THE RHODODENDRON NEWSLETTER July 2014

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HAVE YOU CHECKED OUT THE LATEST NEWS ON THE ARS WEBSITE?

www.rhododendron.com.au

FACEBOOK: Do you have some interesting garden photos, information about your garden, visits or tours, etc., you have done, which may be of interest to other members? You are invited to send them to Prue Crome via email and she will put them on Facebook and/or the ARS website. Email prue.crome@fcpl.net.au

2014 PROGRAMME

JULY

Saturday 19th :2.00pm. HOW TO WIN 'BEST IN SHOW' AT CHELSEA. Presentation by Phillip Johnson at Cranbourne Botanic Gardens. See inside for more details.

OCTOBER

NATIONAL CONVENTION AND NATIONAL COUNCIL AGM

Speakers include: Dr. George Argent, from the Royal Botanical Gardens Edinburgh, who is considered the world's leading authority on Vireya Rhododendrons.

Thursday 23rd at 8.00pm: Public talk, venue to be advised.
Saturday 25th at 9.00am: Rhododendron Convention and ARS AGM at the National Rhododendron Gardens, Olinda.
Saturday 25th at 2.00pm: Official Opening of the Vireya House at NRG and visit Ferny Creek Horticultural Society Spring Show.
Saturday 25th at 7.00pm: Convention Dinner at Eastwood Golf Club, South Kilsyth Sunday 26th: Garden visits at Mt Macedon

More details page 5. When available ,full details on ARS Website and October Newsletter

OCTOBER

POSSIBLE Plant Fair at Tesselaars Tulip Farm, Silvan. Details in the October Newsletter.

PRESIDENTS REPORT JUNE 2014

Dear members,

As I write this report winter has really set in. Low temperature, strong winds, rain and hail. Not good gardening weather. This follows a long period in May and the first half of June where conditions were very mild. So much so that many plants in suburban Melbourne seemed to think it was spring. Some of the plants most obviously affected were the azaleas where plants produced what would be considered a very good spring display, four months early. Below is a pink gumpo I planted 30 years ago covered in flowers at the start of June.



This particular plant is an example of a member of the genus Rhododendron that shows that not all within the genus are delicate and need to be given very special attention. As can be seen in the photo the plant is in a small raised bed that gets sun for most of the day. It is in a garden in a middle northern Melbourne suburb, so it gets very little rainfall and only very occasionally gets any water during the summer (long summer holidays down at the beach mean no-one is at home). It never gets sprayed. It just sits there year after year looking green and healthy and very pretty every spring or, in this case. in June as well.

This does raise the question about how hardy are Rhodies in gardens that aren't on the top of Mount Dandenong? Some cultivars and species, of course. won't survive very long without water or some other form of pampering and some just aren't worth trying. Many others however once established are very hardy and make very desirable suburban garden plants. Living as I do in the Melbourne suburb of Elsternwick I am constantly reminded of how hardy and long lived some Rhodies are when I walk around the streets in spring and see large plants performing well after years of neglect in very old gardens. Unfortunately we do live in an era of simple rules, 'Rhodies need lots of water so don't plant them'. It is the job of members of the Society to let people know that this is not always the case and also to provide, through our sales, plants that will do well off the mountain.

The ARS Victorian Branch is to hold a convention on the last weekend of October. The plan is for there to be garden tours in and around Olinda, a conference dinner and tours of some Mt Macedon gardens not normally open to the public. We are privileged to have George Argent from the Royal Botanic Garden Edinburg accept our invitation to join us. We hope also Frederic Danet from the Jardin Botanique de la Ville de Lyon will be able to come. George is widely recognised as the world leading authority on vireyas and Frederic has considerable experience collecting vireyas in New Guinea (the seed of which we have been happily receiving for some years). We hope both will talk to us and show collecting photos. This promises to be a very rewarding meeting so put a ring around this weekend on your calendar.

John O'Hara

THE SPECIES COLUMN.

adenopodum -Subsection Argyrophylla. [photo page 10]

Rhododendron *adenopodum* is a little-known species which should be more predominately displayed in our garden. The pink flowers with a crimson spots are arranged in a loose truss above the dark green leaves. This species comes from a relatively low altitude and seems to tolerate both freezing conditions and a warm dry climate. One of our plants above the Maddenia Walk showed slight leaf-burn, but this is an isolated area which is rarely watered.

Name:

The name means glandular pedicals. This characteristic is not obvious and you would need a magnifying glass to see the sticky glands. The Argyrophylla Subsection refers to the silvery underside of the leaves.

Distribution:

From Sichuan and Hubei in Southwest China at 1500 to 2200 metres. It grows in thin woodlands.

Characteristics:

This species forms a rounded shrub up to 3 metres high. The leaves are long and narrow, dark green above and with a thin greyish or plastered indumentum, and are highly resistant to lace-bug. The flowers are white to pink with crimson spots.(see photo) and flower before the petal-blight season.

There are some other attractive species in this series:

argyrophyllum has wider leaves and white or pink flowers. Subspecies *nankingense* has pink or lilac flowers and we have a number of the best form "Chinese Silver" A.M.

formosanum is a similar species from Taiwan with white flowers.

hunnewellianum has attractive pink flowers in a neat truss. It is rare in cultivation.

insigne has stiff leaves with a shiny plastered indumentum. It flowers much later than the other species.

longipes has a pale brown indumentum. We have only one plant in the Garden.

ririei has lilac-purple flowers and does well at Olinda. We have at least 5 plants.

simiarum is one of the most unusual plants in the Rhododendron genus. The leaves are small and tightly packed on a low bushy shrub. Unfortunately the scattered white flowers are not very impressive.

Where to See this Plant.

We have 11 plants of *adenopodum* in the Garden and 9 were found in the G.P.S. survey. Most of these plants are over 30 years old and are growing in the Northern end so it is surprising that so many have survived. There is one excellent plant in the Main Rockery which flowers in mid-September, and at least two more above the Maddenia Walk near the rock wall. Locating the others is proving to be difficult due to the eucalypts affecting the G.P.S.readings.

Alan Kepert.

VIREYA SPECIES COLUMN JULY 2014

R milleri [photo page 10]

Classification

Section Schistanthe subsection Euvireya. This accords with the classification proposed by Craven *et al* Vireya Rhododendrons: their monophyly and classification (*Ericaceae, Rhododendron section Schistanthe*) Blumea 56, 2011: 153. The classification proposed by Argent *Rhododendrons in subgenus Vireya* RHS 2006 had Vireya as a subgenus and this species in section VII Euvireya Subsection v Euvireya. It is in good company as Argent's Subsection has 90 members.

Name

Named after Mr H.A. Miller consultant for the Freeport Mining Company, who provided invaluable assistance to the Kew expeditions to the mining area where this species was found on 11 November 2000.

Origin

Darnell ridge Indonesia, West New Guinea, Timika to Tembagapura Road at 1600m

Cultivation

The species flowered for the first time at the Royal Botanic Garden Edinburgh in July 2005 on a newly rooted cutting. Argent noted [2006] it was too early to assess its horticultural potential. Andrew Rouse has grown more than 80 seedlings of which I received 41 at the beginning of this year. All survived the summer shaded only by trees. A dozen of them are now in 150mm pots growing well. This suggests a species that can be grown outdoors in Melbourne as a garden plant. My only caution is that in the year I have been in Montrose I have had rust on only two vireyas. *R sessilifolium* and *R milleri*. The former is well known to be susceptible. Curiously rust has decimated a number of my fuchsias. The same rust? **Description**

In its natural habitat it is, according to Argent, a much branched terrestrial shrub or small tree to 2m. According to Argent it has distinctive pale green flowers. Argent's photo shows a curved corolla with the flowers hanging downwards. We may expect umbels of 2-6 flowers.

Verdict

Yet to be proven. But promising if rust proves not too great a drawback.

Simon Begg

OCTOBER 2014 RHODODENDRON CONVENTION

AUSTRALIAN RHODODENDRON SOCIETY VICTORIAN BRANCH presents, on behalf of AUSTRALIAN RHODODENDRON SOCIETY Inc., 2014 NATIONAL RHODODENDRON CONVENTION, NATIONAL COUNCIL and AGM

<u>Thursday 23rd at 8.00pm</u>: Public talk. To be confirmed when Venue obtained. Watch Society website for details

Friday 24th at 10 am : National Council Meeting at 13 Taruna Rise, Montrose 3765

<u>Saturday 25th at 9.00am</u>: National Convention and Annual General Meeting at the National Rhododendron Gardens, Olinda. Morning tea and light lunch.

Speakers include:

Dr. George Argent, from the Royal Botanical Gardens Edinburgh, who is considered the world's leading authority on Vireya Rhododendrons.

Francis Crome, Specialist consultant in the resources and conservation sectors. Glenn Maskell, Team Leader at the NRG. Andrew Rouse, Victorian hybridiser.

And other eminent and interesting experts

Saturday 25th at 2.00pm: Official Opening of the Vireya House at NRG by Dr. George Argent. The Vireya House is looking fantastic and we hope many members and friends will join us for the opening.

After the opening we will visit the Ferny Creek Horticultural Society Spring Show. The Society proposes to enter exhibits from National Rhododendron Garden

<u>Saturday 25th at 7.00pm</u>: Convention Dinner at Eastwood Golf Club, Liverpool Rd., South Kilsyth Sunday 26th: Garden visits at Mt Macedon. This will be either by car pooling or bus.

Local places of interest delegates may be interested in visiting include – Healesville Australian Wildlife Sanctuary, William Rickett's Sculpture Park, Puffing Billy Historic Train, Mont De Lancey Historic Homestead, Sherbrooke Forest.

FRIENDS OF THE ROYAL BOTANIC GARDENS CRANBOURNE INC. HOW TO WIN 'BEST IN SHOW' AT CHELSEA

Saturday 19 July 2014, 2:00 pm

Phillip Johnson, Designer of the prize winning exhibit at the Royal Horticultural Society Chelsea Flower Show 2013.

Australian Garden Auditorium, Royal Botanic Gardens Cranbourne, 1000 Ballarto Road Cranbourne, Melway Map 133 F 10. Enter from South Gippsland Hwy.

In May 2013 a ground-breaking announcement (especially for Australians) was made at the Centenary year of the RHS Chelsea Flower Show with an Australian Garden Exhibit being awarded a Gold Medal and also taking out the highly acclaimed "Best In Show" award. It was the first time in the history of the long-running Chelsea Flower Show that an Australian exhibit was awarded "Best In Show". It was indeed a Great Day for Australia!

For many years Wes Fleming of Fleming's Nursery has been taking Landscape designers and contractors to the Chelsea Flower Show each year to promote Australian design and horticultural practice.

In 2013, it was the unique, magical and outstanding design of our speaker Phillip Johnson that was built by a band of enthusiastic Australian volunteers that more than just turned the heads of the RHS Judging panel – they were completely seduced by the design and the finished product. There had never been a garden like it at Chelsea!

So why not come and hear Phillip in person on 19 July as he describes this fantastic adventure in detail and he will also bring us up to date on some of his current and future projects.

For further information phone 8774 2483 or 9769 7881

Cost: Members of Friends RBG Cranbourne & Melbourne \$25; Non-members \$30 Refreshments served after the Presentation

Bookings can be organised by visiting the RBG website www. <u>rbg.vic.gov.au/support/support-groups/friends-of-rbg/cranbourne/activities</u> Download Booking Form by clicking on *Booking Form* at base of Activities Listing

THE GARDEN RAMBLE

Sustainability – what does it mean for the Rhododendron Garden ? <u>Water</u> – with weather tipped to bring longer dry spells and sudden sharp rainfall again with another looming El-Nino, water will again be an issue for gardeners. The Rhododendron Garden has a limited water supply of 11megalitres. While it would be nice to have unlimited supply we purposely have worked within this limit. Maintaining the gardens using this limited irrigation water is achieved through

- planting appropriate species of plants and making sure they are hardened to take the dryer summer periods
- building up soil moisture through slowing runoff, using the deep porous clay soils here to store that moisture
- Grouping plants with higher water needs
- Accepting some loss and damage
- Mulch, Mulch, Mulch

<u>Planting</u> – There are many wonderful plants that we can grow in this garden. Success is about doing the simple things well and not becoming emotional about selection and planting. We are careful not to add to our maintenance load by

- Choosing plants balancing conservation and aesthetics with the need for maintenance
- Making sure the plant suits the site so that its growing needs are catered for.
- Using water and fertilisers sparingly so as not to over encourage growth
- Choosing plants that are easily sprayed around or have some resistance to sprays for weeds
- Spacing, allowing plants to grow to their potential
- Choosing plants that are pest resistant or gathered together for ease of control of that pest

<u>Staff</u> – With limited staffing there is a need to make sure we are as efficient as possible by

- Recruiting qualified experienced staff
- Maximising team co-operation and autonomy
- Empowering volunteers to work to agreed work plans
- Using equipment where possible for efficiency and safety.

While this list is not exhaustive it covers the basics. Where we have failures in the garden it is usually through not following the basic principles. 'Doing the simple things well'.

Future Sustainable additions

Automation of long term bed watering – The watering system is updated so that we are getting efficiencies through better water use. The next step will be to automate systems where we have long term watering needs such as on the Vireyas, Hydrangeas etc.

Expanded water storage and licensing – We are annexing a part of the golf course above the lake with the long term plan of adding some smaller dams to capture runoff from the recreation reserve to expand our supply.

The work done by staff and volunteers continues to add value and meaning to this garden. Through their dedication and hard work the gardens will continue to improve and innovate to face future challenges of providing a sustainable garden for conservation, education and inspiration.

Glenn Maskell

JOTTINGS

Exercise for People Over 50

1. Begin by standing on a comfortable surface, where you have plenty of room at each side.

2. With a 5-lb potato bag in each hand, extend your arms straight out from your sides and hold them there as long as you can. Try to reach a full minute, and then relax.

3. Each day you'll find that you can hold this position for just a bit longer. After a couple of weeks, move up to 10-lb potato bags. Then try 50-lb potato bags, and then eventually try to get to where you can lift a 100-lb potato bag in each hand and hold your arms straight for more than a full minute. (I'm at this level.)

4. After you feel confident at that level, put a potato in each bag.

Marcia Begg

MIKE HAMMER INNOVATION HERO AWARD

Our immediate Past President, Mike Hammer, has been the recent recipient of a very prestigious award, on 28 May 2014, from the University of Sydney.

The award is headed Innovation Hero Award and is awarded by the Warren Centre for Advanced Engineering Limited established within the Faculty of Engineering in 1983 to mark 100 years of engineering education at the University of Sydney.

The award is for the Agilent 4100 Microwave Plasma-Atomic Emission Spectrometers. The award was made to Mike and two colleagues. As the principal recipient Mike also received a plaque. Mike was responsible for conceptualisation and research underlying an extensive range of products which represent a significant fraction of Agilent's new spectroscopy product release.

These spectrometers measure trace amounts of contaminants in water and food samples, elements of economic importance in geological samples from mine sites and wear metal contaminants in used oil samples.

I happened upon this award quite by chance when I met Mike, dressed in a suit, boarding a train home from receiving it.

Another extraordinary coincidence is that our current President, John O'Hara, is also a spectroscopy expert with a different company. John's expertise is with machines that examine solid samples not liquids.

Congratulations Mike

Simon Begg





R adenopodum Alan Kepert Photo



R milleri



R brassii Simon Begg photo 8th July 2014 Quite happy in the ground in the open at "Beechmont" Olinda



Newly commissioned "Rouse Box" NRG July 2014



Over the past couple of months John O'Hara has been patiently building a "Rouse Box" in the new potting shed at NRG he built immediately beforehand. No longer do the volunteers stand in icy Olinda conditions without shelter from the elements. The Rouse Box is modelled on John Rouse's original design copied also at RBGE. See Argent Rhododendrons in subgenus Vireya RHS 2006 page 342. Heat, and humidity, are supplied by a reservoir of warm water whose temperature is controlled by a thermostat. Light on a timer is above the Box. See page 11

TOP LEFT: an inside view of the Rouse Box

BOTTOM LEFT: an inside view of the Rouse Box in the opposite direction showing the small controller at the top of the picture

Photos Simon Begg 8 July 2014

RHODODENDRON UPDATE 1 (JULY2014)

This is a first of a series by Francis Crome covering Species not described in usual texts Ed. **INTRODUCTION**

Our Society tries its best to keep ahead of developments in the Rhododendron world. You might think that one of the most basic things we would have is a checklist of world Rhododendron species; which ones are in Australia, and where, which ones are not and which of these are on ICON as Rhododendron species whose seed may be imported without a permit. The Society could then approach the government authority, DAFF, to enquire about whether those species not in Australia nor on the present list of species whose seed is permitted to be imported into Australia without a permit¹ could be added to the list, after appropriate weediness vetting.

Unfortunately that is not the case. There is no definitive list of Rhododendron species of the world. If you ask even the simple question "how many species of Rhododendron are there?", let alone "what are their names?", you will get figures as low as 800 and as high as more than 1400.

There is a range of reasons for this. New species are constantly being discovered in the wild. Procedural issues of botanical nomenclature require change or modification of species names. Books and lists, unsurprisingly, occasionally make mistakes. One of the more frustrating issues is the fact that changes to taxonomy split or lump species regularly. These splits or lumps can be controversial and a "species" can flip flop backwards and forwards between being a species in its own right or merely a variety or subspecies some other species.

As, mostly amateur, enthusiasts our sources tend to be books. Volumes such as Argent (2006) for Vireyas, and Cox and Cox (1997), McQuire and Robinson (2009) and Davidian (1982, 1989, 1992 and 1995) for non Vireyas, are major sources². Many changes have taken place since these volumes were written and in this and subsequent articles we will try to bring to your attention species mostly not covered in Argent (2006) and Cox and Cox (1997).

Rhododendron and horticultural societies worldwide are useful sources of information and we have searched these extensively. However, our most important sources for tracking down species have been the many on-line databases that have recently been developed. Table 1 lists the major ones we have used. The Plant List and IPNI have been our major sources. The Plant List is up to date to about 2011 and, although we found some errors, it provides a catalogue of the many names applied to Rhododendron. There are about 740 accepted names, 850 synonyms and 916 "unresolved"³ names (see Table 1).

¹http://apps.daff.gov.au/icon32/asp/ex_casecontent.asp?intNodeId=8976037&intCommodityId=25278&Types=none&WhichQuery=Go+to+full+text &intSearch=1&LogSessionID=0)

² Davidian, is criticised for his arrangement of species, see e.g. Cox and Cox (1997), but he provides comprehensive individual species descriptions.

³ The compilers of the Plant could not determine from the data sources whether the name should be treated as accepted or not, or there were conflicting opinions that "could not be readily resolved."

METHODS

First we extracted accepted names from The Plant List (excluding those accepted to be synonyms) then determined which Rhododendron species listed there were not on the ICON list of those species whose seed is permitted to be imported into Australia. We then consulted Simon Begg's list of Rhododendron Species known to him (mostly from Argent and Cox and Cox) that were not on the ICON permitted list. What remained are 'new'. There are about 70 of these and we will present brief descriptions of them over a series of 6 or 7 articles, of which this is the first. We then consulted the Red List of Rhododendrons (Gibbs *et al.* 2011) for their conservation status and literature references to the species. We then checked other databases, Rhododendron society websites and primary scientific literature to discover more about each species.

We have tended to follow the lead provided by the Red List of Rhododendrons and acted conservatively to retain species names because changes to species status will undoubtedly continue to change particularly as genetic analysis grows. Unfortunately we have no photos of these species and many are, perhaps, not in cultivation anywhere.

SPECIES ACCOUNTS

In the following accounts the species name and author is given followed by the journal reference for the original description. Then follows a short account of the species. More detailed descriptions can be found in the references accompanying each account. Most "new" species are alpine species from China.

The species are in alphabetical order and these accounts will be continued in other updates in forthcoming newsletters.

Rhododendron asterochnoum Diels

1921. Repert. Spec. Nov. Regni Veg. 17(486-491): 196. See also Cox and Cox 49. Subgenus Hymenanthes, Section Ponticum, Subsection Fortunea

This is a small tree with pale pink to white flowers, thick flowering shoots and stellate hairs on the lower leaf surface. It has a restricted distribution in C. & S. Sichuan at 3,000 - 3,660 m. The Red List of Rhododendrons (Gibbs *et al.* 2011) classifies it as Vulnerable and describes it as having "a restricted distribution with small populations, although thought to be safe at some sites such as Wolong".

It was not known in cultivation by Davidian (1989) but Cox and Cox (1997) say it was introduced into cultivation 1990-1995. Web searches confirm it is now growing in Europe, USA and Canada (<u>www.hirsutum.info</u>) and is on Glendoick's catalogue. Glendoick considers it a very cold hardy plant that can tolerate late frosts but there is no information as to what extent it is heat tolerant – considering its natural distribution it probably isn't.

It would be interesting to find out if anyone knows if this species is in Australia. No one, so far, has come forward.

Rhododendron bachii H. Lév.

1913. Repert. Spec. Nov. Regni Veg. 12(312-316): 102-103 Subgenus Azaleastrum, Section Azaleastrum This is a shrub to small tree reaching 4 m in height occurring in open forests in China (Anhui, Guangdong, Guangxi, Guizhou, Hubei, Hunan, Jiangxi, Sichuan, Zhejiang) at 600–1600 m. It has white to purple flowers and glandular hairs fringing the calyx. It is usually lumped with *R. ovatum* which extends to Taiwan and Vietnam (Cox and Cox 1997, McQuire and Robinson 2009, Philipson and Philipson 1986) and would thus occupy the western section of this greater species range. The low altitude and broad distribution would suggest some heat tolerance although not necessarily dry tolerance.

The Flora of China keeps *R. bachii* as a separate species although notes "The characters used to separate *Rhododendron bachii* from *R. ovatum* are fairly trivial, especially those relating to the calyx indumentum. Furthermore, there is continuous variation in these characters, suggesting that *R. bachii* should be treated as a synonym of *R. ovatum*". However, the Red List of Rhododendrons keeps it separate and classifies it as Data Deficient. It is recorded as a legitimate species name in IPNI and The Plant List. It would be interesting to see if there are any *R. ovatum* in Australia with *R. bachii* characteristic and known origins in China. Interestingly while the Flora of China describes *bachii*'s habitat as forest it describes *ovatum*'s as "thickets".

Rhododendron bamaense Z.J. Zhao

1987. Fl. Lign. Qinghaica Add. 4

Subgenus Rhododendron, Section Rhododendron, Subsection Lapponica

This species was described in 1987 but is covered in neither Cox and Cox 1997 nor McQuire and Robinson (2009). The species occurs in a restricted area of forest in SE Qinghai at high altitude (4300 m) and forms small, erect shrubs, ca. 0.6 m tall. The branches of the current year are densely black-scaled and the flowers are small and deep blue (Flora of China) or violet (www.hirsutum.info). It does not appear to be in cultivation anywhere. Its natural distribution would suggest it is very cold tolerant but not heat tolerant and it would need to be treated like an alpine plant.

The Red List of Rhododendrons classifies it as Data Deficient.

Rhododendron bellissimum D.F. Chamb.

2005. Fl. China 14: 313

Subgenus Rhododendron, Section Pogonanthum

According to the Flora of China this is a small, erect shrub, ca. 1.5 m tall occurring in high meadows at forest margins in C Sichuan at ca. 3400 m. It has salver-shaped, rose flowers.

The Red List of Rhododendrons (2011) classifies the species as Data Deficient adding that it is only known from the type specimen and that taxonomic uncertainty exists. However, the references they give to this species do not mention any controversy. In fact, this is a replacement name (nom. nov.) for *R. bellum* H. P. Yang a species described in 1989 (Bull. Bot. Res., Harbin 9(1):18)⁴.

⁴ Not *R. bellum* W. P. Fang & G. Z. Li, Bull. Bot. Res., Harbin 4(1): 3. 1984 which is a synonym for *Rhododendron simsii* Planch. (the Plant List 2014).

The Danish chapter of the ARS (http://www.rhododendron.dk/bellissimum.html) claim to show photographs of flowering wild specimens of either, or both, this species and *R. luhuoense* (http://www.rhododendron.dk/bellissimum.html). The legend roughly translates, courtesy of Google Translate, as - an evergreen dwarf shrub with small oval leaves with rounded mucronate tips. These are strongly scaly and fragrant. The vegetative bud scales fall off at an early stage. Flowers are tubular white to deep pink with inflorescences of 3-5 white flowers (*luhuense*) or 4-7 rose flowers (*bellissimum*) and 5 stamens. Requires good drainage and a bright and cold habitat. Widespread and often common in nature. Occurs at different alpine areas in SW and C Sichuan at 2800-5000 m.

Judging by the descriptions in the Flora of China the lower photo on this web page may be *R*. *bellissimum*. The species does not appear to be in cultivation and its natural distribution would suggest it is very cold tolerant but not heat tolerant and would need to be treated like an alpine plant.

Rhododendron bivelatum Balf. f.

1917. Notes Roy. Bot. Gard. Edinburgh 10(47-48): 85-86

Subgenus Rhododendron, Section Rhododendron, Subsection Triflora

According to the Flora of China this species occurs on dry slopes at 800-900 m. in NE Yunnan, China. It is a shrub with densely scaly, pubescent young shoots and smallish blunt or rounded obovate or elliptic leaves, $3-3.8 \times 1.5-2$ cm, and racemes of smallish rose red flowers, ca. 2 cm wide. The capsule is not known and the species is not in cultivation. The altitude and natural distribution suggests it might be heat and dry tolerant to some extent. This species is not described in Cox and Cox (1997)

The Red List of Rhododendrons (2011) classifies the species as Data Deficient and states "Taxonomic debate exists around the status of this species, with some taxonomists considering this is a hybrid". Checking their references, Davidian (1982) and the Flora of China describe it as a species but Cullen (1980) states that it is known only from one "poor" specimen, presumably the type, and says it may be a "chance" hybrid of *R. augustinii* subsp. *chasmanthum*. It is retained as a species in both the Plant List and IPNI. The type specimen is available for viewing on line⁵ and in the collector's (Maire) handwritten notes the altitude of the specimen is 850 m. Davidian (loc. cit.) has this it as 854 m. As Cullen states the specimen is poor so logically conclusions as to whether it is a good species or a hybrid may have to wait for more fieldwork⁶.

Rhododendron brevipetiolatum M.Y. Fang

1984. Acta Phytotax. Sin. 22(5): 420-421 pl. 1 Subgenus Rhododendron, Section Rhododendron, Subsection Argyrophylla

 $^{^{5} \} http://elmer.rbge.org.uk/bgbase/vherb/bgbasevherb.php?cfg=bgbase/vherb/zoom.cfg&filename=E00010028.zip&queryRow=1$

⁶ It is likely that genetic analysis will now be necessary to demonstrate whether rhododendron populations are hybrids or not. See e.g. the recent demonstration that *R. columbianum*, thought to be a hybrid, is in fact not (http://rosebayblog.blogspot.com.au/search/label/ledum). See also http://rosebayblog.blogspot.com.au/2011/05/poster-of-rhododendron-ploidy-research.html

This species is not described in Cox and Cox (1997). The Flora of China describes it as a shrub up to 3 m high with smooth older branches and oblong or oblong-elliptic, leaves 8-12 \times 3-5 cm with a compact, thin indumentum. The inflorescence has 5-7 deep crimson campanulate flowers 4-4.5 cm wide, with 5 dark purple nectar pouches at their base. The capsule is not known and it does not appear to be in cultivation.

It occurs in forests at ca. 1900 m. in C Sichuan (Yingjin) and this lower altitude suggests it may be tolerant of heat to some extent.

The Red List of Rhododendrons (2011) classifies it as Data Deficient.

Rhododendron calvescens Balf. f. & Forrest

1919. Notes Roy. Bot. Gard. Edinburgh 11(52-53): 29-31

Subgenus Rhododendron, Section Rhododendron, Subsection Selensia

This species is not described in Cox and Cox (1997). The Flora of China describes it as a shrub 1-2 m high; the old branches having coarse, flaking bark. The leaves are thinly leathery, lanceolate, elliptic or oblong-elliptic, $6-13 \times 1.7-4$ cm. It has campanulate rose flowers with purple lines in the lower part, 3-3.5 cm wide in inflorescence of 3-8 flowers. Two subspecies are included in The Flora of China *R. c. calvescens* and *R. c. duseimatum*. It occurs in fir and spruce forests on rocky slopes at 3300-3600 m. in E Xizang and NW Yunnan, China. Considering its distribution it is unlikely to be tolerant of heat and dryness. The Red List of Rhododendrons (2011) classifies it as Vulnerable and says some believe it to be a hybrid. However, all the literature and databases references cited by the Red List

include it as a species.

Rhododendron chilanshanense Kurashige

1999. Edinburgh J. Bot. 56(1): 75-77 f.1

Subgenus Tsutsui, Section Brachycalyx

Described in 1999, this deciduous species is restricted to 6 to 8 locations in mixed forest at 1600-1700 m on and around Mt Chilan in Taiwan; it is classified as vulnerable by the The Red List of Rhododendrons (2011)

It is a 1-3 m high shrub, with papery, ovate to ovate-rhomboid leaves, $3.5-4.5 \times 1.5-2$ cm, with undulate or minutely crenulate margins. The Inflorescence consist of 2 to 3 open-funnelform, pink flowers 2-2.5 cm wide that appear with the leaves. The capsule is not known and it does not appear to be in cultivation.

Rhododendron chionanthum Tagg & Forrest

1927. Notes Roy. Bot. Gard. Edinburgh 15(75): 309

Subgenus Hymenanthes, Section Ponticum, Subsection Neriiflora

This is a species from W Yunnan and NE Myanmar growing at high altitude (3900-4400m) in alpine regions on rocky slopes and grasslands. It is described in McQuire and Robinson (2009), Davidian (1992) and Flora of China but not in Cox and Cox (1997).

Very small shrubs with brown flaky bark. The leaves are obovate or widely oblanceolate, $4-8.5 \times 1.5-3$ cm with a ragged patchy indumentum. Small white campanulate flowers, 3-3.5 cm are borne on a lax 4-6-flowered inflorescence. The capsule is not known and the species appears to have been lost from cultivation (McQuire and Robinson 2009).

It is worth comparing the descriptions in Flora of China and Davidian to see how descriptions can differ between authors. The size of this species is of particular interest. Davidian describes it as 60-92 cm tall and the Flora of China as 10 cm. The latter is a more likely average size in its alpine habitat of rocky (?scree) slopes. Its natural distribution would suggest it is very cold tolerant but not heat tolerant and would need to be treated like an alpine plant.

The Red List of Rhododendrons (2011) classifies it as Vulnerable.

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Table 1 – The Databases

The Plant List URL http://www.theplantlist.org

MISSION This is a working list of all known plant species. It aims to be comprehensive for species of vascular plants, mosses and liverworts. It is a collaboration between the Royal Botanic Gardens, Kew and the Missouri Botanical Garden and combines multiple checklist data sets held by these institutions and other collaborators. The List provides the Accepted Latin name for most species, and Synonyms by which that species has been known. "Around 20% of names are Unresolved indicating that the data sources included provided no evidence or view as to whether the name should be treated as accepted or not, or there were conflicting opinions that could not be readily resolved."

IPNI (International Plant Names Index)

MISSION "The International Plant Names Index (IPNI) is a database of the names and associated basic bibliographical details of seed plants, ferns and lycophytes. Its goal is to eliminate the need for repeated reference to primary sources for basic bibliographic information about plant names. The data are freely available and are gradually being standardized and checked. IPNI will be a dynamic resource, depending on direct contributions by all members of the botanical community. IPNI is the product of a collaboration between The Royal Botanic Gardens, Kew, The Harvard University Herbaria, and the Australian National Herbarium".

Tropicos (or W3TROPICOS)

MISSION Tropicos[®] contains all the nomenclatural, bibliographic, and specimen data in the Missouri Botanic Garden's databases - there are over 1.2 million scientific names and 4.0 million specimen records. It has specimen data, maps and photographs and is a common source for other databases

Flora of China URL http://www.efloras.org/flora_page.aspx?flora_id=2

MISSION This is a comprehensive flora of China searchable on line. Alternatively, volumes can be downloaded as pdfs by going to http://flora.huh.harvard.edu/china/mss/alphabetical_families.htm right clicking PDF after the family and clicking "Save Link As." (There are 3 PDFs for the Ericaceae). Some illustrations are available here or as links to other sites and floras. There are no photographs.

Flora of North America URL <u>http://www.efloras.org/flora_page.aspx?flora_id=1</u> and <u>http://floranorthamerica.org/</u>

MISSION The flora of North America on line.

Flora of Pan-Himalayas URL <u>www.FLPH.org</u>

MISSION This site is in Chinese but provides English descriptions and distribution data. Just type in an English name in the box on the top right next to the magnifying glass.

RBGE DB URL <u>http://elmer.rbge.org.uk/bgbase/vherb/bgbasevherb.php</u>

MISSION This site provides three databases from the Royal Botanic Gardens at Edinburgh - living collections, herbarium material and library. Approximately 20% of their herbarium specimens have been data based. Photos of herbarium specimens are available here and some library resources too.

Checklist of the flowering plants of Nepal

URL <u>http://www.efloras.org/florataxon.aspx?flora_id=110&taxon_id=128386</u> MISSION

Checklist, species descriptions and some photos

Biodiversity of the Hengduan Mountains

URL http://hengduan.huh.harvard.edu/fieldnotes/

MISSION Data on plants and fungi from the Hengduan Mountains and adjacent areas of southcentral China, including the Gaoligong Mountains and Tibetan Himalaya. Detailed maps available.

BONAP (Biota of North America Program)

URL <u>http://bonap.net</u>

MISSION Detailed distribution maps and descriptions

GRIN (Germplasm Resources Information Network)

URL http://www.ars-grin.gov

MISSION "In 1990, the U.S. Congress authorized establishment of a National Genetic Resources Program (NGRP). It is the NGRP's responsibility to: acquire, characterize, preserve, document, and distribute to scientists, germplasm of all life forms important for food and agricultural production.

The Germplasm Resources Information Network (GRIN) web server provides germplasm information about plants, animals, microbes and invertebrates. This program is within the U.S. Department of Agriculture's Agricultural Research Service". It is being developed globally.

BGCI (Botanic Gardens Conservation International)

URL http://www.bgci.org/

MISSION A conservation network that produced the Red List of Rhododendrons. Has a searchable database (www.bgci.org/plant_search.php)and a global survey of ex situ Rhododendron collections (<u>http://www.bgci.org/files/Worldwide/Conservation/global_survey_of_ex_situ_rhododendron_colle_ctions.pdf</u>)

Edinburgh Rhododendron Monographs

URL http://data.rbge.org.uk/service/factsheets/Edinburgh_Rhododendron_Monographs.xhtml

MISSION A searchable database with descriptions of "almost a thousand species", that duplicates and provides on line access to the species descriptions in the printed Edinburgh Monograph Series

(Notes from the Royal Botanic gardens Edinburgh 39(1), 39(2) and 44(1); Edinburgh Journal of Botany 47(2) and (50(3); and Argent (2006)).

Francis Crome

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