of three semi-decumbent stems, 350–400mm in total length, spilling from the competing vegetation. No flowers or developing buds were present and the miniature foliage was arranged in pseudo whorls at the ends of the branches. I hastily took a poor quality photograph to share with my travelling posse, in the hope that six sets of eyes being better than one. Several more small specimens were found in the vicinity of Camp 3 and Mayo's Peak. No flowers were found, but all carried dehisced capsules. Later correspondence with Dr Argent revealed that due to almost cyclonic weather, Mayo's Peak was the farthest point the 1989 expedition had reached. Clear weather blessed our trip and views from Mayo's Peak across Sibuyan Island were nothing short of spectacular. The undulating 'knife-edge' ridge was revealed below me, no wider than a metre in many sections, flanked by ocean on either side and swept by mist and cloud. This was a niche I anticipated finding the most accessible populations of *R. rousei*. Despite our best efforts, including the ill-advised wading through dense surrounding shrubbery, we found only one more individual plant, its presence revealed again by spent seed capsules. Again it was a leggy plant, competing desperately with neighbouring plants for light. It was becoming evident that locating the extent of *R. rousei* populations would only be possible with additional time during the flowering season.

The ridge of Guiting Guiting meanders for some distance, rising gradually and then more sharply through massive piles of ultramafic rock (Figure 5). Traversing these areas becomes increasingly difficult, narrow ledges in particular presenting a real challenge to avoid overbalancing, especially whilst encumbered with a heavy backpack. Among and beneath the masses of shrubs can be found *Nepenthes sibuyanensis*. Endemic to Guiting Guiting, its large colourful pitchers develop below the dense shrub layer to attract and capture terrestrial invertebrates. Its growth habit underscores the severity of the climate on Guiting Guiting, most closely related *Nepenthes* develop terrestrial pitchers only briefly, before climbing into surrounding vegetation and forming aerial pitchers to attract and capture flying arthropods. Conversely, *N. sibuyanensis* plants scramble through the vegetation, revealed only by their waving inflorescences, whilst thick textured terrestrial pitchers are formed on the ground to attract the abundant terrestrial invertebrates. Another endemic



DALE SCHUBERT

Figure 5. Massive rock piles on the knife-edge ridge of Mount Guiting Guiting.

pitcher plant, and arguably the smallest in the world, *Nepenthes argentii* starts to appear occasionally in this location. In contrast to *N. sibuyanensis*, every aspect of the plant is miniature, though the prevailing climate has ensured its growth habit is similar, with aerial pitchers never having been observed.

Beyond these large boulders, the ridge again ascends sharply toward a false summit and then the true summit. Several sheer rock pinnacles must be ascended to reach the false peak, these seem especially daunting given their narrow width and the dramatic sheer drops on either side. Here, compact *N. argentii* rosettes can be observed with *Lobelia proctorii* in the most precarious habitats imaginable. Thankfully the weather remained clear and calm, as the thought of being isolated here in foul weather was rather terrifying.

As we adjourned for a lunch at 1,900m, surrounded by immense mountains of rock closely resembling an elephant's hide, thoughts of locating more *R. rousei* had evaporated. Dr Argent's collections had been made around 1,300m near Mayo's Peak, so it came as an unexpected surprise when our eminent field botanist announced he'd found another small group of *Rhododendron rousei*! These plants were still around 400mm in height, but multi-branched and rather better formed than our previous finds. In contrast to my original finds, the growth morphology of these individuals gave more credence to Dr Argent's observation that it "has a good, freely branching habit"². At this higher altitude the fruit had not yet dehisced, suggesting that the window of opportunity to observe it in flower may be greater than I'd first anticipated. We reached the actual summit by mid afternoon, cloaked in cloud and mist. The actual summit is rather anticlimactic, compared to the so-called "false summit". Meandering slowly up, plateauing and then rising slowly again – it was abundantly clear why the "false summit" was originally proclaimed as the true summit of Mount Guiting Guiting! The vegetation here is cropped at around 400–600mm in height, though the diversity of foliage colour, shape and form is rather surreal. Several plants in the populations of *N. argentii*, found near the summit far exceeded the length of those previously recorded – up to a somewhat staggering 2 metres of scrambling vine. We celebrated with the mandatory summit shots – while my Italian companion smoked his "customary" Cuban cigar.

The return descent that afternoon was rather uneventful, with no further rhododendrons to be found. Amazing rock formations, resembling gargoyles or other gothic creatures, and the sweeping mountain views continued to inspire failing legs, along the continually precarious trail. We reached Camp 5 in fading light, whereupon we had the unexpected surprise of discovering our "remote" campsite had been occupied by a large group of students from Manila University's mountaineering club. Predictably, evening

rain fell and it became uncomfortably apparent why the sites availed to us had been overlooked by our university companions! Following a rather wet, uncomfortable night we descended the next morning to complete our traverse. Approaching the lower montane zones, epiphytic and terrestrial orchids again became abundant. The discovery of a lithophytic specimen of *Paphiopedilum haynaldium* carrying five large flowers was a wonderful conclusion for our trek, as this species is seldom seen, let alone in flower!

Though failing to observe flowering plants, it was a great privilege to be one of few people to knowingly observe *Rhododendron rousei* in its extraordinary, rugged mountain habitat. After traversing Mount Guiting Guiting, one is compelled to admire George Agent's determination in collecting and documenting this species, under what were described as "cyclonic" weather conditions. It is no surprise that specimens had not been collected beyond 1,300m near Camp 3, as traversing the narrow ridge between Mayo's Peak and the summit would be beyond treacherous. There is no doubt that the species has a broader distribution than currently documented, even one traversed by a group of amateur naturalists/botanists, has increased its known altitudinal distribution from 1,300 to 1,900m. Great expanses of Mount Guiting Guiting remain undisturbed, unexplored and, most importantly, protected from adverse human impact. Thankfully *R. rousei*, and the other high montane species endemic to Mount Guiting Guiting appear to be secure for the foreseeable future.

The vireya *Rhododendron* flora of Sibuyan, and the Philippines may lack the flamboyance and relative abundance of the neighbouring Papua-New Guinea. However there exists a broad and interesting diversity of flora, fauna and landscape to be appreciated. Coupled with the friendliness and hospitality of the Filipino people, the remote islands of the Philippine archipelago represent a wonderful destination for the general naturalist.

My thanks go to Alistair, Andrea, Laurent, Kamil and Greg for their company in making these observations both possible and pleasurable. ❀

Endnotes

1. Argent, G. (2015). *Rhododendrons of subgenus Vireya*, 2nd Edition. Royal Botanic Gardens Edinburgh/Royal Horticultural Society.
2. *ibid.*

Rhododendron, Camellia and Magnolia Group Centenary

ROBERT HATCHER

2016 marks the 100th year of the formation of the Rhododendron Society, now the Rhododendron, Camellia and Magnolia group of the RHS, in England. Originally this comprised a select group of wealthy people that had an interest in gardens and plants that were partners in sponsoring many of the plant hunting expeditions in the 19th Century.

Now it is a diverse group of people with an interest in these three genera but also a wider variety of plant species.

The celebrations began at Wisley, the RHS Headquarters, with the annual show of blooms from all over the country. The annual show of rhododendrons has not had a prominent pride of place in recent years but this year in recognition of the Centenary the marquee with the bloom exhibition did have the prominent position on the main lawn area.

In previous years there have been some 42 classes but this year just five classes were run. These were – Species, Hybrids, Deciduous Azaleas, Evergreen Azaleas and Vireyas.



There were several formal dinners and at two of these there were after dinner presentations by John Anderson, outgoing Head Gardener at Exbury and incoming Keeper of the Great Windsor park gardens, and Ken Cox from Glendoick.

During the three days of the Centenary celebrations there were a series of garden visits. These were a mixture of private and public gardens. Some of the private gardens were not open to the public but belonged to members or had been made available to the RCMG exclusively for the centenary .

The final lunch followed the Annual General meeting of the RCMG, held in the great hall of Ramster House. After lunch the tour of the garden was the grand finale of the celebrations.

I hope the images do justice to the event.

I went on to Cornwall and Devon visiting Caerhays, Tregrehan and Lukelands Manor gardens which were all magnificent.

I can only add that it was a great piece of good fortune that Jacki happened to be part of the SAPOL (SA Police) Band, the chosen Australian representative at the Queens' Birthday celebrations at Windsor. This coincidence meant it was possible for me to justify attending this great celebration of rhododendrons and *Rhododendron* enthusiasts. ❀

Below and opposite: Benching at Wisley.





Above: The Punchbowl at Valley Garden.

Below: *Rhododendron* beds at Isabella Plantation, Richmond Park.





Above: *Rhododendron* 'Fortune' at Sarum, Rod and Mary White's garden.

Below: Azalea display at Isabella Plantation.





Above: Ancient *Rhododendron* hybrid at 'The Couchouse'.

Below: Iconic view to the Thames within Valley Garden.



PHOTOGRAPHS BY ROBERT HATCHER



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