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A Garden for All Seasons - View from the Asian Garden.
Page 20.

Glendoick Gardens at 100 Years: 1919-2019 - Ken Cox - p. 6

A Garden for All Seasons - Mike Henry - p. 16

Jean Rasmussen in Norway - Ole Jonny Larsen - p. 26

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To encourage interest in and to disseminate knowledge about rhododendrons and azaleas. To provide a medium through which all persons interested in rhododendrons and azaleas may communicate and cooperate with others through education, meetings, publications, scientific studies, research, conservation and other similar activities.

Membership Benefits

- Chapter affiliation with scheduled meetings
- *Journal American Rhododendron Society* published quarterly
- Annual convention and regional con-ferences
- Seed exchange
- Listing of registration of names and descriptions of new rhododendron hybrids published in the Journal

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CONTENTS FALL 2019

Features

6 Glendoick Gardens at 100 Years: 1919-2019 BY KEN COX

14 Range Extension to Sikkim and the Recollection of *Rhododendron cephalanthum* (Ericaceae) in India BY C.S. PUROHIT AND RAMESH KUMAR

16 A Garden for All Seasons BY MIKE HENRY

21 Rooting Rhododendron Cuttings BY DON HYATT

26 Jean Rasmussen in Norway BY OLE JONNY LARSEN

34 Rhododendrons for Beginners: Tender Species in Subsections *Maddenia, Boothia* and *Edgeworthia* BY GLEN JAMIESON

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Plant Name Registration: www.rhododendron.org/plantregistry.htm

Rhododendron & Azalea News: www.rhododendron.org/news/newsindex.htm

Society News

23 2020 ARS Photo Contest Instructions

24 In Memoriam: Paul Anderson, MD

24 In Memoriam: Benjamin D. Hall, Ph.D.

24 In Memoriam: Graham Charles George Argent

25 RSBG Executive Director Steve Hootman wins prestigious award from RHS

54 Newly Registered Cultivar Names

57 JARS Volume 73 - 2019 Index

66 New Members from 5/15/2019 through 8/15/2019

Front Cover



A Garden for All Seasons - View from the Asian Garden. Photo by Mike Henry - page 20.

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From the President

Ken Webb

Victoria,
BC, Canada



Well, I'm sitting here on my deck on a beautiful August morning looking out at the garden. This spring and summer have been really cool in Victoria and the plants have been loving it. Huge growth and many buds forming already, promising a good bloom year for next spring. It is almost time for the Society meetings to start again and many are looking forward to seeing their rhody friends next month. We will get to learn more about growing and propagating and spreading the knowledge of rhododendrons around the world.

I know that many people come to our meetings for just the social aspect. They can associate with a whole lot of nice people – who ever heard of a rhody person who wasn't nice? – and get a nice cup of coffee and some sweets to boot. So, I wanted to take this opportunity to explain about some of our society functions that many members may be completely unaware of.

Not only do we as members try to spread the love of Rhododendrons around the world, we also have a couple of very significant ways that we can help that to happen. First, we have the Endowment Fund. It gives grants to groups who are doing something significant in their community. Your chapter can easily apply to receive funding for projects such as a Display Gardes or Test Garden, or even to landscape something in your own hometown. One of the local projects around British Columbia has been the establishment of a rhododendron species garden in the Milner Garden and Woodlands in Qualicum Beach. They have received two grants now for the building of this new rhododendron species garden. In the East, the Endowment Fund has sent grants to the Bayard Cutting Arboretum, Laurelwood Arboretum and the US Park service over the last few years. Anyone can apply for almost any rhododendron enhancement project anywhere.

The second, tool we have is the Rhododendron Research Foundation. This fund supplies grants to Scientific Research projects involving rhododendrons around the world. It is run through the American Rhododendron Society Research Committee. This committee can suggest research projects if it feels they would be beneficial to the rhododendron world. It can play an important part in co ordinating research and in advising scientists as to who are exploring this particular research topic. One of the functions of the Rhododendron Research Foundation is also to give publicity to any findings from their funded research. Watch for these occasional articles written for the layperson in JARS, describing one of these funded research projects. Such articles recently described funded research projects by Melissa Whitman on "Rhododendron Leaf Traits Along Tropical Elevation Gradients" (JARS 73, Summer 2019) and by Elizabeth Georgian on "The Pollination Ecology of Rhododendron floccigerum in the Himalayas of Southwest China" (JARS 68, Fall 2014).

Both of these funds sources are set up as investment funds with strict rules about how much of the money can be given away in grants. Mostly, it is just the interest that is distributed to worthy beneficiaries. All the fund monies have been donated for these specific

(Continued on page 13.)

From the Editor

Glen Jamieson

Parksville, BC
Canada



The weather this summer here in the Pacific Northwest has not had the extensive drought that has characterized our area for the past few years. Instead, we have had brief limited rains of just a few millimetres (fraction of an inch) every 10-14 days, which has maintained the larger established plants. It's only been the relatively newly planted, smaller plants that have needed additional water on occasion!

The main activity in my chapter of Mount Arrowsmith over the past while has been the preparation for the fall ARS conference. which will be held here in Parksville on Vancouver Island at the end of September. The meeting is still five weeks away, and we already have over 210 registered participants, so we expect to come close to meeting, if not achieve, our upper limit of 250 people! The rhododendron community here on the island (over 375 ARS members!) is really exceptional, and one of the highlights of our meeting will be the showcasing of the newly established Greig Rhododendron Species Garden within Milner Gardens and Woodland in Qualicum Beach, established collectively by the five ARS chapters on the island with support from the ARS.

I have participated in a minor capacity on the planning committee for two previous island ARS conferences and conventions, the fall meeting in Nanaimo in 2012 and the spring meeting in Victoria in 2015, but this is the first time that I have played a major role, along with six other hardworking chapter members, in the planning of a conference! It has been ongoing now for over two years, and a lot of work, but it's also been a lot of fun and interesting to watch how the skills of others came together to produce a smooth-running, capable committee. I know the meeting will be over by the time this JARS issue is published, but I encourage all ARS members to take the opportunity to attend future ARS conventions and conferences whenever possible, and especially if they are held near where you live. It is a wonderful opportunity both to learn more about gardening in general and rhododendrons in particular, and to make and/or reestablish connections with like-minded friends. The 75th anniversary of the ARS is being organized for late next April by the Portland, OR, chapter, and I hope many of you will make the effort to attend. I am confident that if you do, it will prove to be a rewarding and memorable experience!

Glendoick Gardens at 100 Years: 1919-2019

Kenneth Cox
Glendoick, Perth,
Scotland



Photos by author
except as noted.

"… the story of a quiet corner of Perthshire… Ah! Glendoick. The spark of recognition lights up throughout the rhododendron world."

Jane Brown, *Tales of the Rose Tree.*

Editor's Note: This is the 100th anniversary of the Cox family's involvement with rhododendrons, and this article describes their involvement with the genus over the decades.



Glendoick from the air showing the rhododendron production in the walled garden.

In 1919, Euan Cox was living in London and, at a tea party, was invited by Reginald Farrer, a well-known plant hunter and garden writer, to accompany him to Upper Burma on a plant collecting expedition. Euan knew nothing about plants, but he was looking for an excuse to deflect the pressure to join his family's jute business in Dundee, Scotland. Burma was the perfect diversion, and the decision to go was to have far-reaching consequences, leading to the Cox family's 100-year involvement with rhododendrons and plant collecting. To that end, we treat 1919 as the key date for the start of all things "rhododendron" at Glendoick. Had Euan not gone to Burma, the Cox association with rhododendrons would never have happened. I might have had to get a proper job….



Euan and Peter Cox with dogs Patsy and Tulip. Photo: Glendoick Gardens.

The 1919 expedition was a considerable success with new plants collected and described. These included several plants later named after Euan Cox, including *Berberis coxii, Juniperus recurva* var. *coxii* (a beautiful weeping tree, known in Burma, (now Myanmar), as the coffin juniper), and rhododendron species including the early red-flowered *Rhododendron mallotum*. Relations between Cox and Farrer in the field had their ups and downs and Euan Cox returned to Britain in autumn 2019 with the seed harvest, leaving his companion in the field in Burma to carry on the expedition into the following year. During the course of 1920, Farrer fell ill and died in Burma at the age of 40. It therefore fell to Euan Cox to sort out and distribute the seed collections they had made together, and this brought Euan into contact with many of the then major players in the rhododendron world in Britain including J.C. Willams at Caerhays, author J.G. Millais, the Loders at Leonardslee and Lionel to Rothschild at Ex-

bury. Euan Cox lived mainly in London in the early 1920s, beginning a new career as a horticultural writer, publishing books including "Farrer's Last Journey", the story of the expedition, and founding and editing a horticultural magazine called "The New Flora and Silva" which described the plant introductions flooding into the West from plant hunting expeditions from all over the world.



Glendoick Garden Centre's first shop in 1975. Photo: Glendoick Gardens.

Euan began developing the garden at Glendoick from 1921 onwards and was able to devote more time to it from the 1930s onwards after getting married and returning to Scotland to live. Euan learned how to garden as he went along, as there was little woodland gardening in his part of Scotland to draw on. He called it ''the muddling process" and declared "it has been great fun." Euan loved his rhododendrons, as he details in his book "Wild Gardening" but he also extols the virtues of *Berberis, Viburnum* and *Cotoneaster* at Glendoick and he looked to add many other genera to his collection:

> At the start my enthusiasm burst forth in rhododendrons…species, some which we had seen in such wealth in upper Burma. I bought and was given plants from all over the country, mostly young but some almost full-grown.
>
> ….My greatest success is with Primulas. This, I think, is proved by the way in which they seed themselves down the Glen wherever there is a square inch of bare soil. - Euan Cox

Jute was now processed in India, where the raw material was grown, and Dundee had failed to keep pace with the new oil/plastic-based products which were now the main materials for goods packaging and transportation. Euan was able to devote more time to the garden in the 1930s as the jute business was in decline, with many of the Dundee jute companies filing for bankruptcy in 1933, forcing those that survived to merge and downsize. After his father's death in 1943, Euan and his family settled at Glendoick in 1944, and Euan combined farming with gardening writing, both of books and journalism, including a period as gardening editor of the magazine "Country Life." After his Burma experiences, Euan was not persuaded to go plant hunting again, but instead he subscribed to a seed share on one of George Forrest's later expeditions and, after the Second World War, he received seeds and plants from other collectors including George Sherriff.

Peter Cox writes about the ongoing development of Glendoick's gardens in the 1940s, 50s & 60s:

> Like most gardens, Glendoick suffered in the 1939-45 war. After the death of Euan's father Alfred in 1943, we moved to Glendoick in 1944 and the garden started to receive attention again. A number of rhododendrons were bought, mostly from the great collections at Towercourt, Ascot, and some magnolias from Veitch of Exeter. Newly bred rhododendron hybrids were acquired in the 1950s and 60s, including some of the first new American hybrids to reach this country, including some raised by hybridiser Halfdan Lem."

Peter Cox disliked school and preferred gardening, and was gradually drawn into horticulture as a career, but was very nearly put off for good when his father asked him to prune vicious berberis plants in the garden at Glendoick. Peter studied horticulture in Edinburgh, followed by nearly a year at Notcutts nursery in Suffolk, south-east England. Euan had already started growing soft fruit and young flower and vegetable plants for sale locally and the rhododendron nursery started in a very small way when Peter settled back at Glendoick in 1953. Three small plots were taken in one after the other and as the nursery expanded, other areas of field and parts of the old walled garden were gradually given over to cultivating rhododendrons. From time to time Euan and Peter used to require Norah Cox, their wife and mother respectively, to move her herbaceous borders further and further away from the house, as they needed more and more space for their rhododendrons. In return, they promised "never to discuss rhododendrons at meal times." In the early days of the nursery, Euan and Peter did all the work on their own, gradually enlisting help from others until the nursery reached a permanent staff of five, who also looked after the garden.

In 1963, Peter married Tricia Sherrard from Ireland. The two had met when Tricia came to Glendoick to source

rhododendrons for her family garden at Maryborough, on the outskirts of Cork. Peter and Patricia looked to expand Glendoick's nursery to something more broadly based. The first U.K. garden centres started to appear in the late 1960s and in 1973, Glendoick Garden Centre was opened under the direction of Tricia Cox to showcase Glendoick plants as well as all manner of gardening products. The garden centre has expanded regularly over the years, and food and gifts are as economically now as important as plants. Glendoick's nursery exported as far away as Japan, Australia and New Zealand, and the USA and Canada, until plant health restrictions made this impossible. The nursery still exports to countries in Europe as well as selling to the domestic market. My father and I don't always agree on how a woodland garden should be planted. I like grasses, he doesn't. I like colour planning, he can't see the point, but we nevertheless manage to garden together… though sometimes there is a race to fill an available site with plants we each prefer!



Glendoick's woodland garden, "The Den", the area known as "The Larches".

Not everything grows well at Glendoick all the time. We are challenged by honey fungus [the common name of several species of fungi within the genus *Armillaria*. Honey fungus spreads underground, attacking and killing the roots of perennial plants and then decaying the dead wood. It is the most destructive fungal disease in UK gardens.], which kills mature plants from time to time, periods of drought and flooding and most annoying of all, regular spring frosts which spoil the flowers and which can cause bark split when sap in the stems swells up and ruptures the stems.

A Tour of the Gardens at Glendoick

The gardens at Glendoick are formed by a number of distinct sections, the largest of which is the woodland garden or "den", surrounded by trees including larch, Douglas-fir and sycamore, with a shelter belt on the west side of pines, willow, ash, hazel, rowan, etc. This 'tour' follows the route taken by most visitors and describes some of the more notable plants encountered.

Alongside the track which leads uphill to the woodland garden is the oldest part of Glendoick's nursery which is still used today for growing *Meconopsis* and *Triflora* rhododendrons for mail order. Behind this, another nursery section grows large-leaved rhododendron species. Outside the nursery is a tall handsome North American conifer, *Tsuga heterophylla* (western hemlock), and alongside, a clump of the Glendoick cross of *R. wardii* × *R. macabeanum***,** several sister seedlings with long-lasting, yellow flowers that are blotched red. Peter Cox made the cross to obtain a large-flowered, larged-leaved yellow after *R. macabeanum* was killed by a hard winter. Next to this are both the hybrid 'Glendoick Mystique' ['GLE04']**,** a cross of 'Nancy Evans'×'Percy Wiseman', with glowing, almost luminous salmon-peach flowers in late May, and a flowering sized specimen of *R. falconeri* subsp. *eximium* KCSH 0350. Collected by myself and Steve Hootman in Tawang, Arunchal Pradesh, India, this is one of the finest of all large-leave rhododendron species for foliage, with silvery-brown indumentum on the leaves all summer. Its flowers are pink, fading to cream, a better colour than the Cox & Hutchison 427 introduction from the 1960s. Just outside the woodland garden gate is a now towering 'Taurus', one of the two original plants I imported from Harold Greer in 1982. Its magnificent early



"East Burn", with the champion *Tetradium daniellii* in the centre.

vibrant red in tall trusses and handsome foliage and attractive red buds make it one of the best hybrids of this colour ever raised, though I have always known that the given parentage as a *R. strigillosum* hybrid is not correct, as there is no sign of that species' distinctive leaves.



"West Burn," UK champion *R. sutchuenense*, one of the oldest plants in the-garden.

"The Den"

Through a wide gate into the deer-fenced woodland garden, known as "The Den", this largest part of Glendoick's gardens is roughly triangular in shape, which lies on either side of a fast- flowing-burn with several waterfalls. There are viewpoints to three of the falls which you can walk to from the main paths. The first area, known as "the larches" for its tree cover, contains many species and hybrid rhododendrons. One of the first plants encountered is *Euonymus tingens*, a rare evergreen species with pink flowers in the autumn. Glendoick has the the largest specimen in the British Isles. Several plant hunters claimed to have introduced *R. davidii*, named after Pere David, a French missionary-plant hunter in China in the late 19th century, but the "real" thing was finally introduced by Edward Needham (EN 4213) from Cornwall, who gave propagation material to Peter Cox. Glendoick's two clones have lavender flowers, one deeper and later than the other. The seed capsules ripen and burst very early, usually in August.

I recall the cocky and unpopular—in rhododendron—circles John Patrick when he visited Glendoick. A gem seller amongst other things, Patrick announced when he toured Glendoick in the early 1980s: "I like rhododendrons as they are the only thing I don't make money at." Contacts in Japan took him to Taiwan in the 1970s and one of the collections Patrick made was the first introduction of *R. pachysanthum* RV 72001. Glendoick's group of this outstanding species provided the seed for most of these cultivated plants around the world. White to pale pink, with yellow or red spots or blotch, in compact trusses, its real claim to fame is the outstanding foliage with silver to brownish persistent indumentum on both upper and lower leaf surface. A much more recent introduction, again by Edward Needham and later by others, is *R. platypodum*. It has bright pink flowers in tall trusses in April—May and characteristic large smooth oval leaves, and it first flowered at Glendoick 2011. This species is very rare in the wild, only known from a handful of plants, and has been "red-listed" by the Botanic Gardens Conservation International (BGCI) as an example of a species threated in its wild habitat (www.bgci.org). Visitors to Glendoick in March are also often met with the scent of chocolate-vanilla from the tiny yellow flowers of the Chilean evergreen *Azara microphylla*, which unlike most scented plants, this one can be detected many metres away.



Camellia x *williamsii* cultivars are the best camellias for Scotland.

The East Burn, is as it sounds, with some fine old plants growing there, including a large camellia 'Cornish Snow' with small white flowers that flowers over many weeks; *Juniperus recurva* var**.** *coxii*, a slow-growing weeping conifer, discovered by and named after Euan Cox in Burma in 1919; and Glendoick's often photographed pink *R. yunnanense.* Nearby, are some impressively free-flowering *R. denudatum* C 7012, first introduced by Peter Cox and Peter Hutchison with rose flowers, with deep nectar pouches in April-May. You simply can't miss the tree which dominates this part of the garden: *Tetradium daniellii*



'Sappho,' a spectacular old plant, forms part of the Far End hybrid rhododendron displays.

the original Cox & Hutchison (1995) introductions of another important species, *R. ochraceum* (CH 7052). Imagine a compact, less bristly, later flowering version of *R. strigillosum,* and you'll have an idea what this looks like. Peter Cox reckons it is one of his top five introductions, and it is tough too.

The ruined watermill provides shelter for many rather tender rhododendrons. Raised beds around the outside provide sharp drainage for *Maddenia* and related species and hybrid rhododendrons such as the Glendoick hybrid 'Turnstone' (*R. moupinense* X *R. edgeworthii*) in both pink and white selections and *R. dendrocharis* 'Glendoick Gem' (CCH 3195). This species from



The gardens by Glendoick house contain a large collection of dwarf rhododendrons alongside magnolias and camellias.

(previously known as *Euodia hupehensis.* Flowering in late July-August, it attracts large numbers of bees and is sought after by beekeepers as a source of late summer honey.) is Glendoick's greatest Champion Tree and probably the largest outside China. It has late summer white flowers on a tree with a huge grey trunk that looks like an elephant's foot at its base. Owen Johnson of British's Tree Registry (TROBI) says that this is his favourite tree in the UK.

A little further up the path is a multi-stemmed *Clethra barbinervis,* a rare deciduous shrub with white lily-of-the-valley-like flowers in July and amazing striped pinkish bark. The path converges with another at the old ruined water mill and here are



Glendoick 'bird' hybrids including 'Turacao' (pink, left), 'Quail' (red, centre) and 'Chiff Chaff' (yellow, bottom right).



'Curlew' (*R. ludlowii* X *R. fletcherianum*), one of Peter Cox's best selling 'bird' hybrid dwarf rhododendrons.



'Glendoick Flamingo' ['GLE026'] a hybrid of 'Oban' X *R. dendrocharis*.

Sichuan China was not introduced to cultivation till the 1980s and may have been missed by early plant hunters, as it grows in the branches of trees, often far out of reach. The tiny leaves and large pink flowers make an attractive garden plant. Inside the mill are *R. griffithianum* and *R. grande*, which are not reliably hardy at Glendoick, and above the mill on an island are a group of towering *R. sinogrande* from the 1982 SBEC expedition, now flowering well almost every year.

Across the two bridges, on the west side of the burn, are some significant old Glendoick plants such as *Deutzia purpurescens* and *Berberis coxii* from the Farrer and Cox 1919 Burma expedition. The removal of a giant sycamore by the burn has opened up this area and provided a fine vista across the burn, and here too is another UK champion, a *R. sutchuenense,* collected by Ernest Wilson and planted by Euan Cox in the 1920s, with large pink flowers, spotted deeper. A little further south is a group of what we identify as *R. taliense* SBEC 0350, from the Cangshan, Yunnan. Collected on the 1981 SBEC expedition, this has natural introgression [the transfer of genetic information from one species to another as a result of backcrossings], probably from *R. roxianum*, giving the plant the softest and thickest indumentum of any species; it is a pity that it rarely flowers. Below this, is a carpet of *R. forrestii* which enjoys the damp shady conditions on the north of a wall, by the steps leading down to the lower bridge.



'Glendoick Starburst' ['GLE031'] strap-petalled evergreen azalea.

Crossing back over the burn and through a small wooden gate takes us to the oldest plants in the garden, including some of the Leonardslee plants, sent to Glendoick in the 1920s which include two 'Polar Bear' and forms of the Loderi Group, probably original seedlings from the crosses made in this famous English garden. A curious plant in this part of the garden is *Eleuthericoccus senticosus* (Siberian Ginseng). Beware of the vicious thorns on this plant, which has amazing bunches of hanging black fruit in the autumn. As the path heads downhill towards the drive, the gully below contains a selection of deciduous azaleas known as the Glendoick Scottish Mountain Series: 'Ben Cruachan' (cream, pink edge), 'Ben Lawers' (deep pink), 'Ben Lomond' (pale pink), 'Ben Vorlich' and 'Ben Vrackie' (orange, peach). I liked the Girard 'Homebush' hybrids but could not find any way of getting them to the UK, so I made my own cross of 'Homebush' X 'Arneson's Gem', with multicoloured results.



'Everred' ['85/1C'] the first year-round dark red leaved rhododendron hybrid, bred at Glendoick.

Alongside the back drive is an area known as the "Far End". There visitors can enjoy a collection of old and new hybrid rhododendrons, many of which are new Glendoick hybrids which are being evaluated. One of the oldest and largest plants is a giant 'Sappho', one of the most famous of the 19th century English hybrids, with tall trusses of white flowers, each with a deep purple-black blotch. We can only guess at the parentage, as the Waterers Nursery seldom divulged their hybridising secrets. On the south side of the road, the E.H.M. Cox Arboretum (first planted in the 100th anniversary year of his birth in 2003) contains a fine collection of *Sorbus* and other trees, most of which have been collected on Cox expeditions.

Glendoick's 18th Century Walled Garden now contains most of the nursery production in greenhouses and tunnels where young plants are grown for their first year. Lined out in the upper part of the garden are the test beds for new hybrids and open-ground stock being grown for sale. This garden also features a sundial chair with the date 1776 carved into it.

The section of gardens around Glendoick house contain one of the world's most complete collections of dwarf and alpine rhododendrons, interplanted with perennials and bulbous plants. Many of the Glendoick "bird" hybrids such as 'Curlew', 'Ptarmigan', 'Wigeon' and 'Egret' are planted here, alongside Warren Berg's hybrids such as 'Wee Bee' and 'Patty Bee'. Overhead is a massive tree of *Davidia involucrata,* the handkerchief tree or dove tree, introduced by Ernest Wilson in 1899-1900 from China, which produces spectacular white bracts in May-June. It took many years to start flowering.



Shades of purple evergreen azaleas including 'Elsie Lee' and 'Blue Danube'.

We have been doing lot of work over the last 30 years, breeding rhododendrons with coloured foliage and most of the resulting selections are planted round the house, both named and unnamed examples. 'Everred' ['851C'] has red-purple leaves year-round and dark red flowers. This is becoming widely grown in the Pacific Northwest. 'Wine and Roses' ['pinkros'] has masses of pink flowers and a red leaf underside. The latest, 'Wonderred' ['2008/7D'] has very dark red flowers, red young growth, dark red leaf underside and is hardier and more vigorous than the first two.

At the side of the house a bed contains some of the many Glendoick evergreen azalea cultivars. Cool Scottish summers don't suit most evergreen azaleas, particularly those bred in the USA, which need summer heat to ripen wood in preparation for winter. To try and improve the range for Scotland's gardeners, my father began breeding evergreen azaleas for Scotland in the 1970s, and he soon found that genes from Japanese *R. kiusianum* and/or Taiwanese *R. nakaharae* gave best results. As the dwarf rhododendrons had taken so many bird names, this time Peter Cox chose mammals: 'Panda' (white), 'Lemur' (pink), 'Squirrel' (red), and 'Wombat' were the first four. Later ones include 'Opossum' (purple), 'Red Fox' (red) and 'Raccoon' (late red). I began a further evergreen azalea breeding program seeking double flowers and improved foliage retention, producing cultivars with the 'Glendoick' epithet. The double white 'Glendoick Glacier' ['GLE 009'] and the red 'Glendoick Goblin' ['GLE010'], for example and the more unusual strap-petalled Glendoick Starburst ['GLE031']. 'Glendoick' is a trade designation in Europe, which accounts for the unusual naming system with a cultivar name (which is a code number) in brackets.

Glendoick also has a large collection of deciduous azalea species and hybrids, mostly planted along the driveway or in front of the house. One bed contains wild collected *R. molle* subsp. *japonicum* selections. These are identical to the so-called Mollis hybrids which turn out not to be hybrids at all, just colour forms of the species. Another bed contains a number of unknown Ghent Rustica azaleas, not the ones usually seen in collections. Glendoick was sent a collection of Smith and Mossman *R. occidentale* selections in the 1970s and these form a spectacular show in June, alongside other North American species azaleas such as *R. calendulaceum* and *R. arborescens.* On the lawns in front of Glendoick house a border of grasses and another of hydrangeas, forming part of Glendoick's summer interest. Four giant *Sequoiadendron giganteum* from the 19th century can be spotted to the north and west of the drive.

Glendoick's Gardens are open 7 days a week in April and May. Tickets an be purchased from Glendoick Garden Centre. More details are on the Glendoick website www.glendoick.com.

Climate Note:

Glendoick is on the east coast of Scotland, a few miles from the Tay estuary. The coldest winters recorded have reached –18° C (0 F), but this happens only a few times a century. A cold winter is usually more like –12° C (10 ° F). Summers have few summer days over 27° C (81 ° F). Rainfall is 600 –760 mm (23-29 in) annually. Our greatest problem is late spring frosts after periods of mild weather when flowers and growth are often frosted and bark-split can result.



The "Far End" view of old and new hybrids being evaluated.



R. molle subsp. *japonicum* selections with Glendoick House.

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Kenneth Cox is the author of twelve books, many of which are on rhododendrons, and is a member of the Scottish ARS Chapter.

(President's message continued from page 5.)

purposes by ARS members or others who feel that these are important things to do. If you feel that these activities are worthy goals,I encourage you to donate or otherwise arrange to give money to these funds.

Many years, there are very few requests for grants, so if you have a favorite project that you would like to support, you are welcome to apply for a grant to help you get the project completed. Just contact the committee chair for the fund or your district director for advice, if needed.

Well, I'm out to our garden now. We have a few of those fall bloomers that Madeleine and I are going to look at, such as some blooms on *R. beaneanum*, a few on *R. griersonianum*, a bunch of little blue lepidotes, and a Williamsianum hybrid with lots of blooms, and we'll see what else we can find.

Happy Rhododendroning,

I grow plants for many reasons: to please my soul, to challenge the elements or to challenge my patience, for novelty, or for nostalgia, but mostly for the joy of seeing them grow.

David Hobson

Range Extension to Sikkim and the Recollection of *Rhododendron cephalanthum* (Ericaceae) in India

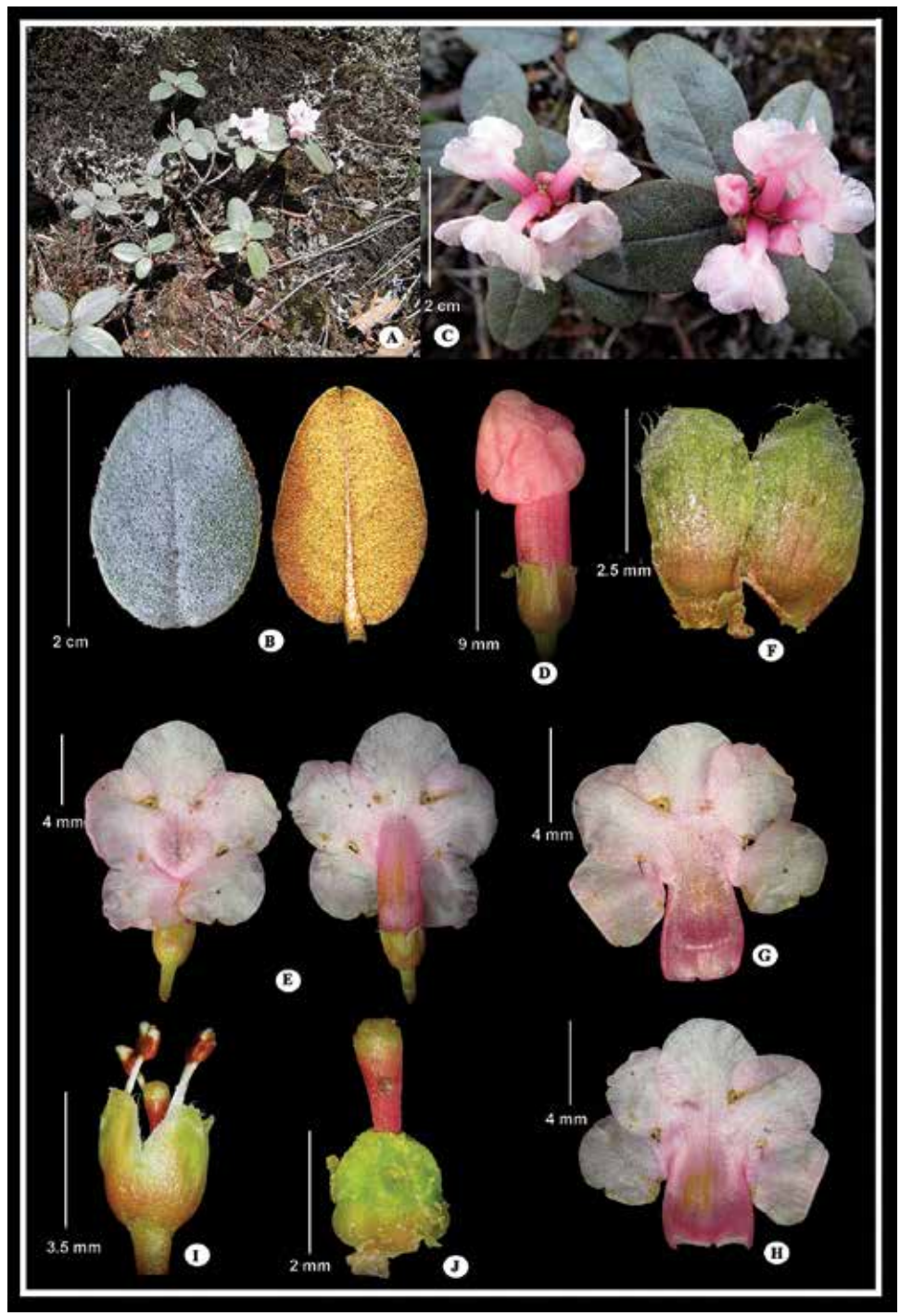
C.S. Purohit
Port Blair , India,
and
Ramesh Kumar
Jodhpur, Rajasthan,
India



C. S. Purohit

The genus *Rhododendron* is one of the largest genera (about 1000 species; Gibbs *et al.* 2011) in the Ericaceae, and is mainly distributed in Asia, Europe, North America and Australia. In India, the genus is represented with about 132 species of which 129 species (97.7%) are known from north-east India due to the eastern Himalayas' unique geographical and ecological features, notably cold, moist slopes and deep valleys. Currently, there are 119 species recorded from Arunachal Pradesh (90.1%), 42 from Sikkim (31.8%) and five from Mizoram (3.8%) (Mao *et al.* 2017).

During botanic explorations of the Shingba Rhododendron Wildlife Sanctuary (altitude 3048 to 4575 m (10,000-15,000 ft)), Sikkim, in 2014, the first author observed an interesting population of eight *Rhododendron* in the alpine forest, later identified as *Rhododendron cephalanthum* Franch. After comparison with herbarium specimens housed at BSHC, CAL, ASSAM, ARUN and review of the literature (e.g., Sekar and Srivastava 2010; Sanjappa and Sastry 2014; Mao *et al.* 2017), it was determined that this species had not been collected in India after Kingdon-Ward's 1928 collections from the Delei Valley, Arunachal Pradesh. Our observations from Sikkim thus shows an extended distribution in India after a gap of nearly 85 years. This paper provides details of this finding.



Rhododendron cephalanthum Franch.: A. Natural habitat, B. Leaf, C. Inflorescence, D. Flower bud, E. Flower, F. Calyx, G & H. Corolla (dorsal & ventral view), I. Stamens, J. Pistil.

Rhododendron cephalanthum is a prostrate shrub up to one m (three feet) high, with white to pink 6-10 mm (.25-.4 in) long flowers. Kingdon-Ward collected it at 3962 m (13,000 ft), but is also occurs in China and Myanmar.

Cullen (1980) and Chamberlain *et al.* (1996) both recognize two subspecies of *Rhododendron cephalanthum*, i.e., *cephalanthum* and *platyphyllum*. The Indian specimens belong to subsp. *cephalanthum* (Chamberlain *et al.* 1996), which has its type location in the Delei Valley. Only eight individuals were observed in Sikkim at a single location in the Shingba Rhododendron Wildlife Sanctuary.

Due to the sanctuary's undulating topography and periodic landslides and floods, coupled with anthropogenic threats

from habitat fragmentation and illegal disturbance, the continued natural existence of this species in this area is questionable. To save its existence, immediate conservation measures are needed before they potentially disappear from this particular locality. Based on its tiny observed population (eight individuals) at only one location in the sanctuary, the first step should be to conserve this plant by any convenient method, such as both by protecting the species in its current habitat and by propagating the species through either cuttings or seeds. If propagated, additional plants could then be re-introduced into the wild in suitable habitats and locations or conserved in botanical gardens.

Acknowledgement

The author is thankful to the Director, Botanical Survey of India, Kolkata, Scientist In-charge, BSI-SHRC, Gangtok, for providing necessary facilities and to the Head of office, BSI-ANRC, Port Blair, for his valuable suggestions. Thanks are also due to Mr. Rajkumar Ram, BSI-SHRC, Gangtok, for assistance in field exploration and to the Forest Department, Sikkim for their facilitation during the survey of the protected area.

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I don't like formal gardens. I like wild nature. It's just the wilderness instinct in me, I guess.

Walt Disney

A Garden for All Seasons

Mike Henry
Queenstown,
New Zealand

Photos by author.





The garden around the house.

It was a real pleasure to meet so many passionate and friendly Rhododendron and Garden lovers last year at the 2018 ARS Convention in Bremen, Germany, of which I am sure much has already been published in various chapter newsletters. This article is about gardening in New Zealand and, in particular in our garden "Chantecler." But first let me say that New Zealanders are passionate about their gardens and there is a gardening society or association for almost every type of plant. In our case, we are members of the New Zealand Rhododendron Association (www.rhododendron.org.nz), which has a strong and enthusiastic membership. Our garden is also part of the New Zealand Gardens Trust, an organisation that includes 100 of the best gardens in the country. "Chantecler" is rated by the Trust both as "Five Stars" and as "A Garden of National Significance," an accreditation we are very proud of given tfhat we have only been part of the gardening world for 15 years. If you are visiting New Zealand, you will find the list of quality Trust gardens to visit at www.gardens.org.nz.

We are fortunate to live in a country that has both a climate and soil conditions that virtually all plants thrive in, so plants grow quickly, and that includes rhododendrons. Our own soil is river loam built up over thousands of years, is nutrient rich and has an acidity that is perfect for most plants. The land is sloping, so we also have great drainage



Various rhodos.

Situated 400 m (1300 ft) above sea level in the Wakitipu Basin, a plain in Central Otago, South Island, our garden is surrounded by majestic snow covered mountains on all sides and is near Queenstown and Arrowtown. Overall, we have 16.2 ha (40 acres) of which 4.9 ha (twelve acres) accommodates a diverse and mature garden, with the balance of our land comprising hedged paddocks containing sheep, producing about 60 new lambs each spring. We also have White Hart Fallow deer (*Dama dama*, white because of a condition known as leucism that causes their hair and skin to lose its natural colour), alpacas (*Vicugna pacos*), and hens. The garden is a true "Four Season" garden with hot dry summers, a calm mild autumn although we often get



'Lemon Lodge' in front of 'Cunningham's White'.



'Point Defiance'.

snow in late fall, cold winters with snow on the ground and always on the mountains and spring, which like anywhere in the world, delivers its ups and downs, but equally provides the excitement of new growth and colour. Something else fairly unique is that in New Zealand we have no snakes, only one poisonous spider and virtually no poisonous insects, which makes the garden a happy place to be.

We are fortunate to have many mature deciduous and evergreen trees. These include giant redwoods *(Sequoia*), dawn redwoods (*Metasequoia*), claret (*Fraxinus angustifolia* subsp. *oxycarpa*) and golden ash (*Fraxinus excelsior* 'Aurea'), oaks (*Quercus* Section *Quercus*), pin oaks (*Quercus* Section *Lobatae*), English copper beech (*Fagus sylvatica* f. *purpurea*), golden elms (*Ulmus* glabra 'Lutescens'), liquidamber (lweet gum, *Liquidambar styraciflua*), willows (*Salix*), NZ native trees and many varieties of conifers including cedar and larch. Amongst all this, we have carved out our self-designed garden, and to create interest for both ourselves and visitors, we have "themed" the garden. Our aim has also been to grow plants that we like, that suit the weather and soil conditions and which look magnificent throughout the seasons.

Our English garden is where the rhododendrons and azaleas grow, many under the canopy of large trees although some in the open. We have about 1000, and have planted these to give us colour from late winter (*R. protistum* and 'Christmas Cheer') to mid-summer ('Polar Bear' and 'Aladdin'), and mostly they are colour coordinated to produce maximum impact. Our big leaf rhododendrons (*R. grande, R. macabeanum* and others) flower in the early spring. Deciduous azaleas do particularly well and always have great fall foliage. We have many Mollis azaleas but for the last ten years, have mostly grown doubles, a lot of which have amazing fragrance (our doubles include 'Pavlova', 'Caroline de Rothschild', and 'Homebush,' to name a few). This garden has a collection of magnolias, with 'Leonard Messel' and *M. stellata* thriving; camellias, Japanese cherry and maple trees, dogwoods, hostas, hydrangeas and lots more. Over 40 varieties of hydrangea, some in mass plantings, are a favourite because of their easy care and great colours in both the summer and fall (with the blues being very vivid due to the soil's acidty). The hydrangeas 'Annabelle', 'Limelight', 'Paniculata Grandiflora' and 'Sabrina' are standouts. Personally, I think hydrangeas blend well when interplanted with rhododendrons.

Around our home is a formal garden with fountain, sculptures, topiary and box hedging, and roses (about 350 of them). There is a white garden with fragrant roses and full of perennials, a yellow garden with roses and azaleas, tree peonies and



This *R. protistum* seedling took 17 years to flower.



'Kiwi Magic' .



R. degronianum var. *yakushinanum.*



Double azaleas.



Hydrangea.

near the kitchen, a Potager herb garden. Around our swimming pool is the Mediterranean/Tuscan garden with an olive grove, pencil conifers, standard topiary bay trees, lavender, climbing red Dublin Bay roses, rosemary, grapes and figs, where one can hear Italian music and sip Chianti wine.

At the very top of our property is an Asian-inspired garden with a cascading waterfall, lily pond, over 200 Japanese maples, weeping cherries, azaleas and hundreds of peonies, which will come into flower around mid-November (our spring) and put on a real show. There are eight varieties of peonies and they produce massive flowers, with about 15-20 per plant. Our cold winters are ideal for them and they require such easy care. After flowering, we dehead them but leave their foliage for its fall colour. They are cut down at the end of fall and in early spring when the nodes show themselves, we give the plant a sprinkle of fertilizer. The Japanese maples are particularly stunning in the fall. Next to this garden is a paddock in which we have planted 20,000 daffodils. We also have large plantings of tulip**s** and other bulbs, which we can leave in the ground all year round. Deheading them and giving them a light feeding ensures healthy big blooms year after year.

A bare paddock was planted with 5000 NZ native plants in 2007, and they have matured so well that visitors think they have always been there. There is a bank of a mass planting of hebes of five varieties, and a stream with waterfalls runs through the garden linking two ponds, making it truly a special place.

A meadow garden with herbaceous perennial beds and half an hectare (one acre) of wildflowers makes this a haven for bees, and provides colour and form right through to the late fall. There are 14 varieties of wildflowers that start the show at the end



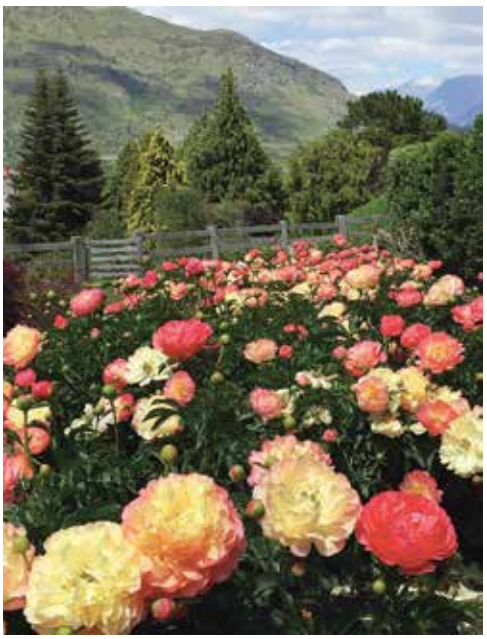
Hydrangea ‘Annabella’.



Part of the formal garden around the house.



Maples in the Asian garden in the fall.



Peonies.



Peonies.

of spring, and the garden finishes in fall with *Coreopsis*, *Cosmos* and *Rudbekia*. There is a dedicated separate picking garden and we also grow many dahlias, but these we have to lift and store through the winter. Further down is a field of 2000 English *Lavender augustifolia*.

Of course no garden is complete without a vegetable garden and orchard. All stone fruit such as apricots, plums, cherries and peaches do exceptionally well, as do apples, pears and quince. The vegetable garden is a challenge at times because of late spring frosts but once they are over, the garden takes off. We also grow edible wildflowers and herbs here, both for the bees and for us. We also propagate a lot these days, as we have such a huge variety of all manner of plants that we find enjoyable and satisfying to grow.

In summary, I hope I have been able to give you a little insight about both "Chantecler" and gardening in our beautiful country. We would welcome any of you visiting New Zealand and our neck of the woods. Lastly, the NZ Rhododendron Association has a Conference/Convention usually at the end of October or early November each year, which is always open to visitors.



'Black Diamond' tulips.



Wildflowers at the end of spring.



View from the Asian Garden.



Wildflower garden.



The lavender field.

If you have a garden and a library, you have everything you need.

Marcus Tullius Cicero

Rooting Rhododendron Cuttings

Don Hyatt
McLean, VA

Photos by author.



Late summer and fall are usually good times to root cuttings, but it is often possible to root cuttings almost any time of year. Here is an approach I have used to propagate a few plants that is geared more for the amateur gardener rather than the nurseryman.

Cutting Selection

I prefer cuttings made from the smaller shoots on my plants rather than big strong growths. I look for branches on the back side of the plant or in shaded spots and try to get stems that do not have flower buds. Smaller cuttings seem to root more easily for me since they don't need quite so many roots to support a new plant. Also, I also hate to cut off any branches that might produce blooms the following spring. If any cuttings do have flower buds, I will remove them since it is better for the cutting to use the energy for root formation rather than trying to produce flowers.



Rhododendron cuttings.

Preparation



Long cuttings may be cut into shorter pieces.

Rhododendrons are shallow rooted plants and therefore cuttings do not need to be very long. I make short cuttings about 1.5 to 2 inches (4 cm) in length. I also trim the ends of large leaves to make them more manageable. Of course, I pinch out any flower buds. Long shoots can sometimes be cut into several sections to get additional cuttings.



Example of a leaf-bud cutting with bud.

If a variety is rare, I might try a few leaf-bud cuttings too. A leaf-bud cutting is single leaf with some of the woody stem attached, and it also needs a growth bud in the axis where the petiole attaches to the stem. Leaf-bud cuttings will often root just like normal cuttings but it is important to keep that bud above the soil line until it breaks and sends out new growth. If that bud gets damaged or rots, new growth will never emerge so that cutting may form roots but it will never become a plant.

Sterilization



Sterilize cuttings by soaking in weak Clorox solution.

After trimming leaves and stems, I usually sterilize my cuttings in order to lessen insect and disease problems. This is not required but it can eliminate some potential problems later on. To make a 5% Clorox solution, I mix 1/4 cup (60 ml) of Clorox with about five cups (1.2 liters) of water. Be careful to check concentrations on the bottle because some bleach products may be more concentrated. I submerge the cuttings in that solution for five minutes which usually kills most bugs and mold spores. Then I rinse the cuttings well and shake off excess water.



Trim the leaves, remove buds, and wound each side of the cutting.

Wounding

Rhododendron cuttings will form roots from the cambium layer which is directly under the bark. At first, an undifferentiated mass of cells called a callus will form as the cutting begins its healing process. Eventually, new roots will develop from that callus tissue. In order to have a larger area for callus development, I cut away

a thin sliver of bark from both sides of the bottom part of the cutting. I use a sharp knife so as not damage to the remaining bark. Azalea cuttings do not need to be wounded in this way as they tend to send out roots through the thin bark anyway.



Dip stem in rooting hormone and insert in pot.

Hormones

To encourage root formation, most rhododendrons need a little help. I use the liquid rooting concentrate called Dip 'N Grow but I have also used the rooting powder called Rootone. For hard to root rhododendron cuttings, I use the dilution ratio of 1 part hormone to 5 parts water. Azaleas root easily so a 1 to 10 dilution is ample. I dip just the ends of the cuttings in the solution for mere 3 to 5 seconds. Then I remove cuttings and stick them in the rooting medium.

Other rooting hormones work well, too. The late Kathy Van Veen once told me she used "the purple stuff," a purple-colored gel from HydroDynamix called Clonex. The gel adheres to the cuttings and protects the cambium layer as the callus develops and new roots form. I will have to try it next time.

Potting Up Cuttings


Insert cuttings into potting medium.

I insert the cuttings in pots containing a porous medium of equal parts peat moss and perlite with a bit of coarse sand. I like sand because of the extra weight and stability it offers but be careful to choose sand recommended for landscape. Sand from some vendors may contain traces of ocean salt or minerals like lime and that will be a problem for rhododendrons. The medium should be damp but not too wet since excess moisture can encourage rot.


Potted cuttings in clear plasitic bag.

I enclose each pot in a clear plastic bag and place these "mini-greenhouses" under fluorescent lights that stay on for 18 hours per day. I like using these sealed containers because the pots do not require any care from me for months on end. I will check on them from time to time by shaking the condensation off the bags and looking inside. If I notice a disease or insect problem, I will open the bag and try to deal with it then.

It is also possible to put cuttings on a north windowsill that gets bright light but no direct sun. Bags of cuttings in strong sun can get too hot and they will burn. Some people will cluster pots up against the foundation of the house on the north side or put them to a cold frame. For any pots outside, it is wise to have wire or wooden supports inside the bags to keep the plastic bags from getting beaten down by rain.

Growing On

Azalea cuttings root quickly and should be starting to form roots in a month or two. Rhododendrons take longer so roots may not begin for two to three months. Stubborn varieties could take a year or more to root and some varieties are nearly impossible. Those are good candidates for grafting.

I do keep my rooted cuttings on the "dry side" during the rooting process since there will be fewer problems with fungus diseases and root rot. Don't let them dry out completely, but that approach does seem limit top growth which is fine when space is limited, and I think they form a larger root system because the new roots seem to be looking for moisture. I also avoid fertilizer at that stage since tender roots are easily burned. Plants under low light conditions do not need much fertilizer anyway and too much nitrogen can actually make them susceptible to other problems. A "hungry" plant seems easier to establish than one that has been "pumped up" with fertilizer and constant misting of the foliage.


Put mini-greenhouses under artificial lights.

How to deal with newly rooted cuttings during their first winter can be a problem. Young plants can be very susceptible to winter damage, especially if they have not gone dormant when cold weather arrives. Having a cool greenhouse or a cold frame is helpful for protecting plants during their first winter. However, when I take cuttings late in the summer, I prefer to keep them under the artificial lights until new growth emerges the following spring. Then I will have time and space to transplant those cuttings into individual pots so they can grow all summer and become nice liners by the fall.

Finally, if branches on your rhododendrons get broken over the winter, don't let them go to waste. Try rooting them at that time of the year as well. After all, we can all use more rhododendrons!

Don Hyatt is a member of the Potomac Valley Chapter and has given talks at many chapter and at ARS Conventions and Conferences across the US and Canada. He is also a frequent contributor to the JARS.

If a tree dies, plant another in its place.

Carl Linnaeus

2020 ARS Photo Contest Instructions

The Contest is open only to ARS members in good standing as of the contest closing date. Judges and their immediate family (spouse, parents, siblings, and children) and household members are not eligible. By participating in the Contest, each entrant fully and unconditionally agrees to and accepts these Official Rules and the decisions of the Judges, which are final and binding in all matters related to the Contest. There are no prizes except bragging rights, and the Editor of JARS has the right to publish runner up and winning entries.

All photos submitted must have been taken prior to July 31, 2020, and not have been entered in a JARS photo contest previously, a change made last year, and is being continued on a trial basis at the request of some ARS members. Entries must be received by midnight PST, July 31, 2020. All entries should prominently feature either rhododendrons, azaleas and/or vireyas in the composition. Competition categories:
1) Flower, truss or spray;
2) Plant in bloom;
3) Landscape or plants in the wild or in gardens;
4) Foliage;
5) People, Insects, or Animals; and
6) Other, for creative or artistic effects of any kind that involves these plants. This could involve the use of software products like PhotoShop.

Photo Guidelines:
1) The Photo must be in .jpg, .jpeg, or .gif;
2) Images submitted should be sent by email and be of modest size, about 1024 to 1280 pixels in length and 480 to 768 in width, which would correspond to a dpi of at least 300 for a 3 x 5 in (7.6 x 12.7 cm) photo;
3) Cropping of digital images and minor adjustments to exposure and color balance is permitted for entries in all categories. Advanced image editing features available in software products like Photoshop should not be used except for entries in category six;
4) The Photo caption and/or description must not exceed 200 characters in length. Provision of some details about the camera and settings for each entry is also desirable, and for submissions in category 6, include a brief explanation of how the image was created;
5) The Photo cannot have been submitted previously in an ARS contest (chapter contest submissions are acceptable); and
6) The number of entries by any individual per category is restricted to two.

In Memoriam: Paul Anderson, MD

Dr. Paul Anderson was born in Janesville, Wisconsin, in 1930 and grew up in the small nearby town of Milton. Paul graduated from Andrews University in Berrien Springs, Michigan, in Biology in 1950, and then from Loma Linda University in Loma Linda, California, where he earned his medical degree in 1955. After graduation he served in the US Army and worked to help set up hospitals in France and Germany. He left the Army as a Colonel. He was a physician at the 1960 Olympics in Squaw Valley and worked as a Bush Doctor in rural Alaska. He then graduated from the Berkeley School of Public Health with his MPH in 1960, and became the Director of Public Health in King County in Washington State, and then filled the same role in Humboldt County in California. At age 50, he made a major change in his life and changed his specialty in medicine from Public Health to Psychiatry. He then worked at the Napa State Hospital for 33 years.

Paul loved flowers, and was most recently Director at Large with the American Rhododendron Society for the non-North American chapters, located in Denmark, Finland, Sikkim, the Netherlands, Sweden and India. He received the ARS Silver Medal in 2010. Just before his death, he received the ARS Award of Appreciation. He was also one of the founding members of the Eureka Chapter of the ARS and was instrumental in starting Humboldt Botanical Garden. After his retirement, at the age of 83, Paul traveled the world making friends and indulging in his love for people, beauty and knowledge. Paul died in May in Napa, California, at 89.

In Memoriam: Benjamin D. Hall, Ph.D.

Dr. Benjamin (Ben) D. Hall, rhododendron scientist and gardener, passed away on April 2, 2019, at age 86. Ben began his scientific education in chemistry, receiving his B.A. in Chemistry from the University of Kansas and his Ph.D. in Physical Chemistry from Harvard University. Initially a Professor in Physical Chemistry in Illinois, he moved to the University of Washington (UW), Seattle, in 1963 as a Professor in Genetics. His early research was the characterization of yeast RNA polymerases, enzymes that convert DNA into RNA, and this led to patents that used yeast for the production of human insulin, Hepatitis B and human papillomavirus (HPV) vaccines, as well as many other biopharmaceutical products.

In the 1990s, Ben became interested in native rhododendrons, and revenue from his yeast patents allowed him to shift his research to rhododendrons. He moved to the Department of Botany at UW in 1994 as the Washington Research Foundation Professor of Botany and Genetics, where he pioneered the use of RNA polymerase genes to study the genetics and evolution of land plants. Ben retired as a professor in 2008 but in his "retirement," his lab was the first to use advanced sequencing technologies across *Rhododendron* species to understand how rhododendrons have evolved, and to sequence the entire rhododendron genome.

Ben was very active in the rhododendron community. He served as Chairman for the American Rhododendron Society Research Committee and was a member of the Rhododendron Species Foundation (RSF) Board of Directors and Executive Committee. His lab contributed numerous articles on rhododendron taxonomy, genetics, and evolution to scientific journals, to JARS and to the RSF Yearbook. In honor of Ben's work, *Rhododendron benhallii* was named after him.

Ben was a humble man, but for his scientific achievements, he was given many honors. Products derived from his early research have improved the health of more than a billion people around the world by reducing the incidence of Hepatitis B and HPV infections, and by bringing recombinant insulin to patients with diabetes. He was named Inventor of the Year by the UW School of Medicine in 2004, was elected to the American Association for the Advancement of Science in 2005, the American Academy of Arts and Sciences in 2010, the National Academy of Sciences in 2014, and the Washington Academy of Sciences in 2018.

Valerie Soz

In Memoriam: Graham Charles George Argent

The wider horticultural community lost one of its most intrepid and highly regarded rhododendron botanists when Graham Charles George Argent passed away in Ullapool, Scotland on April 24, 2019, at the age of 78. Better known as George in the botanical community, during his time as Tropical Botanist on the staff of the Royal Botanic Garden, Edinburgh (RBGE) he undertook more than 50 expeditions across the tropics, bringing back thousands of preserved herbarium collections and introducing over 2000 living plants; little wonder he was nicknamed "Edinburgh's Indian Jones of botany".

Born on May 15, 1941, whilst his mother and older sister had been evacuated to Hemel Hempstead on the northwest of London during WW II, they did not return to their Bexley home until 1944. After earning an undergraduate degree in botany at the University of Leicester in 1963, he obtained a PhD on the taxonomy of West African mosses from the University of Wales, Bangor, in 1969, whilst working as a research assistant. He subsequently secured a position as Research Fellow for the New Guinea Biological Foundation from 1969 to 1973 to collect and study the genetic diversity of bananas, travelling widely in Papua New Guinea and collecting more than 200 cultivars, which he subsequently propagated and studied at the experimental station of the Institute of Technology in Lae.

On appointment to the RBGE in 1973, George commenced his research of the plant family *Ericaceae*, which includes heathers, blueberries and his own speciality, the genus *Rhododendron*; his focus being the tropical vireya rhododendrons from South East Asia. Over the next 40 years he authored more than 130 new species and varieties from a range of plant families, and published over 100 scientific papers, culminating in his seminal book "Rhododendrons of Subgenus Vireya," first published in 2006, with a second edition in 2015.

George particularly enjoyed being in the field with promising young researchers, many of whom he helped and supported as they became significant botanists and conservationists in their own countries. Unusually for the time, he was also notable for including RBGE horticulturalists on many of his expeditions, so they could experience the natural environments in which the species occurred, in order to reproduce these in cultivation. George was quiet spoken, but infinitely strong and resourceful, and many would get a real-life introduction to plant exploration using his three great principles for travelling: Be courageous, it'll never happen, and if it does, we'll

get by; Trust people and shake off your suspicious nature; and Be patient, as time flows differently in remote communities.

In 1997 he was awarded the RHS Loder Cup for his contribution to rhododendron research, in 2002 the ARS's Gold Medal for his vireya research, and in 2003 the David Fairfield medal for plant exploration. George was the quintessential botanist, with the wide variety of skills and knowledge needed to thrive in a botanic garden research community. Renowned for his kindness, generosity and enthusiasm, he is remembered with great fondness by the many botanists and enthusiasts with whom he shared his immense taxonomic knowledge and for the world-renowned vireya collection he built up over 40 years.

John M. Hammond, President, Scottish Chapter.

ARS member and RSBG Executive Director Steve Hootman wins prestigious award from the Rhododendron and Camellia Committee, Royal Horticultural Society

Steve Hootman has been named as the 2018 recipient of the Loder Rhododendron Cup from the Royal Horticultural Society. Here is the citation used in the award presentation which was kindly received by Keith Rushforth on behalf of Steve who was unable to attend the award ceremony.

"For those unfamiliar with his name, Steve Hootman – a very long-standing member of our Group – has been Curator of the Rhododendron Species Botanical Garden in Washington for over 25 years and Executive Director since 1998. Under his dynamic leadership, the garden has become the centre of *Rhododendron* excellence in cultivation and conservation. Rivalling the RBG Edinburgh, it now hosts one of the largest living collections of Rhododendron in the world – 700+ species including vireyas. He is one of the foremost plant hunters in the world and has introduced many species into cultivation that you may well be growing in your garden under the SEH name. If not, you might have encountered the acclaimed RSF yearbooks which Steve initiated in 2006 or visited the excellent RSF website he oversees: www.rhodygarden.org

Steve is a true 'giant' in the rhododendron community; highly regarded across the globe, he is a 'go to' person for information, advice and opinion on all matters *Rhododendron*. He has been of immense support to the Group during my tenure as yearbook editor, providing images and sharing his unrivalled knowledge with absolute generosity. Steve is a rare beast – a genuine expert in his field with none of those all too familiar 'diva' qualities! This award would represent a perfect recognition of our respect for his ongoing contribution to the world of rhododendrons."

2020 Fall ARS Convention in Gettysburg, Pennsylvania.

The Mason-Dixon Chapter of District 9 will host the 2020 Eastern Regional Rhododendron Convention in Gettysburg Pennsylvania. The convention will be held at the Wyndham Hotel just off route U.S. 30 east of it's intersection with route U.S. 15. The dates are September 25, 26 and 27, 2020. The board will meet on Friday the 25th followed by the evening festivities and start of the plant sale.

The main attractions in Gettysburg are the Civil War Battlefield, the Eisenhower Farm and President Lincoln's Gettysburg address site. Also, the mountains and woodlands surrounding Gettysburg have large areas of Rhododendron maximum and Mountain Laurel (Kalmia). We invite you to come and see old friends, make new ones, look back into history, and talk and learn about rhododendrons in the relaxing atmosphere of Adams County, Pennsylvania.

Sonny Coble, co-chair of the 2020 fall convention.

Gardening is a kind of disease. It infects you, you cannot escape it. When you go visiting, your eyes rove about the garden; you interrupt the serious cocktail drinking because of an irresistible impulse to get up and pull a weed.

Lewis Gannit

Jean Rasmussen in Norway

Ole Jonny Larsen,
Ålesund,
Norway

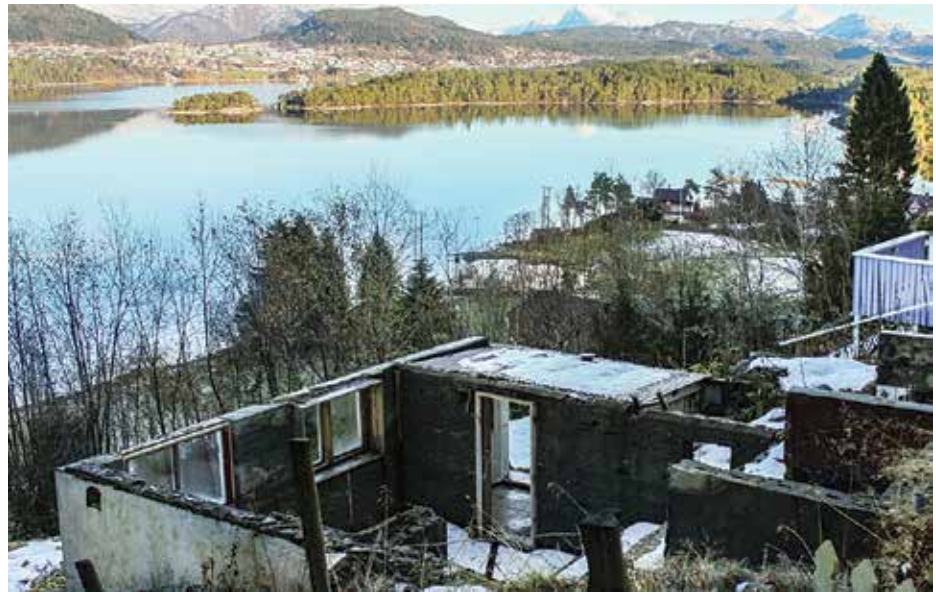


Jean Macklin, Jean Kingdon-Ward, Jean Rasmussen—three names for one person which indicates the three main periods of her life. For most plant lovers she is known primarily as the great plant hunter Frank Kingdon-Ward's second wife, but for 50 years her name was Jean Rasmussen.
When you read an article about Jean, it normally ends with something like

Later she married a Norwegian and spent many years in Norway…

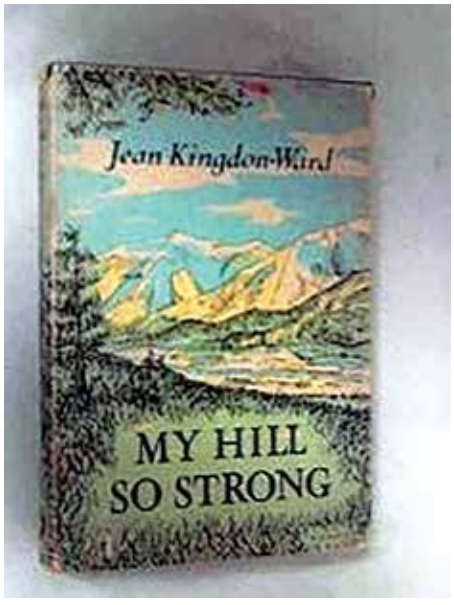
This article will try to give some information about her life through these years.

Jean was born in India in 1921 as a daughter of a High Court judge in Bombay, a servant for the British empire. She grew up both in India and in England. Her first connection to Norway was when as a child and youth she travelled with her father to Norway for salmon fishing in west coast rivers in summer. This sport was normally not a girl's thing, so it is possible that Jean spent time with the local kids and thus learnt some of the Norwegian language. At that time Norwegian children did not learn English at school as they do today, so maybe Jean had to try to learn Norwegian? A story says that during one of her stays in the colony she found an English-Norwegian dictionary in the parlour among her father's books and starting learning words and phrases, maybe out of sheer boredom? What is a undisputable fact is that during her adult years in Norway she spoke Norwegian more or less fluently.



Winter view from Jean's home at the small village of Svorta. The house burnt down long after she left. Photo by the author.

Life in the British colony seems to have been too slow for her. Maybe she longed for something more exciting, riskier and more adventurous? We can not read her mind, but facts are that when she in 1947 by coincidence met the 62 year old distinguished plant hunter Frank Kingdon-Ward (1885 – 1958), she immediately fell in love and wanted to marry him, in spite of her being only 26. Her parents were for obvious reasons not very happy with her decision. The difference in age was one thing, but what kind of a job is plant hunting? And was it true that he did not even have a home in England? Frank had been married to Florinda Norman-Thompson (whom he named *Primula florindae* after) in 1923 and they had two daughters, but she divorced him in 1937, most likely because she and the girls rarely saw him since he spent most of his time planthunting in Asia. He had also been forced to sell his house in London due to economic problems. When Jean met him, he was more or less travelling and plant hunting all the time between small visit to employers in England.



Jean's book about one expedition in China.

Jean must have been very confident and persuading, for the wedding was arranged despite her parents' objections, and short after their marriage she was off with Frank on their first joint expedition. This time to Manipur, where they found the famous lily *Lilium mackliniae,* named after his young wife's first family name. More about that later.

Four more expeditions followed during the next ten years. In the beginning she was more an assistant to Kingdon-Ward, but she learnt along the road and became an experienced botanist and plant collector over the years they spent in the hunting



Jean and Frank Kingdon-Ward on one of their expeditions. Photo credit to Kew gardensand The Royal Geographical Society with IBG.

fields. In fact, there have been very few female plant hunters in the botanic history, at least in "The Golden Age" from 1850 - 1950. Beside Jean maybe only Amalie Dietrich (1821 - 1891) and Alexandra Potanina (1853 - 1920) are worth mentioning.

Jean Kingdon-Ward published a book about one of her expeditions with Frank Kingdon-Ward in 1952, "My Hill So Strong." During this expedition to the Lohit river valley on the Assam/Tibet border they experienced the great Assam earthquake in 1950, measuring 8.7 on the Richter Scale and were in great danger for months making their way out of the valley through a destroyed landscape where most paths and bridges had disappeared or were useless. Land slides and rocks kept coming down from the mountains for weeks after.

The Chinese revolution in 1949 and the following invasion of Tibet in 1950 made travelling in lots of areas impossible. Frank had to return to Burma where he had been before for further plant exploration. In 1953 he explored the area between the Nmai Hka and Mali Hka, branches of the Irrawaddy in northern Burma, and Jean joined him as usual. He wanted to go on as long as possible but the expedition in 1956 became his last.

In 1955 Jean and Frank made a different trip, this time a holiday to Sweden, travelling in an old car from the war with a house mounted on the back! They were greatly welcomed by the Gothenburg Botanical Garden and later by the Swedish king Gustav Adolf and his queen who were both very interested in rhododendrons. Frank and Jean gave the king a newly discovered rhododendron species, and after the visit they described the royal couple as "the most charming people you could imagine."

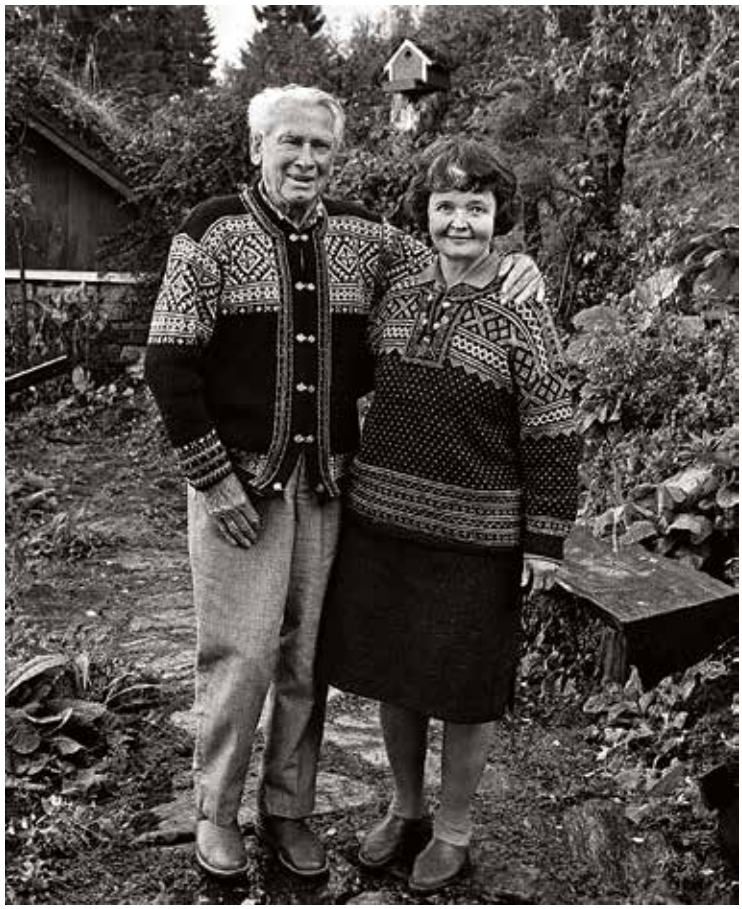
But then something unexpected happened. In stead of visiting more famous places and people in Sweden they drove all the way through southern Norway to a tiny village called Svorta in Sunnmøre County on the west coast. Even today Svorta is just a few houses, which you pass in less than a minute by car. Why did they go there? We can not be sure, but at least one of them must have had a reason. During their stay they lived in their improvised "caravan car" and paid visits to a man called Albert Henry Rasmussen who lived there in a little cabin.

Did they know him? Mr. Rasmussen, then at age 72, had lived in China for 32 years. Could Frank have run into him there when on his way to the mountains? Or did Jean meet him when after the war she was a translator in the Rhine Army and Rasmussen happened to be there at the same time as an information officer? Answers to these questions are likely never to be found.

They had planned to stay for three days, but three weeks passed before they returned to England. In the summer of 1956, they returned to Norway, to the village Svorta and Albert Henry Rasmussen for another visit, but this time Frank returned to England alone. He found Norway too cold. Much later Jean also went home, but according to local people she came back in the autumn with all her personal belongings and moved in with Mr. Rasmussen. From now on and until Frank's death she seems to have shared her time between her present and her coming husband, a quite unusual arrangement in the sixties! She never divorced Frank, but in practical terms she chose to live separated from him in periods and share house and bed with another man. Her reasons for this decision we will never know, but we can speculate. Frank had hardly lived an ordinary life



Jean (34) and Frank Kingdon (70) Ward visit the Gotenburg Botanical Garden in 1955. Photo with permission from GBG.



Jean (47) and Albert Henry Rasmussen (85) in their garden, 1968. Photo: Roger Engvik.

home in England since his divorce in 1937. Maybe he was not a comfortable companion any longer, getting old and forced to give up his lifetime obsession for travelling and plant hunting? It has often been said that Frank and Jean were very happy together despite the difference of age. Maybe this "truth" must be reconsidered, or—at least questioned.

She seemed to have been very active in this period, among other things she made a film about fishing boats at sea together with Rasmussen shortly before Kingdon-Ward died. Rasmussen's cabin had a beautiful view over a fjord landscape, and a local woman can remember Jean uttering: *"It is incredibly beautiful here, you will never get rid of me!"*

Who was Jean's coming husband? Albert Henry Rasmussen was born in 1883 in the small town of Skien in the south of Norway. He was not very healthy as a child, and that gave him good arguments for being allowed to go to sea. He thought that a warm climate would do him good, and his father in the end seemed to agree. After some trips to North Atlantic harbours he went on board a steamer bound for Asia. He left the ship in Hong Kong "just to look around" but ended up staying in China for 32 years, although he also travelled a lot to other countries. When Japan attacked China in 1937, he was in England. He could not go back to collect his belongings and lost them all. Instead he became a war reporter for the BBC and was present at most of the great events during the last years of the war in Europe. After the war he worked in the Rhine Army, now with a military rank and for some time he was a war historian to the Royal Navy.



Albert Henry Rasmussen. (unknown photographer, most likely a navy photo from the wartime.)

Having been an adventurer for most of his life, he found post-war military work boring, so instead he bought a sailing ship for 200 cigarettes and sailed around to harbours in northern Europe for some time until the boat sank on the east coast of England in 1949. Being broke and getting older, now 66, he found that the easiest way to earn money was to become a writer, so he started to write books about his own life and all his experiences over the years. Since he had been away from Norway for about 50 years, he wrote in English, now more familiar to him than his own mother language. His first book was published in 1952 and became *Book of the month* in London! All together he wrote eight books, most of them still available from Amazon, Alibris and others.

Rasmussen also wanted his books published in Norwegian, and he asked a Norwegian friend to translate his first book for him. This was in 1953 and lead



Jean with her seed stock in 1968. Photo Roger Engvik.

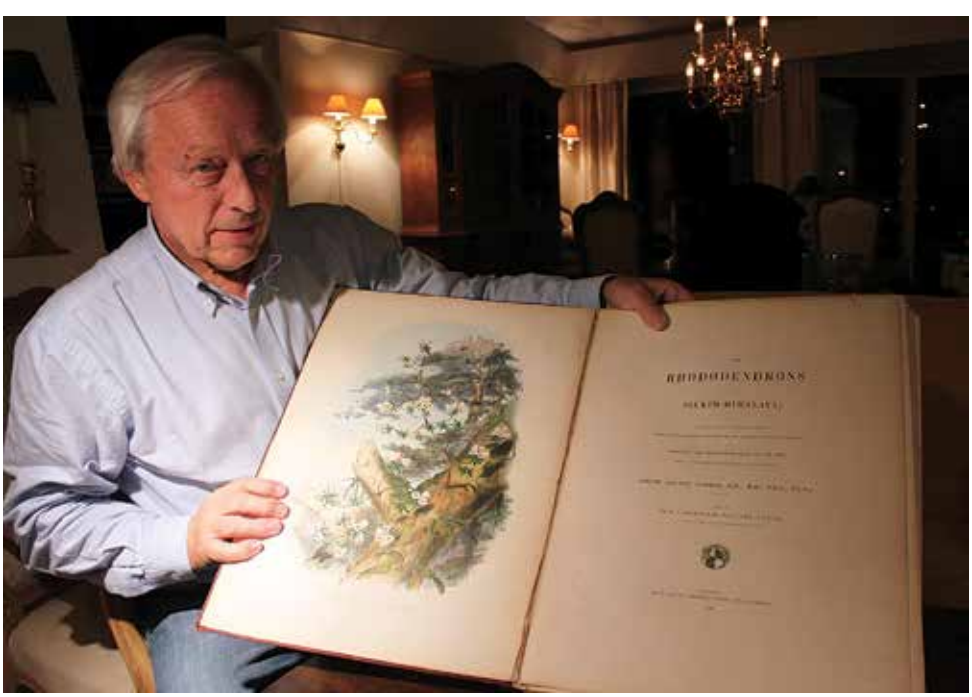
him to the village of Svorta on the west coast of Norway to meet the translator, a place he had never visited before. He immediately fell in love with the little village and made it his home for the rest of his life. Well, at least it was his address, he was not ready to settle down in one place yet. He stayed in Svorta during the summer but left when days got colder and was away all winter. Mostly he lived in England or Spain where he was writing, but he also followed Norwegian merchant ships as an entertainer for the crew. He played the guitar, he sang and above all he was a story teller. When Jean and Frank arrived in 1955, his cabin was just finished, and he lived there alone. He had been married once in New Zealand and had a daughter but had divorced long ago. The daughter Elisabeth visited him and Jean once around 1960.

An unusual wedding

Frank Kingdon-Ward died in 1958, 73 years old. He was married to Jean for eleven years. The widow was only 37. A few months later she married Albert Henry Rasmussen, now 75 years old. She obviously preferred men older than herself! But her two husbands had more in common than age. Both had been adventurous and travelled most of their lifetime, and both had spent many years in China. They had never lived regular lives. There must have been something with these kinds of men that appealed to her. And now she lived in Norway in a cabin called "Lilleknuppen" (means "Little bud" or, metaphorically "Little Darling"), and her name was changed to Jean Rasmussen, a name she kept to her death.

The wedding is still a good story repeated among older people in the area. Jean was a catholic and "Ras", as she used to call him, was in theory a protestant, but not very religious. Catholics were almost unknown in Norway at that time, 98 % of the Norwegian population belonged to the protestant church. Jean and Ras married in a local church, both in Norwegian folk costumes, and they rowed across the fjord in a small boat to get to the church, an old romantic tradition from a time without cars and roads. The ceremony had both catholic and protestant rituals, just in case, and most of it was in English. The priest was a Belgian archbishop who came all the way from Belgium to Svorta to do the service, most likely a friend of Mr. Rasmussen. Two years later, in 1960, he also led the ceremony when the Belgian royal couple married, even shown on television in Norway, so he was obviously somebody to count on in the Belgium catholic church. Still Jean made him help her weeding in her beds when he came to revisit them some years later!

The wedding dinner was a mix of Chinese and Indian courses, not at all familiar to any of the local guests. In the fifties, only traditional Norwegian food was served both for weddings and for daily meals, even among people of higher classes, so there was a great deal of scepticism to the strange food. In parts of



Kåre Olsen with a hand coloured copy of Joseph Hooker's famous book from 1848, "The Rhododendrons of Sikkim Himalaya." He bought this from Jean for 3000 NOK (£ 300) in 1972. Good copies are now worth more than £ 14 800. Photo by the author.

Norway there still is a tradition to have too much food for weddings and other important celebrations, thus leftover food can be shared with neighbours afterwards to thank them for their help during the celebration. Jean and Ras followed this tradition, but several days after their wedding they still had too much left…



Rhododendron man Trond Jordal in Jean's rock-solid garden chair. In her time it had a beautiful view to the west, now overgrown by birch, willow and fir trees. Photo by the author.

Jean's new life as a Norwegian

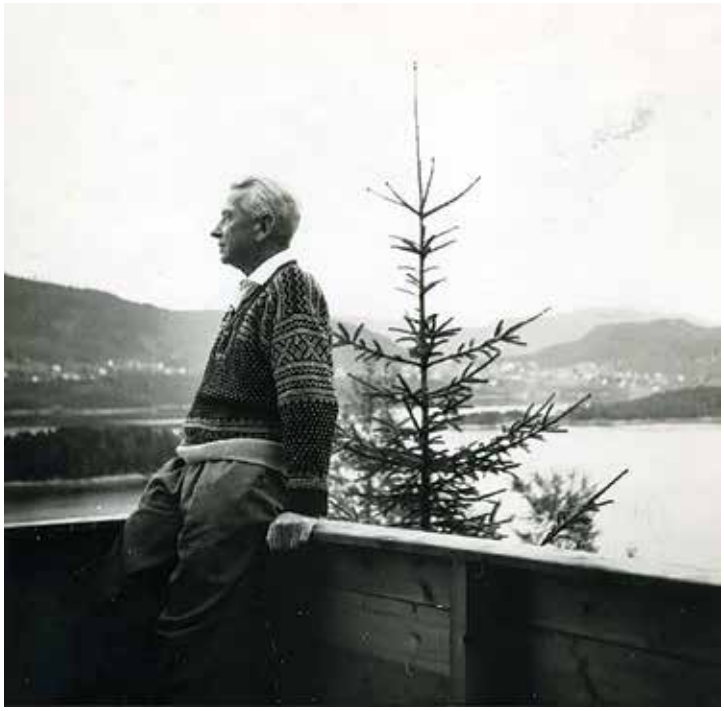
For the first time since her young years, Jean now lived in a normal home all through the year. Ras was used to a bachelor's life and now had to change his habits, with a woman in his house. Big parties with enough to drink, guitar playing, singing and story telling through most of the night was changed to a regular lifestyle. After Jean had established order inside, she started gardening. They had a lot of space, and a collection of plants was gradually established. Having been Frank Kingdon-Ward's wife, she had a special feeling for rhododendrons.

She wanted to grow the best from her first husband's introductions, and her close friend Roza Stevenson at Tower Court helped her to find the right plants. Live plants were imported, but she also raised her own from seeds, including rhododendrons and others, which she ordered lots of every year. She was generous and gave botanical gifts to her local friends. Plants from Jean Rasmussen, especially *Meconopsis* and poppies (*Papaver*) still grow in gardens in the area.

Some seem to "remember" her place as a big botanical park. More than 300 *Rhododendron* species have been suggested, but that obviously is far from the reality. Compared with local gardens, she must have had lots of different and unknown r



Jean in the garden in Norway. Notice: no shoes! Photographer unknown.



Mr. Rasmussen on the veranda. Photographer unkown.



Jean in her garden at Lilleknuppen in 1968. Photo: Roger Engvik.

hododendrons, but her ground could never house that many. The figure 300 maybe covered all her plants, including perennials, bulbs and all kinds of shrubs and trees? That seems more likely.

One plant was very special for Jean, and that of course was *Lilium mackliniae* which her first husband named after her. She tried several times to grow it at Lilleknuppen, but never succeeded. Still she and Ras used to celebrate the 5th of June every year, the day when she and Kingdon-Ward found this lily for the first time. *Lilium mackliniae* can be grown in Norway, but Jean's garden is too wet and cold. Rhododendrons on the other hand, grow very well at the Norwegian west coast, and her north facing garden kept them away from winter sun when the ground was frozen.

Beside ornamentals, she also grew various herbs unknown to the local people which she used in her cooking. According to rumours this did not always turn out successfully when she had parties and served her own favourite dishes.

Gardening was not her only hobby. She was a keen photographer and she also made films. She used to show films from her travels for local audiences and give lectures about plants. Astronomy was another passion of hers. She was writing articles, and she was making radio programs both for the Norwegian state channel NRK and for the BBC.

Jean and Ras had lots of friends, both in Norway and abroad, and they socialised a lot. People who knew them describe Jean as a charming and intelligent person, but also sometimes with a drop of English upper class in her veins. When she wanted things done, she found it annoying that she had to wait for local craftsmen who would finish other jobs first. At Christmas she and Ras used to invite local children for Christmas parties at their cabin. Ras was playing and singing and she, among other things, tried to teach the kids to eat with chop sticks, a sport she herself knew very well.

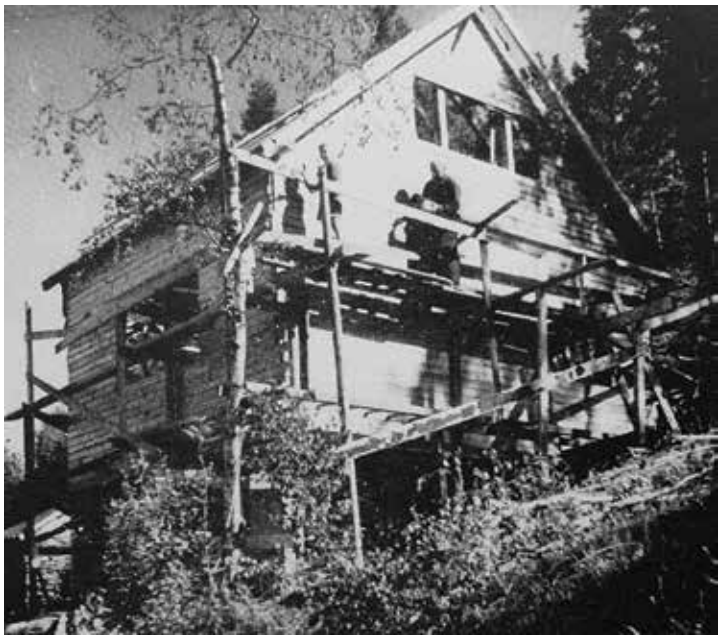
The unusual couple brought a mild wind from the great world with them. They had travelled for years through countries others only had heard about, spoke several languages, ate different food and lived their lives in their own way, although not necessarily fitting into the local traditions. People are often sceptical to foreigners, especially if they do things different from the majority, but the fact that Jean spoke Norwegian must have made acceptance easier. Still some whispered about them in the bushes. Jean wore trousers more than skirts, and her trousers could have holes without being mended. She just rolled them up to hide the misery. She did not wear socks. Even in winter she just put her naked feet into her boots. *"If my feet could walk in the Himalayas and the alps of Tibet, they can take a Norwegian winter too!"* she said.



R. rigidum album at Muséhagen in Bergen, introduced by Frank Kingdon Ward and donated by Jean Rasmussen. Photo with permission from Milde arboretum, Bergen.

"Who ARE you???"

There is a nice little story which shows her character in a good way. Per Magnus Jørgensen, Norway's leading authority on rhododendrons and



The cabin Vesleknupen, being built. Photographer unknown.



Jean with local girls (from left) Kristine, Reidun, Kirsti and Marit in the garden at Lilleknuppen 1961. The local handy man Edvard Sortehaug working to the right. Photo: A.H. Rasmussen.

later professor, was one day in 1975 working in his ground floor office at Muséhagen in the centre of Bergen when he heard a knock at the window. He went out to see what was on and met a tiny lady who asked him in Norwegian with English accent: "Where did you get that beautiful *Rhododendron pemakoense* which flowers so nicely just now? I have not seen a better specimen since I saw it in Tibet!"

Jørgensen of course knew how rare that species was and that very few Europeans had ever been to Pemako. He was very astonished by such a question, so his response was another question: "Who ARE you?"

"I am Jean Rasmussen, formerly Kingdon-Ward," the lady replied. Mr. Jørgensen at first did not find the words, having one of the original collectors of *Rhododendron pemakoense* right in front of him. They had a long conversation, and later she kept in touch with Mr. Jørgensen and the Botanical Garden in Bergen. When she left Norway some years later, she donated lots of plants to the institution which they collected at Lilleknuppen with a lorry. Today only a *Rhododendron rigidum* is alive in the garden in Bergen, a hardy and magnificent form of the species.

Back to England—at last.

Jean and Ras lived together for fourteen years. He had suffered from lung trouble most of his life, and in the end, he had to have extra oxygen day and night. Jean now took on a new role as a nurse, which she did very well and with love and devotion. Albert Henry Rasmussen died in December 1972, 89 years old. He is buried in Oslo, together with is daughter Elisabeth Rosemary.

Some time after his death she sold the cabin and most of their belongings, among them a lot of books, and moved to Oslo. She was still only 51, but she lived alone for the rest of her life. She travelled a lot, and astronomy was now her main occupation. The American space expeditions to the moon fascinated her a lot. Maybe it was the old explorer in her that found this so interesting? When she grew older, she moved back to England and settled in Eastbourne. Still she was travelling, but in the end both her physical and mental health were reduced. Her last Christmas card to friends in Norway was sent in 2003. She died December 3, 2011, 90 years old. A long and adventurous life was over.

My hope is that I have been able to lighten up Jean's story and especially her years in a tiny village in Norway and to pull her a little out of the shadow of her famous husband. After all she was Mrs. Kingdon Ward only for eleven years. For 50 years she had the Norwegian family name Rasmussen.



Jean in her later years, back in England. Private photo from a friend of Jean.

Aknowledgements

The author wishes to thank several local people who knew Jean and Ras when they lived at Svorta, some of them now in their nineties. I had lots of good and humorous conversations! A special thank to Synnøve Bruteig who let me copy a



A photo of Frank Kingdon Ward and Jean, found in one of her books by the new owner.

marvellous photo of Jean in her garden with four local girls and to Kåre Olsen who let me borrow his books and other things that he bought from Jean when she left her cabin after her husband's death. Also thanks to Roger Engvik who has let me use some of his good photographs which he made for the local newspaper Sunnmørsposten in 1968 and to Bjørn Aldén at Gothenburg Botanical Garden who kindly made the use of a photograph taken during Frank and Jean Kingdon-Wards visit to the garden in 1955 possible. Professor Per Magnus Jørgensen at Milde Arboretum in Bergen has been kind to write down his memories about his contact with Jean through some years in the late seventies. He lso provided me with information about where Jean got some of her plants from and two photos of species Rhododendrons from Jean's donations to the arboretum.

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Rhododendrons for Beginners: Tender Species in Subsections *Maddenia, Boothia and Edgeworthia*

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Photos from hirsutum.info except as noted.

In previous articles, I discussed first the general characteristics and taxonomic relationships among the main types of rhododendrons in cultivation, i.e., rhododendrons, azaleas, vireyas and maddenia (Jamieson 2018a). The largest subgenus is *Rhododendron,* which contains all of the lepidote rhododendrons, meaning species that have scales on the underside of their leaves, and a major section in it also has the name *Rhododendron*. This is a very diverse section, with 28 subsections containing upwards of 118 species. I previously discussed species in subsections *Triflora* (Jamieson 2018b) and *Lapponica* (Jamieson 2019), and in this article, I will present the species in three other subsections, *Maddenia*, which along with *Lapponica* is one of the subsections with the most species (at least 40), and the smaller *Edgeworthia* and *Boothia*, as species in them are interchangeable in terms of their cultivation demands. Although many of these species may not be hardy below freezing, many of the smaller growing plants from these subsections make excellent container specimens for the greenhouse, sun-room, or other well lighted indoor space during the cold season and for the patio, terrace or deck during the rest of the year.

Maddenia species are moderately sized rhododendrons, with many in the garden growing up to five m (16 ft) or so, but they respond well to pruning and I keep mine in pots pruned to about 1.5 m (five ft). Some like *R. nuttallii* have very textured leaves which are purple when young, and many have very fragrant flowers, which are generally creamy white to white tinged pink. Some are very tender and cannot tolerate any freezing temperatures, while others are more tolerant, like *R. maddenii* subsp. *crassum* which have survived and flowered in my garden at temperatures as cold as -6° C (21° F).

Boothia species are smaller than the related *Maddenia* species, with charming white or yellow flowers. They are usually epiphytes in the wild, so require good drainage, and they make good pot plants but as they are not scented, they are not as popular as the *Maddenia*. The three *Edgeworthia* species are characterised by the very hairy leaf under-surface and white or yellow flowers. These species are also epiphytes and also need good drainage, such as in a raised partly shaded bed, on a very steep bank, or on rocks or mossy logs in wet areas. In Asia, I mostly saw *R. edgeworthii* growing epiphytically high in trees where organic debris had accumulated, usually in the fork where large branches extended outwards from the trunk .



R. edgworthii growing in the crotch of a tree. Photo by author.

Mark and Abbie Jury describe some of the gardening characteristics of maddenias from their perspective in New Zealand (https://jury.co.nz/2012/10/26/8695/).

"Allow us to introduce you to "*Maddenia*" rhododendrons. We are pretty keen on them, although you may not share our enthusiasm if you think all rhododendrons should have the tight ball truss of blooms which is usually regarded as typical of rhododendrons. Maddenias don't hold their flowers in that style. But the subsection *Maddenia* does include the spectacular nuttalliis with their huge trumpets. I rate these as the most stunning rhododendrons of all with their flowers which look as if they have been cast out of wax and their wonderful, big leaves which are heavily veined – described as bullate foliage. There is nothing quite like them! …

"There are two huge pluses for the maddenias. Most are scented, some strongly so. *R. polyandrum* [now *R. maddenii* subsp. *maddenii*] can waft out for a metre (yard) or two which is an indication of a strong scent. Many will pass the 30 cm (one foot) sniff test which is good. And if you are willing to risk the pollen on the nose, most have a sweet scent when you bury your face in the flower. The second big bonus is that the maddenias show much better resistance to thrips than most other rhododendrons. Thrips are nasty sucking insects that hide

away beneath the leaves, sucking out the chlorophyll….

"There is a preponderance of whites and pastels in the maddenias and where there are coloured ones, they lean to the subtler, softer shades. In other words, there are no pure reds, purples, blues or oranges. We don't mind because we can get the stronger colours in azaleas and other types of rhododendrons. Some of the maddenia hybrids flower so heavily that it can be like viewing a wall of bloom with barely any foliage visible at all. I should perhaps mention also that most of the maddenia types don't make tidy compact little buns of bushes either. They are inclined to be more open in their growth, though by no means are all of them giants. Some can only be described as leggy, but all is forgiven when they flower. Besides, another attractive feature of these rhododendrons is the lovely peeling cinnamon bark many have. If they were bushy, dense plants, you would never see it.

"The *Maddenia* were first introduced to the West in 1849 by the famous plant collector Joseph Hooker. For reasons which are not entirely clear, he named them after Lieutenant Colonel E. Madden of the Bengal Civil Service. How random is that? Given that these rhododendrons are found in northern India, Burma, the milder areas of Tibet, southern China, Vietnam, Laos, and Thailand, maybe Lt.-Col. Madden was particularly helpful to Hooker's expeditions?

Internationally, the maddenias are rated as subtropical and somewhat tender, so they are the envy of gardeners from cold climates. The climate in New Zealand is so temperate that you are able to grow most of the maddenias in all but the coldest, inland conditions. They form the backbone of the rhododendron collection in our garden and are later flowering than many other rhododendrons."

As mentioned in Jamieson (2018a), I grow most of my 15+ maddenias on Vancouver Island in western Canada, where we can have winter temperatures below freezing (over the past decade, the coldest has been to -6° C (21° F) overnight, warming during the day), in large pots. This allows me to move them into a sheltered location, typically our garage, which has a fan and a small heater to ensure a slightly above freezing temperature, during periods of freezing, which typically only lasts for a week or two during the winter. I also grow *R. edgeworthii* in the garden, and they flower every year, although sometimes there is a little winter leaf damage from either the cold or dehydration.

Ken Cox has summarised plant hardiness and the conditions that determine it (https://www.glendoick.com/Plant-Hardiness-in-Scotland) and notes that in Glendoick, Scotland, maddenia that have survived recent hard winters are *R. maddenia* var. *crassum*, *R. changii*, *R. ciliatum, R. fletcherianum* 'Yellow Bunting', and *R. lindleyi* (except in the severest winters) (https://www.glendoick.com/Maddenia-Rhododendrons).

In terms of how maddenias are related to other rhododendrons, it is worth repeating how the species of rhododendrons are grouped.

Cladistics is the systematic classification of groups of organisms into clades on the basis of shared characteristics thought to derive from a common ancestor, and here is a brief review of the taxonomic relationships of the subsections *Maddenia, Boothia and Edgeworthia* in the genus *Rhododendron*.

Genus *Rhododendron*

Clade A
Subgenus *Rhododendron*: Typically smaller leaves with scales on the underside of their leaves (lepidote). Three sections, about 400 species.

Subgenus *Choniastrum*: Eleven species.

Clade B
Subgenus *Hymenanthes*: Typically larger leaves with no scales on the underside of their leaves (elepidote), including most deciduous azaleas. Two sections, with about 157 species.

Clade C
Subgenus *Azaleastrum*: Nearly everything else, most notably deciduous azaleas such as *R. schlippenbachii* and many evergreen azalea species from south Asia. Three sections, about 120 species

The subgenus *Rhododendron* is organised as follows:

1) Section *Pogonanthum* (six species)

2) Section *Rhododendron* (28 subsections, 118 species)

1. *Afghanica* – 1
2. *Baileya* – 1
3. ***Boothia*** – 7
4. *Camelliiflora* - 1
5. *Campylogyna* – 1
6. *Caroliniana* – 1
7. *Cinnabarina* – 2
8. ***Edgeworthia*** – *3*
9. *Fragariflora* – 2
10. *Genestieriana - 1*
11. *Glauca* - 5
12. *Heliolepida* – 3
13. *Lapponica* – 40
14. *Ledum* - 4
15. *Lepidota* -2
16. ***Maddenia*** – 40+
17. *Micrantha* - 2
18. *Monantha* – 5
19. *Moupinensia* – 3
20. *Rhododendron* – 3
21. *Rhodorastra* – 3
22. *Saluenensia* – 2
23. *Scabrifolia* – 6
24. *Tephropepla* – 6
25. *Trichoclada* – 4
26. *Triflora* – 18
27. *Uniflora* – 5
28. *Virgata* - 1

3) **Section Schistanthe** (vireyas, 300+ species)

Section *Rhododendron*
A. Subsection *Maddenia*

Subsection *Maddenia* is a large and widespread group of upwards of 40+ lepidote (scale-bearing) species. Members of this diverse group are found terrestrially or as epiphytes from the eastern Himalaya (Nepal) in the west to southeastern China and adjacent regions of Vietnam, Laos, and Thailand in the east. With a few notable exceptions, species in this subsection are tender to semi-hardy in most of the rhododendron growing areas of the world. They do exceptionally well outdoors in the milder areas (minimum temperatures above freezing) in southern England, New Zealand, southeastern Australia, and in coastal northern California and coastal Oregon in the USA. They typically have large, often highly fragrant flowers and a straggly or open growth habit. Many have beautiful smooth and exfoliating bark and/or colorful and interesting foliage, and many forms flower quite late in the season, well past the rush of spring blooming (https://rhodygarden.org/cms/species-profile-r-maddenii/).

As one of the largest lepidote subsections, the *Maddenia* subsection has been subject to many botanical revisions, with the number of species regularly changing. The differences between many related species is small, and in cultivation, many cannot be identified when not flowering. Species have been organised in a number of ways in the literature, with Davidian (1982) creating the series *Maddenii* and subseries referred to below based on morphological similarities—the number of stamens and calyx size. Cox and Cox (1997) organized them by Alliance: Maddenia (one species), Dalhousiae (seven species), Megacalyx (one species), and Ciliicalyx/Johnstoneanum (19 species). Cox (1985) noted that most species are too large to be described in their "smaller species" publication (they only discuss four species), and state that Davidian (1982) hived off the smaller *Maddenia* into his separate *Ciliatum* series, which may make sense from a gardener's perspective but not from a taxonomic one.

I have chosen to use the species organizational scheme presented by McQuire and Robinson (2009) (with some additional species), as while it may in the future change taxonomically, it gives the most recent suggested species organisation and is based on plant structures readily discernable. Here, I thus present descriptions of species in the three subsections obtained from Cox (1985, 1990), Cox and Cox (1997), McQuire and Robinson (2009) and the Rhododendron Species Foundation (RSF) website; red font species are those more available.

***Rhododendron,* subsection *Maddenia* (about 40 species, 19 discussed)**

Maddenia (about 40 species (29 species described))

Group A (*R. maddenii* and its relatives (former *Maddenii* Subseries) (stamens (15)-17-25; calyx variable)

R. maddenii

Group B (former *R. megacalyx* subseries) (stamens 10, calyx large and deeply lobed)

R. dalhousiae
R. excellens
R. headfortianum
R. levinei
R. liliiflorum
R. lindleyi
R. megacalyx
R. nuttallii
R. taggianum

Group C (stamens 8-10 (11-13), calyx small)

C1 (former *Ciliatum* series and *R. johnstoneanum*): branchlets and calyx bristly, leaf margins and petioles usually ciliate, style impressed)

R. burmanicum
R. ciliatum
R. changii
R. dendricola
R. fletcherianum
R. johnstoneanum
R. valentinianum
R. valentiniodes
R. walongense

C2 (leaves less rugulose and ciliate than those in C1, impressed style)

R. formosanum (var. *formosanum* and var. *inequale*)
R. leptocladon
R. pachypodum

C3 (the Cilicalyx aggregate) (tapered style, small calyx)

R. carneum
R. ciliicalyx
R. horlickianum
R. ludwigianum
R. lyi
R. parryae
R. roseatum
R. veitchianum

Species Descriptions

Group A. *R. maddenii* and its relatives (former *Maddenii* Subseries) (stamens (15)-17-25; calyx variable)

R. maddenii (Epithet: after Lt.-Col. E. Madden, a traveller in India)

R. maddenii is the type species for this subsection, meaning it is the species from which the subsection was originally described. It is an extremely variable species into which all eight members of the former Subseries *Maddenii* (under the old Balfourian system of classification), except *R. excellens*, have been lumped. It is distinguished from the other members of subsection *Maddenia* primarily by its greater number of stamens and ovary chambers. Taken as a whole, these eight "former" species occur from the Sikkim Himalaya in the west through China and Burma to Vietnam in the east. As one would expect from a group of plants with such an extensive range, there is a tremendous variation in the morphological features that are typically used to separate closely related taxa, including such things as flower size, number of stamens, and scale density. Unfortunately, most of this variability and intergradation of distinguishing characteristics cannot be correlated sufficiently enough with important factors such as natural range to define clear-cut taxa. This is the botanical justification for the merging of this complex and closely related group of "species" into the single species *maddenii*.



R. maddenii subsp. *crassum*. Photo: Everard Daniel.

Within this classification scheme, *R. maddenii* is divided into subspecies *maddenii* from the western end of the range, and subspecies *crassum*, generally found in the eastern half of the range. Included within subsp. *maddenii* are the former species *calophyllum, brachysiphon, maddenii,* and *polyandrum*. These all have a truncated apex on the fruiting capsules. The subsp. *crassum* includes the former species *crassum, maniputense, chapaense,* and *odoriferum.* Members of this group have rounded capsule apices and generally wider leaves.

stamens, rather than the normal 10-12 (except for *R. excellens*, which has 15), and an ovary of 8-12 chambers, whereas other *Maddenia* have 5-7 chambers. This species is useful for its scent, its relatively late flowering (in June in my garden) and its heat tolerance, and being terrestrial, is more tolerant of different soil types than the more epiphytic wild *Maddenia.* Subsp. *crassum* is typically quite a bit hardier than subsp. *maddenii* with the Chapaense Group from North Vietnam the hardiest of them all; its epithet = fleshy.

Group B. (former *R. megacalyx* subseries) (stamens 10, calyx large and deeply lobed)
R. dalhousiae (Epithet: after Lady Dalhousie, wife of the Govenor-General of India)



R. dahlhousiae var. *dalhousiae*. Photo: Gerard Wyattt.



R. dalhousiae var. *rhabdotum.* Photo: Jeanine and Calvin Parsons.

This 1-3.5 m (3-12 ft), somewhat leggy shrub, has brown, peeling bark. Pedicels are pubescent and flowers are fragrant, greeny-yellow in bud, fading to cream when open (var. *dalhousiae*) or creamy white to pale yellow with five bold red stripes down the lobes (var. *rhabdotum*, epithet = striped, usually flowering several weeks later (June to August) than var. *dalhousiae*).

This species is often epiphytic in the wild, so requires perfect drainage, and is relatively tender, so needs protection at below freezing temperatures. This species is closely related to *R. lindleyi* and *R. taggianum* but is distinguished by its pubescent pedicel and yellower flowers.

R. excellens (Epithet: excellent)



R. excellens. Photo: Susan Lightburn.



R. liliiflorum. Photo: Dr. Stephan Bubert.

Growing to three m (ten ft), this leggy shrub from SW Yunnan and Vietnam is closely related to *R. nuttallii* but typically with narrower foliage that is more strongly glaucous-white beneath, with prominent brown scales on the upper leaf surfaces. Very large and fragrant white flowers with a strong yellow-orange blotch in late spring to early summer. Smooth and peeling bark. The hardiest of the larger-flowered maddenias, with 12-15 very short stamens. It looks like a smaller-leaved *R. nuttallii*.

R. headfortianum (Epithet = after the Marquess of Headfort) (No photo.)

This a small, even dwarf, 0.15-1.2 m (0.5-4 ft) high shrub from Tibet and Assam, with creamy-yellow, sometimes tinged

with pink, flowers. Cox and Cox (1997) listed it as a Group within *R. taggianum*, but it is a more shapely, upright shrub, now felt to be its own species.

R. liliiflorum (Epithet: lily flowers)

This species in Guizhou and Guangxi, China, grows to 3-8 m (10-26 ft) high. It has reddish, peeling bark with white, fragrant flowers densely scaly on the outside. The calyx is lobed more than half its length. A Chinese relative of *R. lindleyi* and *R. taggianum*, it differs by having a more scaly corolla and a later flowering time (May-June) and is substantially hardier than any of its close relatives.

R. lindleyi (Epithet: after Dr. John Lindley, botanist and secretary to the RHS)



R. lindleyi. Photo: Everard Daniel.



R. megacalyx. Photo: Dr. Stephan Bubert.

From Nepal to Assam, this 0.75-5 m (2.5-15 ft) high straggly shrub is usually epiphytic on trees or cliffs in the wild. Its flowers buds are large and rounded, and its flowers are scented, white with an often an orange base flowers, with up to twelve flowers per truss. Its calyx is elepidote but covered in small hairs, which along with its white rather than cream flowers distinguishes it from *R. dalhousiae*. This is one of the most spectacular *Maddenia* and is widely grown in gardens in milder areas, with some forms hardier than others. Like many epiphytes, it tends to have a small root system, so is often staked.

R. megacalyx (Epithet: large calyx)

This 1.2-7.5 m (4-25 ft) high, rarely epiphytic, shrub from Upper Myanmar, SE Tibet and NW Yunnan, China. Its leaves have conspicuous sunken veins on their upper surface and are densely lepidote with golden and brownish scales. The petioles have a shallow groove on their upper surface, its elepidote calyx is noticeably large, and is has larger lower flower lobes. Overall, although somewhat tender, it is a fine plant with showy, sweetly-scented flowers, and is generally neater in habt than *R. lindleyi* and *R. nuttallii*. It flowers from April to June.

R. nuttallii (Epithet: after Thomas Nuttall, botanist and traveller)



R. nuttallii. Photo: Garth Wedemire.



R. taggianum. Photo: Steve Henning.

This larger (1.2-9 m (4-30 ft) species from Bhutan to northern Vietnam has smooth, peeling, purple-black bark and spectacular new growth that is bright-fuchsia to purple in colour with silver scales. It has large leaves (the largest of any lepidote excluding vireyas) that are heavily bullate (puckered) on their upper surface, and very large (to 15 cm (6 in), probably the largest flowers in the genus, fragrant, white to pink tinged flowers with a yellow blotch that are scaly on the outside. It is a spectacular species, but is tender, so typically needs winter freezing protection.

R. taggianum

This 2-3 m (6.5-10 ft) shrub from SE Tibet to western Vietnam is quite similar to *R. lindleyi*, but differs in its non-hairy but often lepidote margins to the calyx lobes and has both a wider flower and leaves. It is spectacular in flower and is usually fragrant.

Group C. (stamens 8-10 (11-13), calyx small)

C1 (former *Ciliatum* series and *R. johnstoneanum*): branchlets and calyx bristly, leaf margins and petioles usually ciliate, style impressed (describes how the style joins the ovary – the ovary widens abruptly at the base of the narrow style, as opposed to gradually tapering into it)

R. burmanicum (Epithet: from Burma)



R. burmanicum. Photo: Everard Daniel.



R. ciliatum. Photo: Everard Daniel.

Up to 2 m (6.5 ft) high from central Myanmar, this usually compact shrub is larger leaved and less bristly/hairy than *R. valentinianum*. Its flowers are yellow to cream, and are usually scented, unlike *R. valentinianum*. The true species is rare in cultivation and more tender. Those that are less densely scaly with smaller leaves and deep yellow flowers are likely hybrids (e.g., *R. burmanicum* Cox form).

R. ciliatum (Epithet: fringed)

This small (0.3-1.5 m (1-5 ft) shrub ranges from Nepal to Bhutan and into SE Tibet, and can be identified by hairs on its leaves, leaf margins, petiole and calyx. It blooms from March to May, and its flowers are white, sometimes flushed with pink, which distinguishes it from the yellow flowers of *R. valentinianum* and *R. fletcherianum*, its closest relatives. Different clones vary in both quality and hardiness. Its hybrid progeny include 'Praecox' and 'Cilpinense'.

R. dendricola (Epithet: tree dweller)

Growing to a height of 4.5 m (15 ft) and ranging from SE Tibet and Arunachal Pradesh through Myanmar to Yunnan, this usually fragrant species has white to flushed pink flowers, often with a greenish yellow or orange blotch. It is a variable species, differing from *R. johnstoneanum* in its non-bristly foliage, from *R. walongense* in the absence of calyx hairs and from *R. veitchianum* in an impressed rather than tapering style. It is one of the most tender species, but if sheltered, can make a great display.

R. fletcherianum (Epithet: after H.R. Fletcher, Regius Keeper, Royal Botanic Garden, Edinburgh)

Another small species, growing only to 1.2 m (4 ft), this SE Tibetan species occurs in the alpine and forest regions. It has reddish-brown peeling bark, bristly branchlets, a petiole that is flat on its upper surface and winged, and pale yellow flowers.



R. dendricola. Photo: Hank Helm.



R. fletcherianum. Photo: Gartn Wedemire.

It is hardier than *R. valentinianum* and more free-flowering, is quite a distinctive species, but needs good drainage. Its hybrid progeny include 'Curlew' and 'Patty Bee'.

R. johnstoneanum (Epithet: after Mrs. Johnstone, wife of the Political Agent, Manipur, 1882)

Growing from 1.2-3.7 m (4-12 ft) in NE India, this species has bristly branchlets and (often) leaf margins, white to pale greenish-yellow, often fragrant, flowers, and a very short calyx with long hairs on its margins. It differs from *R. lyi* by its impressed style and more bristly and wider leaves. It is one of the more popular and hardier *Maddenia,* although its double form is more tender.

R. valentinianum (Epithet: after Pere S.P. Valentin, Tsedjong Mission. China)

Also a smaller plant, this 1.3 m (4 ft) on the NE Myanmar-Yunnan frontier is closely related to *R. fletcherianum*, which has a more upright habit and larger, rounded leaves, which are less densely scaled on their lower surface. Its flowers are a relatively bright yellow. This species is from a Forrest collection, and it has not been recollected. The literature has sometimes suggested two varieties, *changii* and *oblongilobatum*. However, *R. valentinianum* var. *oblongilobatum* from central Yunnan has now been shown to be in subsection *Boothia*, so that name is no good as it has nothing to do with *R. valentinianum*; it is the distinct species *R. oblongilobatum*. The var. *changii* is from a different area in China and is now also recognized as a distinct subsection *Maddenia* species. All are handsome foliage plants with deep green hairy leaves that require good drainage, and are relatively hardy.



R. johnstoneanum. Photo: Theo Damen.



R. valentinianum. Photo: Everard Daniel.

R. changii (No photo.)

This is a distinct similar species related to *R. valentinianum* from the Jinfo Shan in Chongqing, Sichuan.

R. valentiniodes

This species (see above, as it has sometimes also been referred to as *R. valentiniaum* var. *oblongilobatum*) from southern Yunnan may have the deepest yellow flowers seen outside the vireyas in section *Schistanthe*. It is very different from *R.*



R. valentiniodes. Photo: Hans De Boer.



R. formosum var. *formosum*. Photo: Garth Wedemire.

valentinianum in that it is much larger in all parts, with a much more upright habit and deeply bullate foliage. It also flowers several weeks later than the former. Cox and Cox (1997) suggest it may be related to *R. burmanicum*. There also appears to be another new species, which Steve Hootman is calling *R. valentinioides* aff., which is from the adjacent N Vietnam.

R. walongense (No photo.)

This relatively new 2-3 m (6.5-10 ft) species in Arunachal Pradesh has deep, mahogany-coloured bark, creamy white flowers with a greenish blotch and a spicy scent, and is identified by its pubescent corolla and persistent calyx hairs.

C2 (leaves less rugulose and ciliate than those in C1. Impressed style)

R. formosum (Epithet: beautiful)



R. formosum var. *inaequale*. Photo: Dr. Stephan Bubert.



R. leptocladon. Photo by author.

Growing to three m (ten ft) in NE India, this species has an often bristly petiole, white to flushed pink flowers often with a yellow blotch, and a disc-like calyx, scaly with few hairs. There are two varieties, *formosum* with narrow leaves (to 1.5 cm wide) and *inaequale* with leaves 1.5-5 cm wide. Var. *inaequale* is stronger scented but is the more tender, and is more like *R. horlickianum*, although the latter has no scent. Both varieties need good drainage.

R. leptocladon (Epithet: with thin twigs)

This relatively new small species, 0.5-1 m (2-3.5 ft) tall in southern Yunnan and northern Vietnam has densely scaly branchlets, petioles, and ovary. Its calyx is just a rim, and its flowers are a pale yellow, deeper in the throat. It may be closely related to *R. lyi.*



R. pachypodum. Photo: Steve Henning.



R. ciliicalyx subsp, cliicalyx. Photo: Everard Daniel.

R. pachypodum (Epithet: thick-footed)

From W Yunnan, this variable species has scaly branchlets, leaves densely scaled on their lower surface, white to rose flowers that are scaly outside and hairy within, flowers from March to May, and a relatively small calyx. It may be much more common in cultivation than realised, as many in gardens may be misidentified as *R. cilicalyx*, which has sparse scales on the outside of the corolla and only on the lobes, not the tube. Cox and Cox (1997) suggest both species, along with *R. roseatum*, should probably be merged, as they have overlapping geographical ranges. However, McQuire and Robinson (2009) state their style shapes are different, with *R. ciliicalyx* having a tapered style and *R. pachypodum* an impressed one.

C3 (the Cilicalyx aggregate) (tapered style, small calyx)

R. ciliicalyx (Epithet: fringed calyx)

This 1-3 m (2.5-10 ft) species from W. Yunnan is similar to *R. pachypodum*, as explained above. Its flowers are white to rarely rose with a yellow blotch, and as pointed out, many plants with this name in cultivation may actually be *R. pachypodum,* or even sometimes *R. dendricola,* as the true species is likely rare in cultivation.

R. horlickianum (Epithet: after Sir James Horlick)



R. horlickianum. Photo: Hank Helm.



R. lyi. Photo: Hank Helm.

Also 1-3 m (2.5-10 ft) in size, this relatively new species from N. Myanmar and adjacent W Yunnan. Its leaves are acuminate (have a long slender point) and its flowers are white to cream, with an orange flare strongly flushed rose, and are both scaly and hairy outside. The calyx in minute and fringed with long bristles. This makes this a fairly distinct species, perhaps most closely related to *R. carneum* (not described here, but see below), which is only known from cultivated plants and may be an extreme form of *R. pachypodum.* The strong pink flushing of *R. horlickianum* makes it attractive, but it is unscented.

R. lyi (Epithet: after J. Ly, a Chinese collector)

Only 1-2.4 m (3-8 ft) high, this straggly shrub occurs in Guizhou, Laos, Vietnam and Thailand. It has relatively narrow leaves and is distinguished by its white flowers, sometimes fragrant, with the whole corolla surface slightly scaly; its long style, and a minute calyx densely scaled with a few long hairs.

R. parryae (Epithet: after Mrs. A.D. Parry, wife of an officer in the Assam Civil Service) (No photo.)

This may not be a valid species, as its type herbarium specimen is unlike the named species in cultivation, nor is it similar to *R. roseatum* as has been suggested recently. McQuire and Robinson (2009) suggest it may be distinct, so it is listed here. It is 1.5-3 m (5-10 ft) in size, and is from Assam. It has fragrant, white flowers with a yellow-orange blotch, and flowers from April-May.

R. roseatum



R. roseatum. Photo: Hank Helm.



R. veitchianum. Photo: Garth Wedemire.

This species may be just a form of *R. pachypodum,* as except for narrower leaves and occurring naturally further east, it is otherwise indistinguishable. It is also similar to *R. dendricola*, which has a different leaf shape, a smaller calyx and less dense leaf scales on the underside. It's from Yunnan, and has reddish peeling bark and sometimes fragrant, white, flushed pink flowers with a yellow blotch and a shortly lobed calyx with long hairs on its margin. It flowers relatively late in April-May.

R. veitchianum (R. cubittii, now Cubittii Group*)* (Epithet: after the famous family Nurserymen)

This species is 1-3.7 m (3-12 ft) high, and occurs in Myanmar, Laos and Thailand. The lower surface of its pale green leaves have distant, brown unequal-sized scales, and its relatively large, white, strongly scented flowers often blotched yellow have margins that are typically frilled or wavy. It flowers early, from February to April. This is a spectacular species in terms of flower size, but is very tender and needs winter protection from freezing.

Additional Species

In the 2019 Glendoick catalog, the following maddenia are found (see the catalog for code explanations):

1. *R. carneum.* H2 Med *EM-M* Pale pink, lightly scented. Rarely offered.
2. *R. crenulatum*. H3 Low M Cream flushed yellow or pale pink. Amazing new species from Vietnam/Laos with small leaves. Useful late flowering dwarf.
3. *R. scopulorum* CC 7571 Select. H2 Med EM * Pretty, fragrant white flowers with a yellow blotch in April-May. Free-flowering. Small leaves and good habit. The first reintroduction
4. *R. wumingense* CGG 14050. New. H2-3 Semi-Dwarf, pure white flowers in pairs. Dwarf, compact. The first introduction. Newly introduced from Guangxi.

In the 2019 RSBG catalog, the following additional maddenia species is listed:
R. pseudociliipes JN#11070. Only recently introduced, this is a rare Maddenia in cultivation. The one or two (per inflorescence) white flushed pink, fragrant flowers, are impressive against the relatively small leaves. Requires excellent drainage. A rarely offered species.

B. Subsection *Boothia* (seven species)

These are small (up to two m (six feet), epiphytic shrubs with leaves whitish below, usually yellow, broadly campanulate (bell-shaped) flowers, a well-developed calyx, ten stamens, and a style that is sharply bent downward at its base. They are all good but tender garden plants that grow best on tree stumps and on mossy, moist substrates.

Group A. (Scales pale, vesicular (bladder-shaped), lacking a rim)

R. leucapsis
R. megeratum

Group B. (Scales darker, not vesicular)

R. boothii
R. chrysodoron
R. dekatanum
R. sulfureum
R. oblongilobatum

Group A. (Scales pale, vesicular (bladder-shaped), lacking a rim)

R. leucapsis (Epithet: white shield)



R. leucapsis. Photo: Herman Van Ree.



R. megeratum. Photo: Susan Lightburn.

This small, somewhat tender, early flowering shrub 0.3-1.5 m (1-5 ft) high from SE Tibet makes a superb container plant. Each truss has 1-2 white, saucer-shaped flowers with chocolate-brown anthers and purple new growth.

R. megeratum (Epithet: passing lovely)

Another small, somewhat tender shrub 1-1.8 m (3-6 ft) high with one to two broadly campanulate, white to creamy yellow or deep yellow flowers per truss. It ranges from NW Yunnan, NE Myanmar and E Tibet to Assam, India. Both this species and the previous have survived unprotected and in the open for many years at the RSBG in Federal Way, WA.

Group B. (Scales darker, not vesicular)

R. boothii (Epithet: after T.J Booth, who first collected it in 1849)

This rare, small (1.5-3 m (5-10 ft) tender species has small, bright lemon-yellow or sulphur-yellow flowers for the size of its leaves. It ranges from Assam, India, to SE Tibet. Plants in the Mishmiense Group may be deserving of varietal status.

R. chrysodoron (Epithet: Golden gift, referring to the plant given by Lord Stair to the Royal Botanic Garden, Edinburgh)

This fine but tender plant has among the best-coloured yellow flowers in the genus, being a bright canary yellow. From 0.2-1.8 m (0.6-6 ft) high, it ranges from W Yunnan to Upper Myanmar and flowers from February to April.



R. boothii. Photo: Calvin Parsons.



R. chrysodoron. Photo: Hank Helm.

R. dekatanum (Epithet: after Mrs. Dekat)

Similar to *R. sulfereum*, this species has only recently been recognised as being in cultivation. This small plant (0.6-1.2 m (2-4 ft)) shrub has bright lemon-yellow flowers from March to April, and has only been found in S Tibet.

R. sulfureum (Epithet: sulphur-coloured)

This species is variable in form and hardiness, being found in NW Yunnan and NE Upper Myanmar. A small shrub (0.3-1.5 m (1-5 ft)) high, it has deep yellow to greenish yellow flowers and flowers in March-April.

R. oblongilobatum JN#11080 (No photo.)

The RSF states this is the first introduction into cultivation of the real *R. oblongilobatum*, grown from seed collected in the wild from the type location for this species in central Yunnan. Originally described as a variety of the *valentinianum* complex (incl. *valentinianum, changii, valentinioides,* etc.) in subsection *Maddenia*, but its flowers have a sharply deflexed style which places it in subsection *Boothia*. It has beautiful, rounded and glossy leaves with hairy margins on dwarf plants, with deep yellow flowers in mid-spring. The RSF states it was previously offered as "*valentinianum* var. *oblongilobatum*" (+5\R2\2) RSBG#213sd2012



R. dekatanum. Photo: Garth Wedemire.



R. sulphureum. Photo: Hank Helm.

B. Subsection *Edgeworthia* (three species)

Plants in this small subsection have both indumentum and scales. The three species do not seem to be closely related, but are grouped because their unique indumentum is made up of dense curled hairs. *R. edgeworthii* is closest to subsection *Maddenia*, while the other two species are nearer to subsections *Boothia* and *Moupinensia*. All are epiphytic in the wild and need exceptional drainage when planted. Their upper leaf surfaces are often bullate (puckered or blistered), the calyx is well-developed, and there are 10 stamens.



R. edgeworthii. Photo: Susan Lightburn.



R. pendulum. Photo: Garth Wedemire.

R. edgeworthii (Epithet: after H.P. Edgeworth, Bengal Civil Service)

This species is a favourite of rhododendron species collectors because of its attractive leaves, strongly bullate (puckered) on their upper surface and with a dense rust-coloured woolly indumentum on their lower surface. The fragrant flowers are 3.2-7.6 cm (1.3-3 in) long and are white or white-tinged pink or rose. It ranges widely from Nepal into N Vietnam, so plants may vary in hardiness depending on source. In both Sikkim and Yunnan, I have seen it growing high in trees near the snowline, and plants from Yunnan are hardy in my garden to at least -6° C (21° F). Some forms have previously been called *R. bullatum*.

R. pendulum (Epithet: hanging)

A small unique woolly species growing from 0.3-1.2 m (1-4 ft) on trees and rocks from Nepal to SE Tibet to SE Tibet. It can be tender and difficult to grow. It flowers from April to May and has white to pinkish flowers.

R. seinghkuense (Epithet: from the Seinghku Valley, upper Myanmar)

This small, tender, epiphytic, woolly species is from Upper Myanmar, SE Tibet and NW Yunnan. It has 2-2.5 cm (0.8-1 in) sulphur-yellow flowers in March to April, and has only recently been introduced into cultivation.



R. pendulum foliage. Photo: Garth Wedemire



R. seinghkuense. Photo: Hank Helm

Acknowledgements

Thanks to Ken Cox and Steve Hootman for their constructive suggestions and edits.

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Glen Jamieson is the current president of the Mount Arrowsmith Chapter and the editor of JARS.

If you wish to make anything grow, you must understand it, and understand it in a very real sense. 'Green fingers' are a fact, and a mystery only to the unpracticed. But green fingers are the extensions of a verdant heart.

Russell Page

Newly Registered Cultivar Names

Michael Martin Mills
North American Registrar of Plant Names
Philadelphia, Pennsylvania

The following rhododendron and azalea names were approved and added to the International Rhododendron Register before Aug. 2, 2019, by the Royal Horticultural Society, which serves as the International Cultivar Registration Authority for the genus *Rhododendron*. (Information on the registration process follows the descriptions of cultivars.)

Key
(a) – deciduous or evergreen azalea
(r) – elepidote or lepidote rhododendron
(v) – vireya rhododendron
(z) – azaleodendron
X – primary cross
(s) – seed parent of cross, if known
x – cross of an unnamed parent
* – not registered
H – hybridized by
G – grown to first flower by
R – raised by
S – selected by
N – named by
I – introduced commercially by
REG – registered by
Royal Horticultural Society color numbers in parentheses, unless another system is noted



'Al Muller'. Photo: Richard Murcott.

(r) 'Al Muller'
Elepidote rhododendron: 'Scintillation' (s) X *R. degronianum* subsp. *yakushimanum*. H (1975): Ray Kruse, Newport, NY; G (1970s), REG (2019): Richard Murcott, East Norwich, NY; N (2018): Margaret Monitto, Huntington Station, NY. Flrs 10/dome truss, broad funnel, 2.5 inches (64mm) long x 2.25 inches (57mm) wide with 5 rounded lobes, slightly wavy margins. Inside: light pink (49C) with light yellow green (145C) dorsal blotch overlaid with brownish speckles. Outside and calyx: strong pink (48C). Truss 6 x 6 inches (152 x 152mm). Lvs 9 inches (229mm) long, oblanceolate, cuneate base, broadly acute apex, flat margins, moderate bluish green (127A), semiglossy. Shrub 8 feet (2.4m) high x 12 feet (3.7m) wide in 30 years; intermediate habit, lvs held 2 growing seasons. Hardy to -10°F (-23°C), buds to -5°F (-21°C), heat tolerant to 103°F (30°C). Flowering midseason (mid-May on Long Island, NY). Etymology of name: for the late former president of the New York Chapter of the ARS.



'Barry Speling'. Photo: Carolyn Beck.

(a) 'Barry Sperling'
Evergreen azalea: 'Haru-no-Hibiki'* (s) X 'Midnight Flare'. H (2000), G (2004), N (2015), REG (2019): Robert Stewart, Springfield, VA. Flrs 2-3/terminal, funnel, 2-2.25 inches (51-57mm) long x 3-3.5 inches (76-90mm) wide with 5 rounded lobes, flat margins. Bud, inside and outside: strong purplish red (darker than 58B), with strong purplish red (61B) speckles on interior dorsal lobes. Calyx: 0.25 inch (6mm) long, strong yellowish green (143C). Dark anthers; pistil and filaments red virtually matching corolla. Lvs 1.75 x 0.75 inches (44 x 19mm), elliptic, laterally concave, cuneate base, acuminate apex, flat margins; strong yellowish green (143A), semiglossy; dark burgundy in fall and winter. Shrub (pruned) 1.75 feet (0.5m) high x

2.5 feet (0.8m) wide in 10 years; open habit. Hardy to 0°F (-18°C). Flowering midseason (May in Washington, DC, area). Etymology of name: for a former president of the Northern Virginia Chapter of the Azalea Society of America.
[* 'Haru-no-Hibiki' – not registered. Satsuki, semidouble white flower with magenta picotee.]

(r) 'Bold Blotch'

Elepidote rhododendron: 'Besse Howells' (s) X 'Calsap'. H (1996), N (2019): C.A. Warkentin, Fonthill, Ontario; G, REG (2019): W. Warkentin family, Fonthill, Ontario. Flrs 28/conical truss, broad funnel, 3 inches (76mm) long x 3 inches (76mm) wide with 5 rounded lobes, wavy margins. Bud: strong purple (84A). Inside: light purple (75B), with prominent dorsal blotch and spots, dark purplish red (N79B) blending to dark purplish red (N79C) at edges, 1.4 inches (35mm) tall x 1.2 inches (30mm) wide. Outside: light purple (75B) with light purple (75A) midveins; interior blotch discernible. Calyx: 0.1 inch (2mm) long, light yellow green (145D). Style white, stigma light greenish yellow (5D), filaments light purple (75B), anthers moderate orange (167B). Truss 5.5 inches (140mm) high x 5 inches (127mm) wide. Lvs 6 x 2 inches (152 x 51mm), elliptic, rounded base, broadly acute apex, flat margins, moderate olive green (147A), matte, above; moderate yellow green (N148A), below. Shrub 1.5 feet (0.5m) high x 2.3 feet (0.7m) wide in 6 years; intermediate habit. Hardy to -15°F (-26°C). Flowering midseason (late May in Niagara Falls area).



'Bold Blotch'. Photo: William Warkentin.

(a) 'Coble's Edna Marie'

Evergreen azalea: 'Karens' (s) X 'Girard's Fuchsia'. H (2010), G (2013), N (2017), REG (2018): Sonny Coble, Gettysburg, PA. Flrs 4/terminal, open funnel, quasi hose-in-hose, 1 inch (25mm) long x 1.25 inches (32mm) wide with 5 lobes, wavy margins, and 5 dissected outer lobes, 1 larger. Bud: vivid purple (80A). Inside: strong reddish purple (78A) with freckled deep reddish purple (77A) blotch. Outside: strong reddish purple (78A), base of mid-rib moderate reddish orange (41C). Calyx: 0.04 inch (1mm) long, strong reddish purple (78A) and pale greenish yellow (10D). Pistil and stamens strong reddish purple (78A). Lvs 1 x 0.5 inch (25 x 13mm), elliptic, cuneate base, acuminate apex, upcurved margins, moderate olive green (137A), darker green in fall. Shrub 1 foot (0.3m) high x 2 feet (0.6m) wide in 8 years; dense habit. Hardy to -10°F (-23°C). Flowering midseason (early May in central PA). Etymology of name: For the hybridizer's mother, Edna, and his sisters, Edna and Marie.



'Coble's Edna Marie' Photo: Sonny Coble.

(r) 'Cosmic Candy'

Elepidote rhododendron: 'David Gable' (s) X 'Mrs. E.C. Stirling'. H (2010), G (2018), N (2019), REG (2019): Percival B. Moser III, Bryn Mawr, PA. Flrs 11/conical truss, broad funnel, recurved, 2 inches (51mm) long x c. 3.5 inches (c. 90mm) wide with 5 broadly acute lobes, slightly rounded at apex, slightly wavy margins. Bud: deep purplish pink (67C). Inside: bluish white (N155A), shading to deep purplish pink (67C) at margins, with several moderate yellowish brown (N199C) spots in dorsal portion of throat. Outside: deep purplish pink (N74C). Calyx: 0.4 inch (9mm) long, strong yellow green (143A). Whitish stamens and pistil, notably exserted pistil. Truss 6 inches (152mm) high x 7.5 inches (190mm) wide. Lvs 5-5.5 x 1.75-2.25 inches (127-140 x 44-57mm), elliptic, concave, rounded base, broadly acute apex, flat margins, moderate olive green (146A), semiglossy. Shrub 3.5 feet (1.1m) high x 2.5 feet (0.8m) wide in 8 years; intermediate habit, lvs held 2 growing seasons. Hardy to 0°F (-18°C), buds to 10°F (-12°C). Flowering midseason (early May in Philadelphia).



'Cosmic Candy'. Photo: Percival B. Moser III.

(r) 'Dancing Darts'

Elepidote rhododendron: 'Besse Howells' (s) X 'Calsap'. H (1996), N (2019): C.A. Warkentin, Fonthill, Ontario; G, REG (2019): W. Warkentin family,



'Dancing Darts'. Photo: William Warkentin.



'Dan Krabill' Photo: Carloyn Beck.



'Golden Horseshoe'. Photo: Jack Looye.



'Jack's Choice', Photo: Donna M. Delano.

Fonthill Ontario. Flrs 12/ball truss, broad funnel, 1.5 inches (38mm) long x 2.5 inches (64mm) wide with 5 rounded lobes, significantly dissected, ruffled margins. Bud: deep purplish pink (68A). Inside and outside: light purplish pink (62C) with interior moderate purplish red (70A) dorsal blotch, 0.8 inch (20mm) tall x 0.6 inch (15mm) wide. Calyx: 0.1 inch (2mm) long, light yellow green (145B). Exserted pistil, 1.5 inches (38mm) long, style light purplish pink (62C), stigma moderate purplish red (70A); filaments deep purplish pink (68A), anthers bronze. Truss 3.5 x 3.5 inches (90 x 90mm). Lvs 4.75 x 2 inches (121 x 51mm), elliptic, rounded base, broadly acute apex, wavy margins, grayish olive green (NN137A), matte, above; moderate yellow green (N148A), below; new growth is distinctive lime green. Shrub 1.5 x 1.5 feet (0.5 x 0.5m) in 6 years; intermediate habit. Hardy to -15°F (-26°C). Flowering midseason (mid-May in Niagara Falls area).

(a) 'Dan Krabill'

Evergreen azalea: 'Betty Ellen' (s) X 'James Stewart'. H (2000), G (2003), N, REG (2019): Robert Stewart, Springfield, VA. Flrs 2-5/terminal, funnel, 1.6-2 inches (41-51mm) long x 2.5-3 inches (64-76mm) wide with 5 rounded lobes, very wavy margins, pinched tip. Bud, inside and outside: creamy white, interior overlaid with strong purplish pink (55A-B); pencil-line margin, deep purplish pink (58A), and vivid purplish red (61C) speckled blotch on dorsal lobe. Calyx: 0.1 inch (3mm) long, strong yellowish green (143B). White style and filaments. Lvs 2.1 x 0.9 inches (54 x 22mm), elliptic, cuneate base, acuminate apex, flat margins, strong yellow green (143A), matte. Shrub 3 x 3 feet (0.9 x 0.9m) in 10 years; intermediate habit. Hardy to 0°F (-18°C). Flowering midseason (May in Washington, DC, area). Etymology of name: for a longtime treasurer of the Azalea Society of America and former president of the Society's Northern Virginia Chapter.

(r) 'Golden Horseshoe'

Elepidote rhododendron: 'Papaya Punch' (s) X 'Casanova'. H (1995), G (1998), N (2008), REG (2019): Jack Looye, Centreville, Nova Scotia; I (2008): Rhodoland Nursery, Niagara on the Lake, Ontario. Flrs 15/ball truss, broad funnel, 1.6 inches (40mm) long x 2.6 inches (65mm) wide with 5 rounded lobes, wavy margins. Bud: strong orange yellow (22A). Inside and outside: brilliant yellow (13B) with dorsal orange-red blotch inside. Truss 4.5-5 x 4.5-5 inches (114-127x114-127mm). Lvs 5 x 2.25 inches (127 x 57mm), oblong, rounded base, broadly acute apex, flat margins, moderate olive green (137A), semiglossy. Shrub 4 feet (1.2m) high x 3 feet (0.9m) wide in 10 years; intermediate habit, lvs held 2 growing seasons. Hardy to -15°F (-26°C), heat tolerant to 100°F (38°C). Flowering midseason (May in Niagara Falls area). Etymology of name: for the region of Ontario, centered on Toronto, known as the Golden Horseshoe.

(r) 'Jack's Choice'

Elepidote rhododendron: parentage unknown. H (c.2002), G (2010): Robert A. Furman, Brewster, MA; S (2017), N (2018), REG (2019): Karen Humphries, White Horse Beach, MA. Flrs 16-18/ball truss, funnel, 2.5 inches (64mm) long x 3.5 inches (90mm) wide with 7-8 rounded, overlapping lobes, wavy margins. Bud: strong purplish red (61B). Inside: moderate purplish pink (66D), shading to pale orange yellow (159C) in center, with short dark red (183B) rays at throat, longest below dorsal lobes, 0.8 inch (20mm). Outside: deep purplish pink (66C). Calyx: 0.75 inch (19mm) long; pale orange yellow (159B). Stamens absent. Fragrance: light. Truss 6.5 x 6.5 inches (165 x 165mm). Lvs 5 x 2.5 inches (127 x 64mm), elliptic, rounded base, obtuse apex, wavy margins, upangled from midvein, moderate olive green (147A), semiglossy. Shrub 7 x 7 feet (2.1 x 2.1m)

in 15 years; intermediate habit, lvs held 1-2 growing seasons. Hardy to -10°F (-23°C), buds to -5°F (-21°C). Flowering midseason (mid-May on Cape Cod, MA). Etymology of name: for Jack Donahue, husband of the registrant and son-in-law of the hybridizer.

References

Names conform to the rules and recommendations of the *International Code of Nomenclature for Cultivated Plants, Eighth Edition* (2009). Color names are from *A Contribution Toward Standardization of Color Names in Horticulture*, Robert D. Huse and Kenneth L. Kelly; Donald H. Voss, editor (ARS, 1984).

To register a rhododendron or azalea name

North Americans: Electronic registration may be submitted at www.rhododendron.org/plantregistry.htm. The site also provides instructions and forms for downloading and completing manually. Those submitting paper applications should use only the current form (revised 2019). The quickest way to obtain paper forms is to ask a friend with Internet access to go to the ARS website and print the form and instructions. Questions, completed paper forms, all photographs and requests for paper forms should be directed to Michael Martin Mills, North American Registrar. There is no fee.

INDEX

(online version)

Journal American Rhododendron Society, Volume 73, 2019.

The names of species and hybrid rhododendrons and azaleas occurring within the text of articles are not listed in the index. Reference to plants with colour images is made for the following entries: (AZALEA HYBRIDS, AZALEA SPECIES, RHODODENDRON HYBRIDS, RHODODENDRON SPECIES, VIREYA HYBRIDS, VIREYA SPECIES, and INSECTS).

Rhododendron cultivar names not registered in the International Register of Plant names and Checklist are marked with an *.

2018 ARS Photo Contest Results. 1: 54-60.

2019 Rhododendron of the Year Plant Descriptions. Linda Derkach and Bob Weissman. 2: 48-57.

A Collaboration Between Vireya Nurseries in Australia and Italy. Neil Puddey and Enrico Ciarrocchi. 1: 26-29.

A Garden for All Seasons. Mike Henry, 4: 16-20.

A New Species Introduction to Appreciate: *R. huianum*. Maria Stewart. 2: 60.

American Magnolias. Ken Gohring. 3: 55-60.

An Insect Apocalypse, and the Opportunity for Citizen Scientists to Monitor Rhododendron Pollinators. Glen Jamieson. 3: 22-24.

An Interesting Hybrid: 'Grandma's Hat'. Don Wallace. 3: 52.

Andrews, Charles. North American Azaleas. 3: 11-21.

Are Bumblebees Important as Pollinators of Rhododendrons? Ian E. Efford. 2: 24-28.

ARS 2020 International Convention: Introduction and Pre-Tour Description. Steve McCormick. 4: 49-53.

ARS Committees and Chairpersons. 4: 66.

ARS Officers and Board of Directors. 4: 66.

AZALEA HYBRIDS

'Brazil'. 2: 30.

'Caroline Gable'. 2: 49.

'Castanets'. 1: 59.

'Cherry Drops'. 2:52.

'Crimson Tide'. 2: 49.

'DD Gold'. 2: 54.

‘Exquisitum’, 2: 31.
‘Glendoick Starburst’ [‘GLE031’]. 4: 11
‘Gumpo Fancy’. 2: 51.
‘Hotspur’, 2: 12.
‘Humboldt Picotee’. 2: 52.
‘Ilam Yellow’. 2: 32.
‘Klondyke’. 2:51.
‘Koromo Shikibu’. 2: 51.
‘Melford Flame’. 2: 33.
Mollis azalea. 1: 54, 55.
‘Narcissiflora’. 2: 30.
‘Nicholas de Rothschild’. 2: 32.
‘Northern Hi-Lights’. 2: 51.
‘Oxydoll’. 2: 13.
‘Persil’. 2: 31.
R. austrinum X *R. canescens*. 1: 41.
‘Rosebud’. 2: 51.
‘Scotian Fire’. 2: 56.
‘Stewartstonian’. 2: 49.
‘Treasure’. 2: 49.
‘Weston’s Lemon drop’. 2: 49.

AZALEA SPECIES AND SELECTED SPECIES FORMS

R. arborescens. 3: 15.
R. calendulaceum. 3: 18.
*R. canescen*s. 2: 51; 3: 13, 14.
R. cumberlandense. 2:49.
R. flammeum ‘Double Pleasure’. 2: 20.
R. molle subsp. *japonicum*. 4: 13.
R. occidentale. 1: 7, 10, 11.
R. periclymenoides. 3: 12, 14.
R. schlippenbachii. 1: 56; 2: 59.
R. vaseyi. 2: 19.
R. viscosum. 3: 18.

Bertelmann, Sherla. Vireyas in Hawaii, 2018. 1: 61-62.
Book Review: Woodland Gardening with Rhododendrons, Magnolias, Camellias and Acid-loving Plants. Glen Jamieson 2: 58-59.
Canadian Researchers Warn of “Cascading Impacts” as Bumblebee Species Decline. Editor’s Note: 3: 25.
Chalker- Scott, Linda. Using Arborist Wood Chips as Landscape Mulch. 3: 33-36.
Clark, Susan. Stomata and Lenticels—How Plants Breathe! 3: 53-54.
Cox, Ken. Glendoick Gardens at 100 Years: 1919-2019. 4: 6-13.
Curating a Collection: The Rhododendrons at Jenkins Arboretum & Gardens. Steven A. Wright. 2: 16-23.
Deadheading Rhododendrons. Don Wallace. 3: 37.
Derkach, Linda, and Bob Weissman. 2019 Rhododendron of the Year Plant Descriptions. 2: 48-57.
Editor’s Note: Canadian Researchers Warn of “Cascading Impacts” as Bumblebee Species Decline. 3: 25.
Edwards, Alan. Getting to Grips with Azaleas. 2: 29-34.
Edwards, Rick. The Azaleas of Stagecoach Hill, Trinidad, CA. 1: 7-11.
Efford, Ian E. Are Bumblebees Important as Pollinators of Rhododendrons? 2: 24-28.
Establishment of a New Rhododendron Species Garden – the Vancouver Island, Canada, Experience. Glen Jamieson, John Deniseger, Marilyn Dawson and Tony Ansdell. 1: 12-25.

Exbury Gardens to Celebrate Its Centenary. Lionel de Rothschild. 2: 7-15.
Getting to Grips with Azaleas. Alan Edwards. 2: 29-34.
Glendoick Gardens at 100 Years: 1919-2019. Ken Cox. 4: 6-13.
Gohring, Ken. American Magnolias. 3: 55-60.
Henry, Mike. A Garden for All Seasons. 4: 16-20.
Hyatt, Don. Rooting Rhododendron Cuttings. 4:21-23.

INSECTS, AND OTHER ANIMALS

Ariolimax. 1: 9.
B. eximius. 2: 26.
B. polaris. 2: 27.
Bombus terrestris. 2: 24.
Cetonia aurata. 1: 49.

Jamieson, Glen, John Deniseger, Marilyn Dawson and Tony Ansdell. Establishment of a New Rhododendron Species Garden – the Vancouver Island, Canada, Experience. 1: 12-25.
Jamieson, Glen, Rhododendrons for Beginners: Subsection *Lapponica* in the subgenus *Rhododendron*. 1: 47-53.
Jamieson, Glen. An Insect Apocalypse, and the Opportunity for Citizen Scientists to Monitor Rhododendron Pollinators. 3: 22-24.
Jamieson, Glen. Book Review: Woodland Gardening with Rhododendrons, Magnolias, Camellias and Acid-loving Plants. 2: 58-59.
Jamieson, Glen. Rhododendrons for Beginners: Subsection *Taliensia* in the *Rhododendron* subgenus *Hymenanthes*. 2: 37-44.
Jamieson, Glen. Rhododendrons for Beginners: Tender Species in Subsections *Maddenia*, *Boothia* and *Edgeworthia*. 4: 34-48.
Jamieson, Glen. Rhododendrons Species for Beginners: Subsection *Fortunea* in the *Rhododendron* subgenus *Hymenanthes.* 3: 44-51.
Jean Rasmussen in Norway. Ole Jonny Larsen. 4: 26-33.
Kumar, Ramesh, Range Extension to Sikkim and the Recollection of Rhododendron *cephalanthum* (Ericaceae) in India. 4: 14-15.
Larsen, Ole Jonny. Visiting Deer Dell and John McQuire in Surrey, England. 3: 6-10.
Larsen, Ole Jonny. Jean Rasmussen in Norway. 4: 26-33.
McCormick, Steve. ARS 2020 International Convention: Introduction and Pre-Tour Description. 4: 49-53.
Nelson, Sonja. Species in the Garden: *Rhododendron bureavii*. 2: 45-47.
North American Azaleas. Charles Andrews. 3: 11-21.
O'Dell, Jerry. The Tyler Arboretum's Wister Rhododendron Garden: An Evolving Historic Collection. 1: 36-42.
Philadelphia: A Legacy of Horticulture. Nicole Juday Rhoads. 1: 43-46.

PLANTS OTHER THAN RHODODENDRONS

Acer griseum. 3: 54.
Camellia x *williamsii*. 4: 9.
Hydrangea 'Annabella'. 4: 18.
Kalmia latifolia 'Heart's Desire'. 2: 20.
Magnolia acuminata. 3: 57.
M. ashei. 3: 58.
M. fraseri. 3: 56.
M. grandiflora. 3: 59.
M. macrophylla. 3: 55, 56.
M. pyramidata. 3: 57.
M. tripetala. 3: 56.
M. virginiana. 3: 58.

Meconopsis baileyi ‘Hensol Violet’. 4: 50.
Prunus serrulata ‘Shirofugen’. 3: 54.
Pseudotsuga menziesii var. *menziesii*. 1: 8.
Sanguisorba hakusanensis. 4: 50.
Tetradium daniellii. 4: 8.
Trillium ovatum. 1: 9.
Tulip ‘Black Diamond’. 4: 19.

PUBLICATIONS

ARS Journal Print Index, 2015. 4: 57-64.
Newly Registered Cultivar Names. Michael Martin Mills. Spring 2: 103-106; Fall 4:54-57.
Puddey, Neil, and Enrico Ciarrocchi. A Collaboration Between Vireya Nurseries in Australia and Italy. 1: 26-29.
Purohit, C. S. Range Extension to Sikkim and the Recollection of *Rhododendron cephalanthum* (Ericaceae) in India. 4: 14-15.
Range Extension to Sikkim and the Recollection of *Rhododendron cephalanthum* (Ericaceae) in India. C.S.Purohit and Ramesh Kumar. 4: 14-15.
Rhoads, Nicole Juday. Philadelphia: A Legacy of Horticulture. 1: 43-46.
Rhododendron Leaf Traits Along Tropical Elevation Gradients. Melissa Whitman. 3: 38-43.
Rhododendron Species for Beginners: Subsection *Fortunea* in the *Rhododendron* subgenus *Hymenanthes*. Glen Jamieson. 3: 44-51.
Rhododendrons for Beginners: Subsection *Lapponica* in the subgenus *Rhododendron*. Glen Jamieson. 1: 47-53.
Rhododendrons for Beginners: Subsection *Taliensia* in the *Rhododendron* subgenus *Hymenanthes*. Glen Jamieson 2: 37- 44.
Rhododendrons for Beginners: Tender Species in Subsections *Maddenia*, *Boothia* and *Edgeworthia*. Glen Jamieson 4: 34-48.

RHODODENDRON HYBRIDS

‘Bach Choir’, 2: 10.
‘Barry Speling’. 4: 54.
‘Blue Danube’. 4: 12.
‘Bold Blotch’. 4: 55.
‘Carita’. 2: 10.
‘Chiff Chaff’. 4: 10.
‘Coble’s Edna Marie’. 4: 53.
‘Cosmic Candy’. 4: 55.
‘Crater Lake’. 2: 51, 52.
‘Cunningham’s White’. 4: 17.
‘Curlew’. 4: 10.
‘Cynthia’. 2: 51.
‘Dan Krabill’. 4: 56.
‘Dancing Darts’. 4: 56.
‘Dexter’s Peppermint’. 2: 51.
‘Duke of York’. 1: 37.
‘Elsie Lee’. 4: 12.
‘Everred’ [‘85/1C’]. 4: 11.
‘Exbury Fabia’. 2: 11.
‘Glendoick Flamingo’ [‘GLE026’]. 4: 11.
‘Golden Horseshoe’. 4: 56.
‘Grace Seabrook’. 2: 52.
‘Grandma’s Hat’. 3: 52.
‘Ilam Cream’. 2: 8.

‘Jack’s Choice’. 4: 56.
‘Jocelyne’. 2: 8.
‘July Delight’. 1: 38.
‘Ken Janeck’. 2: 49.
‘Kiwi Magic’. 4: 17.
‘Lady Berry’. 2: 11.
‘Lady of Wynnefield’. 1: 41.
‘Lemon Lodge’. 4:17.
‘Loderi Game Chick’. 2: 9.
‘Mariloo’. 2: 9.
‘Mr. Carl’. 2: 55.
‘Mrs Daniels’. 2: 55.
‘Mrs. G. W. Leak’. 4: 50.
‘Mrs Lionel de Rothchild’. 2: 12.
‘Naomi Astarte’. 2: 11.
‘Naomi’. 2: 9, 12.
‘Nova Zembla’. 2: 49.
‘Our Kate Marise’. 2 :13.
‘Parsons Gloriosum’. 1: 37.
‘Peg of My Heart’. 2: 55.
PJM Group. 2: 49.
‘Purpureum Grandiflorum’. 1: 38.
‘Reileyridge Lisa Marie’. 2: 56.
‘Rhein’s Luna’. 2: 49.
‘Sagamore Bayside’. 1: 40.
‘Scintillation’. 1: 40; 2: 49.
‘Shannon For You’. 2: 57.
‘SW58-295E’. 1: 41.
‘Temple Bells’. 1: 60.
‘The Hon. Jean Marie de Montegue’. 2: 51.
‘True Treasure’. 1: 41.
‘Turacao’. 4: 10.
‘Twicum’. 1: 54, 56.
‘Yellow Bliss’. 2: 57.

RHODODENDRON SPECIES AND SELECTED SPECIES FORMS

R. adenogynum var. *adenogynum.* 2: 92.
R. aganniphum var. *aganniphum.* 2: 91.
R. asterochnoum var. *asterchnoum.* 3: 151.
R. augustinii. 4: 212.
R. balfourianum. 2: 92.
R. beesianum. 2: 94.
R. bhutanense. 2: 91.
R. boothii. 4: 207.
R. bureavii. 2: 92, 95, 96.
R. burmanicum. 4: 204.
R. calophytum var. *calophytum.* 3: 151.
R. cephalanthum Franch. . 4: 179.
R. chrysodoron. 4: 208.
R. ciliatum. 4: 204.
R. ciliicalyx subsp. *cliicalyx.* 4: 206.
R. clememtinae. 2: 91.

R. cuneatum. 1: 40.
R. dahlhousiae var. *dalhousiae.* 4: 202.
R. dalhousiae var. *rhabdotum.* 4: 202.
R. dasypetalum. 1: 40.
R. davidii. 3. 152.
R. decorum subsp. *decorum.* 3: 154.
R. decorum subsp. *diaprepes.* 3: 154.
R. degronianum var. *yakushinanum..* 4: 182.
R. dekatanum. 4: 208.
R. dendricola. 4: 204.
R. edgewothii. 4: 208.
R. edgworthii. 4: 199.
R. elegantulum. 2: 93.
R. eudoxim var. *mesopolium.* 3: 116.
R. excellens. 4: 202.
R. faithiae. 3: 155.
R. fastigiatum. 1: 40.
R. flavidum. 1: 40.
R. fletcherianum. 4: 204.
R. formosum var. *formosum.* 4: 205.
R. formosum var. *inaequale.* 4: 205.
R. fortunei subsp. *discolor.* 3: 152..
R. fortunei subsp. *fortune.* 3: 152.
R. glanduliferum. 3: 152.
R. griffithianum. 3: 152.
R. hemsleyanum. 3: 155.
R. hippophaeoides. 1: 40.
R. horlickianum. 4: 206.
R. huianum. 2: 129; 3: 153.
R. impediyum. 1: 41.
R. jingangshanicum. 3: 153.
R. johnstoneanum. 4: 204.
R. kesengiae. 4: 212.
R. kyawii. 3: 118.
R. lacteum. 2: 94.
R. lapponicum. 1: 41.
R. lepidostylum. 1: 48.
R. leptocladon. 4: 205.
R. leucapsis. 4: 207.
R. liliiflorum. 4: 203.
R. lindleyi. 4: 203.
R. lyi. 4: 206.
R. maddenii subsp. *crassum.* 4: 202
R. maoerense. 3: 153.
R. megacalyx. 4: 203.
R. megeratum. 4: 207.
R. minus var. *chapmanii.* 2: 101.
R. nitidulum var. *nitidulum.* 1: 41.
R. nivale subsp. *boreale.* 1: 42.
R. nuttallii.. 4: 203.
R. orbiculare subsp. *orbiculare.* 3: 155.
R. oreodoxa. 3: 154.
R. orthocladum var. *orthocladum.* 1: 41.
R. pachypodum. 4: 205.

R. pendulum. 4: 208, 209.
R. phaeochrysum var. *agglutinatum.* 2: 93.
R. platypodum. 3: 155.
R. polycladum. 1: 41.
R. preevernum. 3: 153.
R. principis. 2: 92.
R. pronum. 2: 93.
R. proteoides. 2: 91.
R. protistum. 4: 182.
R. qiaojiaense. 3: 154.
R. rigidum album . 4: 196.
R. roseatum. 4: 206.
R. roxianum var. *oreonastes.* 2: 91.
R. rupicola var. *rupicola.* 1: 42.
R. russatum. 1: 42.
R. seinghkuense. 4: 209.
R. serotinum. 3: 154.
R. sphaerpblastum var. *wumengense.* 2: 92.
R. strigillosum. 1: 50.
R. sulphureum. 4: 208.
R. suoilenhense. 3: 117.
R. sutchuenense . 4: 174.
R. sutchuenense. 3: 154.
R. taggianum. 4: 203
R. taliense. 2: 93.
R. telmateium. 1: 41.
R. thymifolium. 1: 42.
R. traillianum var. *traillianum.* 2: 93.
R. valentinianum. 4: 205.
R. valentiniodes. 4: 205.
R. veitchianum. 4: 207.
R. vernicosum. 3: 154.
R. vesiculiferum. 3: 116.
R. websteranum. 1: 42.
R. wightii. 2: 89. 94.
R. wiltonii. 2: 94.
R. yuefengense. 3: 156.

Rooting Rhododendron Cuttings. Don Hyatt. 4:21-23.
Rothschild, Lionel de. Exbury Gardens to Celebrate Its Centenary. 2: 7-15.
Species in the Garden: *Rhododendron bureavii*. Sonja Nelson. 2: 45-47.

SOCIETY NEWS

2020 ARS Photo Contest Instructions. 4: 23.
2020 Fall ARS Convention in Gettysburg, Pennsylvania. 4; 25.
American Rhododendron Society Board of Directors Meeting, Chattanooga, Tennessee, Friday, October 19, 2018. 1: 30.
ARS Board of Directors Meeting Wednesday, May 15, 2019. 3: 27-28.
ARS District Directors Elections. 2: 36.
ARS Endowment Fund Donations from 2/15/2019 through 5/15/2019. 3: 63.
ARS Fall Conference in Parksville, BC, Canada Sept. 27-29, 2019. 3: 29-32
ARS Individual Donations from 2/15/2018 through 2/14/2019. 2: 61.
Award of Appreciation: Dr. Paul Anderson. 3: 26.
Award of Appreciation: George Argent. 3: 27.

Award of Merit: Barbara Bullock. 3: 27.
Awards: Gold Medal: Steve Henning. 3: 26.
Book Availability of Ken Cox's Woodland Gardening Book. 3: 63.
Bronze Medal Awards: Mt. Arrowsmith: Ann de Brincat. 3: 27; Mt. Arrowsmith: Don Bridgen. 3: 27; North Island: Antje Guertler. 2: 35; North Island: Robert Argall. 2: 35; North Island: Frances Thornton. 2: 35; Vancouver: Kirsten Martin. 2: 36.
Commercial Members 11/15/2017. 1: 63.
Deceased Members from 9/1/2018 through 11/15/2018. 1: 64; from 11/16/18 through 2/14/19. 2: 62; from 2/15/2019 through 8/15/2019. 4: 66
Donations to the ARS Endowment Fund. 2: 61.
Donations to the ARS Research Foundation from Individuals, Chapters and Districts 7/1/18 through 12/31/18. 3: 62.
Endowment Donations from 9/1/2018 through 11/15/2018: 1: 64.
Errata. 1: 56; 2: 59.
Fall Conference Registration Form. 3: 32.
Fall into Gardening: A Successful Collaborative Marketing Activity. Chris Southwick and John Deniseger. 1: 30-31.
General Fund Donations from 9/1/2018 through 11/15/2018. 1:64.
In Memoriam: Benjamin D. Hall, Ph.D. 4: 24.
In Memoriam: Graham Charles George Argent. 4: 24.
In Memoriam: Paul Anderson, MD. 4: 24.
New Members from 9/1/2018 through 11/15/2018. 1: 62; from 11/17/2017 through 2/14/2019. 2: 61; from 2/15/2019 through 5/15/2019. 3: 61-62. from 5/15/2019 through 8/15/2019. 4: 66.
Pioneer Achievement Award: Charles Owen Dexter. 3: 26.
Points of Contact for Members and Chapters. 1: 67; 2: 64; 3: 65; 4: Inside Back Cover
Rhododendron Calendar. 2: 62; 3: 63; 4: 67.
RSBG Executive Director Steve Hootman wins prestigious award from RHS. 4: 190.
The ARS 2019 Rhododendron Conference in Philadelphia, PA, May 16-19, Schedule and Registration. 1: 32-35.
The Fall ARS Conference in Parksville on Vancouver Island, British Columbia. Marilyn Dawson. 2: 36.
Things You Should Know About the ARS Websites. Bob Weissman. 3: 28.

Stewart, Maria. A New Species Introduction to Appreciate: *R. huianum*. 2: 60.
Stomata and Lenticels—How Plants Breathe! Susan Clark. 3: 53-54.
The Azaleas of Stagecoach Hill, Trinidad, CA. Rick Edwards. 1: 7-11.
The Tyler Arboretum's Wister Rhododendron Garden: An Evolving Historic Collection. Jerry O'Dell. 1: 36-42.
Using Arborist Wood Chips as Landscape Mulch. Linda Chalker- Scott. 3: 33-36.
Vireyas in Hawaii, 2018. Sherla Bertelmann. 1: 61-62.

VIREYA HYBRIDS

'Kisses'. 1: 29.
'Princess Alexandra' 2: 52.
'Saxon Blush'. 1: 26, 27, 29.

VIREYA SPECIES

R. ericoides. 3: 40.
R. loranthiflorum. 1: 20.

Visiting Deer Dell and John McQuire in Surrey, England. Ole Jonny Larsen. 3: 6-10.
Wallace, Don. An Interesting Hybrid: 'Grandma's Hat'. 3: 52.
Wallace, Don. Deadheading Rhododendrons. 3: 37.
Whitman, Melissa. Rhododendron Leaf Traits Along Tropical Elevation Gradients. 3: 38-43.
Wright, Steven A. Curating a Collection: The Rhododendrons at Jenkins Arboretum & Gardens. 2: 16-23.

New Members from 5/15/2019 through 8/15/2019

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Wayne & Maryellen Licker

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