

JOURNAL

American Rhododendron Society

Vol. 73 Number 2 Spring 2019

Reflections at Top Pond at Exbury Gardens
in late May



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American Rhododendron Society

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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 conferences
- Seed exchange
- Listing of registration of names and descriptions of new rhododendron hybrids published in the Journal

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ARS Digital Resources

Website: www.rhododendron.org

Office: www.arsoffice.org

JARS online: www.arsoffice.org/protect/login.asp

JARS back issues: <http://scholar.lib.vt.edu/ejournals/JARS> [to Vol. 64, 2010]

Archives: www.lib.virginia.edu/small

ARSSStore: www.ARSSStore.org

Blog: www.rhododendron.org/blog/default.asp

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

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Reflections at Top Pond at Exbury Gardens in late May. Photos © Exbury Gardens.

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Journal American Rhododendron Society (ISSN: 0745-7839) Copyright © 2019 by the American Rhododendron Society. Published quarterly Jan. 15, April 15, July 15, Oct. 15 by the American Rhododendron Society.

From the President

Ann Mangels

Baltimore,
Maryland



Since this is my last “president’s letter,” I’m trying to come up with a novel way to say, “Thank you for the fantastic opportunity to lead this great society!” I have enjoyed meeting and getting to know so many of our members, and I want to say thank you to those districts and chapters which have hosted such friendly and fun BOD meetings in Canada, Germany and the East and West coasts of the USA. That willing spirit means so much to the entire ARS community. It also means a great deal of planning and hard work. Thank You!

The ARS has experienced so many changes during the past five years, and some of the most important are the reorganization of its financial situation, the hiring of an Office Administrator and in bringing the ARS Bylaws and Policies of the Board up to date. A transition Committee was established to review, evaluate and define how the ARS would continue to be a viable organization in a manner suited to current membership growth. The finished project was brought about by endless hours spent by the committee members Ken Webb, Linda Derkach, Dave Banks, Bruce Feller, Bob MacIntyre and me, as then Eastern Vice President.

Dave Banks, ARS treasurer, developed a program whereby he and other volunteers took on much more responsibility, especially with financial and external matters. Those revisions enabled the BOD to change the full time former position of Executive Director, Laura Grant, into modified workloads for others and for the new position of Office Administrator. Katherine Sterner was hired to work mainly with internal ARS affairs (JARS) and membership. When Sonja Nelson, Associate Editor of JARS, announced her wish to retire, the Journal’s operation was re-evaluated, and Don Smart was hired as Glen Jamieson’s new Associate Editor. The relevancy of the ARS By-Laws and Policies was enhanced with the oversight of Bud Gehrich and Gordon Wylie, who along with Bruce Feller and Dave Banks, rewrote and revised every last word that needed attention, with many words and even paragraphs added or deleted.

After Kathy VanVeen died, the family nursery and land were bequeathed to the Portland, OR, Chapter. There was a stipulation in the Will that the property would continue to operate as a family-owned entity, but that the property would have to be under a Conservation Easement. The ARS was asked by the Portland Chapter to be the Grantee of the Easement, in an oversight position to ensure that Kathy’s request was followed. After some legalities were settled, and the ARS was indemnified from any potential claims upon the property, the ARS BOD agreed unanimously to accept the granting of a Conservation Easement to the Portland Chapter as specified in Kathy’s Will.

A new committee, the Rhododendron Research Network, has been formed, co-chaired by Juliana Medeiros and Erik Nilsen. Its mission is to create a collaborative working group that enhances participation, value and dissemination of scientific discoveries in *Rhododendron*, and a series of summary research papers has already been published in Volume 3 of the new online journal “Rhododendrons International.”

The Honors Committee made relevant changes for the awarding of Silver and Gold Medals, Bob Weissman has continued to keep the ARS above the curve with electronic/digital matters and has advised many committees with his digital expertise, Norm Beaudry has listed many otherwise unavailable sought after seeds through the ARS Seed Exchange, the Executive Committee is exploring teleconferencing so that district directors can have input even if not attending a BOD meeting, June Walsh has rejuvenated the Membership Committee, and last but not least, Ken Webb, Steve Henning and Hartwig Schepker organized an adventuresome international ARS Convention in Bremen, Germany, in May 2018 that provided a wonderful experience to all that participated!

Finally, I particularly thank the current Executive Committee, Ken Webb, Steve Krebs, Linda Derkach, Dave Banks, Bruce Feller, Paul Anderson, Steve Henning and Tim Walsh for their congeniality and unselfish contributions. I’m only sorry that Bob MacIntyre is no longer here to see all that he started, but I look forward to seeing many of you again at our next meeting in Philadelphia!

From the Editor

Glen Jamieson

Parksville, BC
Canada



It is with a little hubris that I have to admit that recent weather on the west coast of North America has been rather challenging this past winter. After watching all the negative weather events that have impacted eastern North America earlier in the winter—extreme cold, strong winds, etc., I commented in my last few columns on how mild and benign our west coast weather was, but now the “past tense” really is appropriate! Whereas the jet stream meandered far south in the eastern USA in the early winter, that meander shifted west in February, pulling temperatures well below normal along the entire west coast of North America. The jet stream extended south to below Los Angeles, which also meant that the regular progression of winter storms went far to the south, giving California in particular frequent heavy precipitation. The storms went so far south that southern British Columbia, although much colder than normal (Parksville had over 50 cm (two feet) of snow at sea level), actually had fewer storms and less precipitation than normal!

I am presently in Eureka, CA, on March 1, where I just gave talks to both the Noyo and Eureka chapters, and Tim Walsh has just told me that the current jet stream meander to the south is now projected to slide eastwards and give central and eastern North America temperatures again much below normal! Crazy, but these are exactly the predictions that arise from global warming—destabilization of the traditional path of the jet stream (which in North America, was largely confined to be across Canada). The consequence is larger and longer lasting meanders of it, which depending on where meanders occur, will give either prolonged colder or warmer periods of weather far to the south and north respectively of its traditional path!

On another topic, for those of you that have not yet accessed the new online journal “Rhododendrons International,” which in its latest volume contains rhododendron research summaries in a variety of disciplines, I encourage you to do so. Volumes are downloadable as pdfs at <https://www.rhododendron.org/ri-index.htm>.

Finally, I would like to acknowledge again all the hard work of Don Smart, who is doing an amazing job in addressing all the picky nuances required to produce both printed and online JARS issues. Over the last year, he has had to quickly become familiar with new hardware, software, and publishing protocols, and is doing an exceptional job. Thanks Don, and as with my working in the past with Sonja Nelson, I could not have had better Associate Editors!

Exbury Gardens to Celebrate Its Centenary

Lionel de Rothschild
Exbury,
Southampton,
United Kingdom

Photos © Exbury
Gardens except as
noted.



The year 2019 has Exbury Gardens in Hampshire, England celebrating its centenary. I am the grandson and namesake of Lionel de Rothschild, who created these gardens and some of your readers may have heard me speak at the ARS convention in Sidney-by-the-Sea, BC, in 2015 and some, I hope, will hear me again at the 2020 ARS Convention in Portland, OR. A few may have heard my father, Edmund, speak in 1989, again in British Columbia. Many of you will have visited Exbury and of course we would love to welcome you again. I was delighted and flattered by the widespread renown in which Exbury is held, but we are all too aware that a positive reputation needs to be cherished.

My grandfather Lionel did not generally open his garden to the public but he did let people visit and he held occasional charity days. To him, the garden was always a work-in-progress and it is said he had hoped to extend its boundary even further to the north in order to create a really long drive through the gardens to the house, even though now it is over 200 acres (81 ha). We have no intention of ever enlarging it but it has changed over the years and doubtless will change again. It remains, and will remain however, a woodland garden, and one above all devoted to rhododendrons. Rhododendrons first became popular in Europe after Hooker's introductions in the middle of the 19th century, but towards the end of the century a more fussy type of gardening held sway, and amazing bedding schemes in outlandish shapes abounded. Then, towards the turn of the century, the fashion became for small garden rooms in different styles—an ivy garden, a bamboo garden and, with the rage for Japonisme (the French term describing the Western craze for Japanese art and design), a Japanese garden. Lionel's father Leo created a fine Japanese garden at Gunnersbury outside of London and showed it off with great pride to the Japanese ambassador. "Splendid!" he was told, "We have nothing like it in Japan." I myself had a not dissimilar experience showing the Japanese ambassador round Exbury. "This," I said, "is our most famous introduction from Japan, *Rhododendron yakushimanum*." "Ah! *yakushimanum*," he repeated, bowing. "And this," I said rounding a corner, "is our least welcome, Japanese knotweed." "Ah!" he said, bowing again, "Knotweed." Or was it, with an imperceptible pause, "Not weed." If the latter, was it a misunderstanding or a joke at my expense? I never knew. One final ambassador story: my mother was once showing the Russian ambassador round on a Saturday morning, as in those days we were only open on Saturday afternoons and Sundays. "We must hurry, Mr. Ambassador," she said, "The public will be coming in any minute." "What!" he exclaimed, horrified, good communist though he was, "You open this beautiful garden to the public!"



Lionel de Rothschild.

These days, the gardens are open from mid-March to early November, then again for a few weekends in December, and we welcome some 80,000 visitors a year. Most come in the spring, but we are making efforts to attract them at other times of year too, with a herbaceous garden, the iris garden, two enclosed summer flowering gardens, a hydrangea walk, autumn colour and above all a train. This last, a wonderful steam train that runs for a mile and a half (2.4 km) in the top right-hand corner of the garden and generally carries about 50 – 60 people, goes first into a garden specially created for it and then skirts the edge of the Rock Garden, up to the Dragonfly Pond (a habitat we are aiming to develop for these wonderful insects, something to attract and educate children in the summer months), then back via a "halt" (what some of you may call a "flag stop") in the American Garden.



Deciduous azaleas in the American Garden.

future.

Lionel's hybrids are still dominant at Exbury, though others are present too, like Bodnant's 'Choremia' or J.C. Williams' 'Yellow Hammer': I single those out because 'Choremia' is a particularly good clear colour, with a tight truss and one of the first reds to flower, and 'Yellow Hammer' is one of the best examples of yellow in that size and shape, along with *R. lutescens*. Above all, to my eye, are the splendid examples of the Loderi Group. I find it hard to differentiate between some of the Loderis but I know we have particularly fine examples of 'Loderi King George', 'Loderi Game Chick' and 'Loderi Venus'—Lionel was fond of 'Loderi Venus' and had the original plant at Exbury. It is no surprise to me that in a recent poll of members of the Rhododendron, Camellia and Magnolia Group over here in the UK for rhododendron of the century, *R. dengronianum* subsp. *yakushimanum* came top and 'Loderi' came second. I also believe that few if any of their children are anything like as good—not something I believe to be true in my case but nonetheless I might try the line out on my own children one day if I am feeling mischievous enough!

Lionel made 1210 crosses in all; at a quick count of "The International Rhododendron Register," this accounts for 25% of all inter-war rhododendron hybrids, with Lord Aberconway coming second with 10%. That one person should so dominate is both astonishing and unsurprising; Lionel knew no half measures. Because rhododendrons are so varied, he had many objectives. One was to extend the flowering season with both early and late-flowering plants. A prime example of the former is 'Avalanche', where the flowers cascade down befitting its name, and the use of *R. calophytum* as a parent is what guarantees its earliness. It in turn was used as a parent for 'Janet', one of my favourite early rhododendrons. Plants named after my oldest sister, Kate ('Our Kate', a cross made by my father) and after my cousin Jocelyne are also *R. calophytum* hybrids, though in

The train was put in by my uncle Leo; decorated with our family colours of blue and gold, and with engines named after his siblings and carriages named after other women in the family, it is truly magnificent. The American garden is the gift from the ARS in North America after my father's speech in 1989; the damage of the 1987 hurricane was still visible then and the storm of January 1990 followed shortly after his return. It contains, among others, 'Pink Walloper', 'Point Defiance', 'Nancy Evans', 'Horizon Monarch', 'Phyllis Korn' and 'Cream Glory', complemented with a fine display of Exbury azaleas and laburnum (*Laburnum anagyroides*). It would be wonderful to add some newer American hybrids to the American garden in the



'Ilam Cream'.



'Jocelyne'.



'Loderi Game Chick'.



'Mariloo'.

the case of the former we appear now only have a later-named cultivar, 'Our Kate Marise', which I suspect may not be the same as the original 'Our Kate'—something for me to check when I visit Portland next year. Finally, with the early flowering *R. calophytum* hybrids, 'Nimrod' is worth noting, as it had the similarly early *R. irroratum* 'Polka Dot' as its pollen parent.

For late-flowering hybrids perhaps one of the best known is 'Polar Bear' made by J.B. Stevenson of Tower Court. After his death, his plant collection was moved painstakingly to the Valley Gardens at Windsor. 'Polar Bear' gets its lateness from its parents, *R. diaprepes* and *R. auriculatum*, and Lionel also used *R. auriculatum* to good effect for late flowerers, namely in 'Exbury Isabella', 'Argosy', 'Bustard' and, rather differently, for 'Dragonfly', where its melding with its other parent—the red *R. facetum*—makes it pink. The other parent of 'Polar Bear', *R. diaprepes* 'Gargantua', is one of my favourites and I would love to use it for hybridisation, but because it is a tetraploid, I must choose the plant to cross it with carefully. So, I issue a question to ARS members: what are suggestions to cross *R. diaprepes* 'Gargantua' with to produce something really late-flowering? Remember, we do not have all the latest wonderful American polyploid hybrids over in England, though as said, we do have some. The reason I want something really late is, I fear, simple: I am not the most punctual person and I would like to create something that flowers in, say, July, and call it 'Lionel's Late', so that my siblings and children can say, "Huh! What else is new?"

It was said my grandfather wanted something to flower every month of the year—he certainly wished to extend the season—though in the summer he used to enjoy cruising in the Adriatic on his boat the "Rhodora." Why that name? It could be simply that the name is near to "rhododendron" but more euphonious. It is possible he knew of Emerson's poem "Rhodora," but I somehow feel mid-nineteenth century American transcendentalist poetry was not his thing (I know he liked detective stories) though he might, for all I know, have approved of its last line, "The self-same Power that brought me there brought you." I like to think that he knew of the story that when this plant, which used to be called *R. rhodora* but is now called *R. canadense*, first came from Newfoundland, the ship carrying it encountered a massive storm and much of the cargo was thrown overboard, but *R. rhodora* and the ship carrying it made it safely to port. A good omen perhaps. Sadly, however, Lionel's "Rhodora" was sunk in a collision in the war, and all that remains



'Naomi' next to Gilbury Bridge.



'Bach Choir'.



'Carita'.

from it are six fish knives and forks that I still use to this day. When he was present, Lionel oversaw every detail in the garden and when it came to hybridisation, he liked to do it himself. He had certain favourite pollen parents, often species, like *R. fortunei* subsp. *discolor* (then *R. discolor*), but occasionally hybrids, whether other people's, like 'Moser's Maroon', or his own as they came to maturity. He would wait patiently till they flowered, sometimes letting them have a second year before making a decision, but then acting ruthlessly. One observer commented admiringly, "Exbury's nice sense of discrimination is proverbial: the contents of their bonfires would, in other hands, be a source of pride." Occasionally he gave seedlings away, and it is said that 'Hawk' was the smallest seedling left behind in a tray after the rest had gone. He made this cross twice, a year apart. The first time his stud book specifies that he used a form of *R. wardii* collected by Kingdon-Ward (KW4170) but the second time it is unspecified. 'Hawk', which he did see, is a very good yellow but it is far surpassed by 'Crest', which only flowered in the early 1950s. To my mind it remains one of the finest, clearest yellows, though it can be straggly in habit. A more lemon yellow, 'Mariloo', he named after his wife Marie-Louise, a good form being 'Mariloo Eugenie' ('Dr Stocker' X *R. lacteum*), though sadly the original of this is nearing the end of its life, but we have been careful to propagate from it. There is also a fine Waterer hybrid, 'Mrs Lionel de Rothschild', named after her, which is sometimes confused with or wrongly labelled 'Lady de Rothschild' in the States. He and other hybridisers of the time approached the whole thing rather as his father, whose horse St. Amant won the Derby (in a tremendous thunderstorm) in 1904, approached racehorses. Thus Lionel used the pollen from a plant hundreds of miles away for another fine yellow, 'Fortune', the pollen parent being a particularly good form of *R. sinogrande* at Trewithen in Cornwall. The original FCC form is now also showing its age and we



Augustinii Corner.

are cossetting it accordingly, as to my mind it still has by far the best colour of any of the Fortune Group. These were my father's favourites, and for his ninetieth birthday I arranged for a bench to be made and put round an oak in a grove of them. Around the octagonal bench I had inscribed the words: "Given to Mr Eddy / by all at Exbury / on his 90th birthday / 2nd January 2006 / It was his good fortune / to inherit these gardens / It was their good fortune / to inherit him".

Good reds for Lionel meant red without the magenta hue of some of the Victorian hybrids. This did not mean he disliked purple itself, as he was fond of 'Purple Spendour' and I think would have approved of 'Purple Emperor', rather rare now sadly and to my mind, with its fine yellow blotch, better, which is planted next to orange azaleas and a swamp cypress (*Taxodium distichum*) on the island in the Top Pond. One of the best large reds is undoubtedly 'Kilimanjaro', which in turn was used by my father to produce the rhododendron named after himself, 'Edmund de Rothschild'. Others of these large reds include 'Fusilier', 'Grenadier' and 'Gibraltar' and then, named once war came, 'Kiev' and 'Karkov'. For these sorts of reds, he used as parents *R. elliottii*, *R. griersonianum*, 'Bibiani' and 'Moser's Maroon'. Lionel's cross 'Bibiani' was from 'Moser's Maroon' × *R. arboreum*, the latter making it earlier flowering. It has smaller trusses on plants that are now rather leggy with age but still, *en masse*, provide a fine spectacle, something Lionel was particularly keen to do. He would plant in big groups but then try not to repeat the statement elsewhere. He also liked to present plantings as a surprise, for example to be seen suddenly as one comes round a corner. In this he was using the landscape that was available, for although my daughter complained when young that "the trouble with Exbury is that all the hills are up", the truth is that we have a rather flat landscape and, unlike say Bodnant, few long views and certainly no deep valleys like it has. G.C. Taylor, writing in "Country Life" after Lionel's death in 1942, said, "On such a vast canvas it is easy to make mistakes and produce a restless effect. But, by a skilful disposition of the material, the division of the vast site into sections each with its separate and distinct features, but all connected to form a continuous whole, and planting with the bold hand, demanded by the size of the place, such pitfalls have been avoided. ... Despite its size it possesses a feeling of intimacy ...". The other red used to good effect in groups is 'Queen of Hearts', again using 'Moser's Maroon', but this time crossed with *R. meddianum*. However, while I admire these reds I think I am drawn to the softer colours, something Mariloo thought Lionel was too as time went on. Chief among these must be the Naomi Group; Naomi was Lionel's younger daughter. A number of these are grouped by the fine fastigate Dawyck beeches (*Fagus sylvatica* 'Dawyck') that flank the stone bridge that joins two parts of the garden. Lionel did not own the parcel of land at Gilbury and as time went on, grew bored of opening and closing the gates either side of Gilbury Lane. So he built a fine bridge, though the cost prompted even him to refer to it as "my folly." As with a number of these Groups, to my mind too many cultivars have been named. However, I am particularly fond of 'Astarte', and 'Exbury Naomi' is also very fine. Others



'Lady Berry'.

he



'Naomi Astarte'.



'Exbury Fabia'.



'Hotspur'.



'Mrs Lionel de Rothschild'.

in the group include 'Naomi Nautilus', 'Naomi Hope' and 'Naomi Paris', which range in colour from shell pink through dark pink to lavender. They have a slight scent from *R. fortunei* though not as strong as in the Loderi Group, which has scent from both of its parents, *R. fortunei* and *R. griffithianum*. Again, I would be interested in the observations of American hybridisers as to scent, though I realise scent all too often goes with plant tenderness. The other Group with fine pastel colours is the Carita Group, the product of 'Naomi' X *R. campylocarpum*. Here, 'Carita Charm', 'Carita Inchmery' (named after the house near Exbury that Lionel first moved in to in 1912) and 'Golden Dream' are probably the three best clones, though I have my eye on an unnamed white, and maybe, if I do not get round to creating 'Lionel's Late', naming it for myself. 'Carita Lionel', anybody? We shall see. It was very good two years ago but it was less floriferous last year.

The best post-war Group was the Fred Wynnatt Group (*R. fortunei* x 'Jalisco'), named after Exbury's post-war head gardener. The *R. dicroanthum* in 'Dido', one of Jalisco's parents, introduces orange, though another cultivar, named after another head gardener Duggie Betteridge, is lavender pink, while a third, 'Stanway', is pale yellow. To my mind the best cultivar is 'Bach Choir', named after the choir in which my uncle Leo sang (and of which he was eventually chairman) for over 50 years. Orange is also obviously present, such as in the exquisite cross 'Lady Chamberlain'. This, along with the pink 'Lady Rosebery' is the result of Lionel using J.C. Williams's 'Royal Flush' and backcrossing it onto *R. cinnabarinum*. If challenged, I would say these are my favourites; the similar 'Lady Berry' ('Rosy Bell' x 'Royal Flush') is also exquisite. These three hybrids are all from one session of hybridising, LR 178 – LR 186, and one version has it that Lionel seized a truss of different coloured

'Royal Flush' from the show bench and motored down immediately, completing the crosses after dark. (In fact it appears J.C. Williams sent him the plants but it is characteristic of the myths that arose about him.) Sadly, they have not stood the test of time and are all prone to powdery mildew. However, we may try growing them in a new site, or try to recreate them. I also was much taken by 'Oreocinn' (*R. oreotrephes* X *R. cinnabarinum*) when I visited Canada and wondered—if I can get hold of it or reproduce it myself – whether that would produce good results backcrossed onto *R. cinnabarinum*. It would be good to try more crosses between the cinnabarins and Maddenia, or Maddenia with other lepidotes. Only a few Maddenia rhododendrons, like *R.*



'Naomi' near Gibury bridge.



Reflections at Top Pond at Exbury Gardens in late May.

maddenii subsp. *crassum* and *R. johnstoneanum*, are reliably hardy enough for us to plant outdoors. We recently, however, increased our collection of the more tender *Maddenia* and I will one day renovate a greenhouse in which to display them. Scent—unlike, say, the double calyx of *R. dicroanthum* or the leaf shape of *R. williamsianum*—has often proved an elusive characteristic in rhododendron hybrids, perhaps as befits its own elusive nature.

With 'Lady Chamberlain', we have moved onto smaller, though not dwarf rhododendrons. Lionel made a number of other smaller hybrids, for example using *R. williamsianum* in 'Dormouse', 'Bow Bells' and 'Oxlip', and using *R. moupinense* in the early flowering 'Bo-peep' and 'Bric-à-brac'. He sometimes remade a cross others had made already, such as for example 'Exbury Fabia' (*R. dicroanthum* × *R. griersonianum*), which was originally made by Lord Aberconway, and which was also remade at High Beeches and Tower Court. One wonders what he would have done with *R. degronianum* subsp. *yakushimanum*, which he imported from Japan in 1934 but which was only used as a parent after the war.

In the case of purple, he chose to breed in to intensify this colour. Here he had particular success with *R. augustinii* and the grouping at Augustinii Corner, at the top left corner of the garden, makes a wonderful spectacle. Originally, he put *R. campylocarpum* Elatum Group underneath as a homage to the family colours of blue and yellow, but now only the *R. augustinii* remain. He crossed *R. augustinii* subsp. *chasmanthum* with *R. augustinii* to create *R. augustinii* 'Electra', with



'Our Kate Marise'.



'Oxydol'.



Rhododendrons and azaleas in May. Photo by Colin Roberts.

striking blue-purple flowers. Peter Barber, managing agent for my father after the war (and the man who, unforgivably, dug up Lionel's amazing arboretum that lay across the road from the gardens), says in his book "The Rothschild Rhododendrons": "In an evening light the colour effect is magnificent." I agree but would add too, if you will forgive the punning literary reference, that to my mind, morning becomes 'Electra'. My grandfather would time his walks to show off each plant to its best advantage, and so when the future King George VI and Queen Elizabeth (then still Duke and Duchess of York) paid a visit in 1936, he wanted to show a group of 'Romany Chal' and 'Romany Chai' with the sun behind them shining through their ruby-red blooms. As he came to them, however, the sun duly went behind a cloud. "My sun! My sun!" he exclaimed. "But your son is here," said the Duke, pointing to my father, who was accompanying them. "Not that son, the sun in the sky!" said Lionel. As my grandmother recalled rather wistfully, the world was a different place when one could laugh about such little things. I note with interest that she says this took place on June 13th, but I would expect this now to flower about a month earlier. Even in my lifetime things have changed, as when young, I would have said the best time was round May 20th, my mother's birthday (and generally around the time of the Chelsea Flower Show), but now I would say around May 1st.

For some visitors, the peak of Exbury's flowering coincides with the evergreen azaleas, but for others the deciduous azaleas. We hope to increase our collection of evergreen azaleas from Japan, and to better identify more of the old ones. The deciduous azaleas comprise two main groups, Lionel's "Exbury" range and the post-war "Solent" range, raised originally by George Hyde. I think my favourite of the former is 'Basilisk', which appropriately enough looks out (you have read "Harry Potter," surely?) from a corner. I am also rather fond of 'Oxydol', partly because I like the quirkiness of naming a flower after a detergent. 'Hotspur' is a fine red, and Shakespeare's Hotspur has one of the finest put-downs in all of literature. In Shakespeare's "Henry IV, Part 1", the Welsh magus Glendower is boasting, "I can call spirits from the vasty deep." Hotspur, however, is having none of this, and says "But will they come when you do call for them?" Azaleas in the Solent range tend to have rounder flower heads. 'Drury Lane' is a dusky apricot, 'Bulls Run' a good red and 'Canaris' a good yellow. Admiral Canaris was the head of the *Abwehr* (German military intelligence) who was executed in 1945 for opposing Hitler, but my father may have chosen the name more because of its colour association or its sounding like "Canary," given that both a Knaphill deciduous azalea and a Koster rhododendron 'Canary' already existed. As for species, azaleas like *R. viscosum*, *R.*

occidentale or *R. periclymenoides* are all doing fine, but we should have more. Again, I welcome suggestions.

I have to some extent concentrated more on our hybrids for this article, but I shall focus more on species for a forthcoming article in “Rhododendron Species 2019”. History and comments on landscape will be covered more in my contribution to the forthcoming “Rhododendrons, Camellias & Magnolias 2019.” I know some of you may read all three so I have tried to some extent to avoid duplication. I have mentioned some ideas for new hybrids, but I shall end with one I would like to do just for its name. I am too fond of cream for my own good and so I want to cross ‘Cream Glory’ with ‘Ilam Cream’ to make a rhododendron I would call ‘Double Cream’. I realise you do not have this culinary delight in America, so this is another reason for you to visit, as we do a very good cream tea at Exbury!

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Lionel de Rothschild is chairman of Exbury Gardens Trust, the family charity that owns and funds the gardens created by his grandfather. He is also a current member of the Victoria, BC Chapter.

“I want it said of me by those who knew me best, that I always plucked a thistle and planted a flower where I thought a flower would grow.”

Abraham Lincoln

“The most noteworthy thing about gardeners is that they are always optimistic, always enterprising, and never satisfied. They always look forward to doing something better than they have ever done before.”

Vita Sackville-West, 1892 – 1962

Curating a Collection: The Rhododendrons at Jenkins Arboretum & Gardens

Steven A. Wright

Devon, PA



Introduction

For as long as people have roamed the earth, we have been collecting things. Most collections focus on the inanimate—non-living objects whether they be material (e.g., antiques, coins, or baseball cards), natural (e.g., shells, rocks, or “bugs”), or mechanical (e.g., cars). Collecting can be fun, challenging, and time-consuming, and depending on the level of enthusiasm, could be completely overwhelming. After all, where do you stop? How do you determine which items you will add to your collection and which you will not? It is an issue that we as plant collectors also face. What will we collect? Where will our collection end? What species or varieties do we feel are worthy of our



Fig. 2. Wildflowers mixed with rhododendrons.



Jenkins wedding photograph - 1925.

collection? Some plant groups contain so many taxa (unique species, hybrids, or selections) that having a “complete” collection would be nearly impossible. Can you imagine trying to collect all of the Orchidaceae or Asteraceae? Of course, there are additional challenges that complicate living plant collections.

Unlike non-living objects, plant collections are limited by factors over which we have no control—namely climate, geology, topography, hydrology, soil conditions, light conditions, and so on. It’s true, it’s not easy being green, but here at Jenkins Arboretum & Gardens, answering the “what will we collect” question was perhaps the easiest decision of all.

Creating a Garden

The groundwork for Jenkins Arboretum & Gardens was laid in 1968 when H. Lawrence Jenkins preserved his 20-acre (8.1 ha) property as a living memorial to his wife, Elisabeth, who had passed away five years earlier (Fig. 1). Elisabeth was an avid gardener and wildlife enthusiast, and Mr. Jenkins directed in his will that the property was to become a “public park, arboretum, and wildlife sanctuary for the study of arboriculture, horticulture, and wildlife for educational and scientific purposes.” Unfortunately, although there were 20 acres to work with, there were no existing gardens, trails, or facilities; Jenkins Arboretum would be started from scratch.

In 1971, George Erwin Patton, a noted Philadelphia landscape architect



Fig. 3. Mixed hardwood forest as seen from the Educational Center.

and professor at the University of Pennsylvania, was hired to develop a proposal on how best to convert the property into a public garden. His early surveys found the site to be rocky, well-drained, and acidic, with a pH as low as 4.5 in some places. Oaks, hickories, and beeches dominated the overstory of the mostly wooded property, and American chestnut sprouts dotted the landscape. Rhododendrons, mountain laurels, and blueberries were among the most common understory plants found growing wild on the site. The conditions were therefore perfect for growing plants in the heath family (Ericaceae) and Patton recommended these plants knowing that the family was not well represented among the gardens of Philadelphia. As

rhododendrons and azaleas are the showiest members of the Ericaceae family, they would become the highlight of this new collection.

Patton also suggested native trees, shrubs, and wildflowers as companion plantings to add interest, extend the blooming season, provide habitat for wildlife, and, perhaps most importantly, to help to round out a complete “plant association” in the existing mixed hardwood forest (Fig. 2). This would create a premier woodland garden in the Philadelphia region and a garden that remained true to the vision of Mr. Jenkins and the interests of his wife (Fig. 3).

In 1974, shortly after Mr. Patton’s plans were accepted, the Arboretum’s first Director, Leonard H. Sweetman was hired. Mr. Sweetman was a renaissance man with countless interests including entomology, agriculture, botany, archaeology, geology, and especially horticulture. When he moved to Pennsylvania from Colorado in 1960, he became Director of Grounds for the Coatesville Veteran’s Administration Hospital, and later became Assistant Director of the Scott Arboretum of Swarthmore College under Dr. John Wister, a world-renowned authority on plants and the Director of the Scott Arboretum for fifty years.

With George Patton’s vision and Leonard Sweetman’s tireless work ethic, trails were created, a pond was dug, a parking lot was constructed, and a small education facility was built. By the time the Arboretum opened to the public in 1976, just two years after work began, more than 2000 rhododendrons and azaleas had already been planted (Fig. 4).

Growing the Collection

Under the leadership of Leonard Sweetman, and then his son Harold Sweetman (Executive Director, 1986-present), the rhododendron collection has grown significantly. Though Leonard started it, it is Harold who is responsible for developing the collection that we see today. He has been very involved in the American Rhododendron Society from the start, earning the Valley Forge Chapter’s Bronze Medal in 1995 and serving as Chairman of the ARS Research Committee since 2001. It is this involvement that led to some of the more interesting additions to the collection when, in the 1990s, Harold explored the high

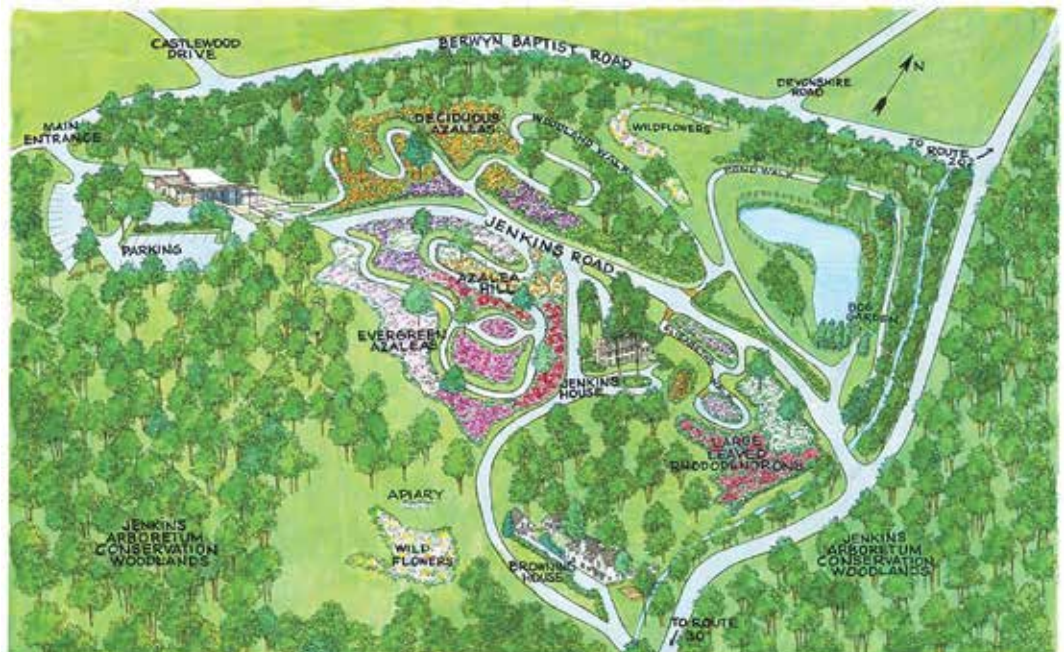


Fig. 4. The arboretum layout today closely follows Patton’s plans.



Fig. 5. Harold Sweetman in search of rhododendrons in China.

Himalayas and collected many rhododendrons, particularly *R. decorum*, *R. racemosum*, and *R. rubiginosum*, in the remote regions of Yunnan, China, and Arunachal Pradesh, India (Fig. 5). Harold has added thousands of others over the years, and Leonard's original plantings have now matured to become an attraction that draws thousands of visitors each year.

Today, with over 2000 different accessions representing more than 1400 taxa, the rhododendron collection at Jenkins Arboretum & Gardens is among the most extensive in the country. The collection is incredibly diverse and represents four of the five major divisions within the genus—both large and small leaf rhododendrons, and both deciduous and evergreen azaleas. The exception is vireyas, which are mostly tropical epiphytes and in Pennsylvania, they cannot be successfully grown without a climate-



Fig. 6a. Mother's Day evergreen azaleas.



Fig. 6b. Evergreen azaleas on Azalea Hill.

Division/Type	# of Taxa	# of Plants	Represented Hybridizers (selection)
Elepidote Rhododendron Hybrids	372	732	Dexter, Gable, Pride, Rhein, Waterer
Elepidote Rhododendron Species	60	726	
Lepidote Rhododendron Hybrids	87	203	Delp, Herbert, Lewis, Nearing, Weston
Lepidote Rhododendron Species	30	103	
Deciduous Azalea Hybrids	104	249	Aromi, Exbury, Knaphill, Weston, natural
Deciduous Azalea Species	79	613	
Evergreen Azalea Hybrids	681	1,952	Glenn Dale, Back Acres, Beltsville, Gable, Harris, Hershey, Holly Springs, Kurume, Satsuki
Evergreen Azalea Species	17	34	

Table 1. The collection as it exists today.



Fig. 7. Evergreen azaleas in full bloom,

3.5 inches (nine mm) per month throughout the year, with the highest volumes occurring during the growing season. Also, being situated on the edge of USDA Hardiness zones 6b and 7a, we are able to grow both cold hardy and heat tolerant plants.

We are also blessed with both north- and south-facing slopes and take advantage of micro-climates that support great botanical diversity. Evergreen azaleas, many of which typically grow best further south, as well as large leaf rhododendrons, many of which typically grow best further north, both grow well on the site. The Table 1 shows the collection as it exists today.

The total number of rhododendron and azaleas plants currently in the Jenkins collection is 4612.

Asian evergreen azaleas are the most well-represented group in the collection in both number and diversity, with approximately 681 taxa. Though they are planted in several different areas of the garden, the greatest concentration of these is displayed in a garden area we refer to as “Azalea Hill” – a south-facing slope with high open shade, that is packed “cheek to jowl” with plants that light up the woodland garden in early May (Fig. 7).

Elepidote rhododendrons (those with non-scaly leaves) are the second most numerous in the collection, with nearly 1500 plants representing nearly 450 taxa. There is great diversity in foliage,



Fig. 8. A particularly beautiful elepidote.

controlled conservatory. This diversity allows for a very long bloom season, starting with *R. mucronulatum* and *R. dauricum* as early as February and ending with the Encore azaleas, which bloom well into December. However, depending on the year’s weather, there could be an azalea or rhododendron in bloom in all twelve months of the year. The garden bloom peaks in early May, just in time for Mother’s Day, when the majority of the evergreen azalea collection is in full bloom and visitor attendance is at its highest (Fig. 6).

The success of this collection can be attributed to a number of factors. The well-drained acidic soil and high open shade mentioned previously are certainly major factors, but there are others as well. Jenkins is blessed to exist in a horticultural sweet spot – a sweet spot that has allowed Philadelphia to become “America’s Garden Capital.” We receive ample precipitation, averaging about



Fig. 9. *Rhododendron vaseyi* on woodland walk.



Fig. 10. *Rhododendron flammeum* 'Double Pleasure'.



Fig. 11. Lepidote rhododendron in early spring.

form, flowers, and fragrance. The majority of this collection resides in a part of the garden we call “Elisabeth’s Walk”, as it is the slope nearest the Jenkins house and likely the only area in which Elisabeth Jenkins would have gardened (Fig. 8).

The deciduous azaleas, most of which are eastern USA native species, are a staff favorite at Jenkins and have received significant attention in recent years. With the exception of *R. canadense* (Rhodora), which does not perform well in Philadelphia’s summer heat and humidity, all of the eastern native species are represented in the collection. Of those species, *R. vaseyi* (Pinkshell azalea) is most abundant in the collection, with 84 plants of 27 different accessions (Fig. 9) Ironically, this is also the rarest of the native azalea species in the wild. They are followed by *R. periclymenoides* (Pinxterbloom azalea), most of which are naturally occurring on the site, and among the native species noted by Patton. The most diverse, however, is *R. flammeum* (Oconee azalea) with 53 plants of 16 different taxa (Fig. 10). The majority of the deciduous azalea collection can be seen in a garden area aptly named “Woodland Walk,” as it is the main display of native woodland plants.

The lepidote rhododendrons (those with scaly leaves) round out the collection. With over 300 plants, these early bloomers provide a welcome punch of color in late winter/early spring before the rest of the garden has woken up from its winter slumber (Fig. 11).

National Accreditation

By 2010, the *Rhododendron* collection at Jenkins had grown so much in scale and prominence that applying for national accreditation seemed like a logical step. After a meticulous site review, the collection was accepted into the Plant Collections Network as a Nationally Accredited Plant Collection™. The Plant Collections Network (PCN) is a collaboration between



Fig. 12. *Kalmia latifolia* 'Heart's Desire'.

the USDA Agricultural Research Service and The American Public Gardens Association that coordinates a continent-wide approach to plant germplasm preservation. This accreditation is recognition of not only significant collections, but also a long-term commitment to preserving those collections and achieving a high standard of excellence in plant collections management. Institutions participating in this program are encouraged to collaborate with others to compare plant lists and identify duplications and gaps in their collections. This makes efficient use of available resources, strengthening collections through combined collaborative activities. As a Nationally Accredited Plant Collection™, Jenkins now serves as a reference site for plant identification and cultivar registration. We must also make germplasm available for taxonomic studies, evaluation, breeding, and other research. Other botanical



Fig. 13. Volunteers working on de-leafing azaleas.

institutions with significant rhododendron collections are welcome to contact us about acquiring plants, cuttings, seeds, and/or pollen.

Though it is overshadowed by the rhododendrons, it should be noted that Jenkins also maintains a second accredited collection with the genus *Kalmia*. Mountain laurels (*Kalmia latifolia*) are among the plants that grow wild on the site and there are many old, gnarly specimens dotting the landscape, especially on the rocky slopes of our natural areas. During a good year, these plants put on a floral show that rivals even the best of the azaleas (Fig. 12). Due to the breeding efforts of Richard Jaynes at Broken Arrow Nursery and others, dozens of beautiful varieties have been developed and distributed. Unlike the common white blossoms of the straight species, we now have maroons such as ‘Heart’s Desire’, reds such as ‘Ostbo Red’, and pinks such as ‘Nathan Hale’. There are also split-petaled selections like ‘Shooting Star’ and ‘Galaxy’, dwarf selections like ‘Elf’ and ‘Minuet’, strap-petaled selections like ‘Willowcrest’ and its southern counterpart ‘Willowood’, and even the very unusual variety called ‘Stoplight’ which has bright red buds that never open into flowers. In total, Jenkins main-tains a collection of nearly 300 accessioned *Kalmias* of 44 different taxa, which includes *K. angustifolia* (sheep laurel) and the hybrid of *K. latifolia* × *K. hirsuta* (hairy laurel). Adding to the *Kalmia* collection is a bit more challenging because of limit-ed availability and climate restrictions. Though there are seven species of *Kalmia* in the United States, only three (*K. latifolia*, *K. angustifolia*, and *K. polifolia*) grow in Pennsylvania. Unfort-unately, *K. polifolia* and *K. angustifolia* tend to grow best in the colder, damper regions of the state.

Collections Management

Maintaining any living collection is a neverending endeavor. There are a couple of different ways to think about collection management: a horti-cultural perspective and a curatorial perspec-tive. The horticultural maintenance is the same for all of us; it is the constant challenge of keeping our plants happy, healthy, and looking their best. This, of course, involves pruning to remove dead wood, separating cultivars, shaping the plants, fertilizing as need-ed, watering, weeding, and managing pests. In recent years, managing pests, specifically the maple mealybug (*Phenacoccus aceris*), has been particularly challenging in southeastern Pennsylvania. Several years of increasing mealybug populations, despite annual treatments of horticultural oil and foliar insecticide sprays, took its toll on our aging collection, and we lost several mature specimens, leading to more drastic pest management measures. In 2014, after the blooming period was over, every azalea in Jenkins’ collection was treated with a soil injection of systemic insecticide. It didn’t work. Since then, we have become much more diligent in our scouting and treatments, which now include treating secondary hosts such as maple leaf viburnum (*Viburnum acerifolium*) and spicebush (*Lindera benzoin*), both of which grow in abundance at the Arboretum, and removing those plants where they have grown too close to azaleas. Horticultural oil is our preferred pesticide, with heavily infested specimens also getting a bark application of systemic insecticide – always after blooming has finished. We have also become more diligent in “de-leafing” our plants, that is, pulling the deciduous tree leaves out of the azalea branches, and especially out of the bases of the azaleas in the oak-dominated forest (Fig. 13). We discovered that oak leaves protect the mealybugs and, in some cases, there were so many mealybugs hiding under the leaf litter that flipping over the packed leaves exposed what appeared to be snow! Diligent spraying of those colonies with



Fig. 14. Using the Total Station to map plants in the field.

Type	# of Taxa	# of Accessions	# of Individuals	% of Individuals Native*
Trees	181	1,081	1,578	95%
Shrubs	1,741	2,697	7,689	52%
Vines	19	24	37	84%

Table 2. The 9000 plants that were reassessed and mapped. * We use the term “native” for plants that are indigenous to the eastern United States.

horticultural oil has significantly reduced this pest pressure and our collection has rebounded nicely. Of course though, some damage had been done and many of our plants were left looking stressed and disheveled, leading to their overhaul. So, in 2016, we began rejuvenating most of our collection. Plants that were underperforming, unhealthy, or overgrown were cut back to about six inches (15 cm) from the ground, and a balanced, slow-release fertilizer was applied to what remained. Now, just three years later, the results have been amazing, and our collection looks as good today as it ever has.

Though horticultural management is not necessarily an easy task, it is at least pretty straightforward. The curatorial management, however, requires a bit more planning, preparation, and aesthetic consideration. Decisions about what to plant, and where, require knowledge and understanding about each plant’s bloom time, bloom color, light requirements, moisture requirements, ultimate dimensions and so on, but there’s more. There are so many questions to ask ourselves—“do we keep hybrid groups together? Can we mix large leaf rhododendrons with evergreen azaleas? Do we keep color groups separated? Do we even *need* to plant “those” plants? Will “those” plants thrive? Are they hardy? How do we decide what is best for the collection?” and so on. It can take months, or even years, to make some of these decisions at a place like Jenkins, where space is so limited and the collection so diverse.

Records and Information Management

In the Arboretum’s early years, the plant records database consisted of hand-written ledgers. Later, in the 2000s, these records were entered into a File Maker Pro database, which was a huge improvement, but as the Arboretum’s collections grew, proved to have limited usefulness. A map of the Arboretum, which had been broken into a 50’x50’ (about a 15 m x 15 m) grid, had always been maintained on paper, and the mapping of new plants was done with measuring tapes and approximation. This all changed in 2015 with the installation of BG-Map mapping software and BG-Base database software. These programs allow us to much more efficiently maintain our records and easily locate plants in the field. It was not an easy transition though; it required a professional survey of the Arboretum to re-locate the corners of each of the original 50’x50’ quadrants. It also required a change in how our plants were accessioned as we needed to assign qualifiers to each accession number. It required purchasing professional survey equipment, including a total station, handheld data collector, and all of the accessories (and training) that go along with them. It required that every single tree, shrub, and vine in the garden, all 9000 of them (see Table 2 above), be re-accessioned and re-mapped (Fig. 14). Perhaps most importantly though,



Fig. 15. Aluminum accession labels.



Fig. 16. Sorting and organizing herbaceous plant labels.

it required adding Curatorial Assistant, Nancy Cosmos, to the team. Nancy, a highly detail-oriented former civil engineer, was the perfect fit, and she has played a huge role in completing all of these curatorial tasks.

The modernization of our database and the new mapping procedures required significant changes, but “achieving a high standard of excellence in collections management” as directed by our accreditation, required even more. It is difficult to say that one task was more important than another, but to quote Harold Sweetman, “if you want to successfully enjoy collecting and sharing rhododendrons and azaleas, you need to label, label, label,” and label we did!

The 9000 plants that needed to be re-accessioned and re-mapped also needed to be re-labeled. This step required upgrading an old rotary engraver to a more efficient laser engraver that would be able to produce the new labels, in-house, in a fraction of the time. Now every woody plant in the collection can be identified with its own 1½ by 3-inch (38 x 76 mm) anodized aluminum accession tag that contains important technical information, including its scientific name, common name, family name, hybrid group, accession number, nativity, and location in the garden (alphanumeric code) (Fig. 15).

However, the labeling doesn't stop there. Though we are primarily an arboretum with scientific collections of woody plants, we also maintain tens of thousands of companion plants—various wildflowers, ferns, grasses, and sedges that help round out the “complete plant association” that Mr. Patton suggested nearly 50 years ago. The herbaceous collection is not currently accessioned and managed in the same way as the woody collection, but plants are recorded in a separate database and hundreds of specimens throughout the garden are marked with a larger, staked label (Fig. 16).

The Future is Bright

Jenkins Arboretum & Gardens is blessed to exist in an area with a very long history of botany and horticulture going back to the 1700s when John and William Bartram were exploring America's southern wildlands and starting America's first botanical garden, right here in Philadelphia. Though the Bartrams were pioneers in the field, this appreciation for plants and enthusiasm for gardening became common in the region and as a result, several world-class gardens are now dotted across southeastern Pennsylvania and northern Delaware.

Without this history and appreciation for the natural world, Mr. Jenkins might not have thought to preserve the property as he did. Of course, we are happy he did and today, Jenkins Arboretum & Gardens continues to provide a tranquil escape from the bustling Philadelphia suburbs, being open every day of the year with free admission. Perhaps more importantly, Jenkins has become one of the region's great horticultural and environmental assets, now preserving a total of 48 acres (19.4 ha) of natural woodland and utilizing native plants in the landscape.

The gardens continue to expand and the rhododendron and azalea collections continue to grow. Currently, Jenkins is working on preservation and collections expansion to include some of the best new cultivars of hybrid rhododendrons from east coast hybridizers. Though we do have some, the gorgeous creations developed by Pete Vines (Holly Springs) and Joe Klimavicz are among the evergreen azaleas we hope to add to the collection. The large leaf hybrids developed by Tom Ahern, Joe Minahan, Perc Moser, John Doppel and others, are welcome recent additions, and collections on which we will continue to expand. Personally, my greatest fascination lies with the native azaleas and their various selections. In 2018 alone, we added more than 200 native azaleas (about 1/3 of the total number of deciduous azaleas currently in our collection), with more to come. The future is bright at Jenkins Arboretum & Gardens, and we hope you will be able to visit us this May at the 2019 ARS Spring Convention.

Steven A. Wright is the Director of Horticulture/ Curator of Plant Collections at the Jenkins Arboretum & Gardens in Devon, Pennsylvania, and is a director of the Valley Forge chapter.

Are Bumblebees Important as Pollinators of Rhododendrons?

Ian E. Efford
Duncan, BC,
Canada



General observation suggests that bumblebees may be the prime pollinators of rhododendrons. Is this true and does it apply to all rhododendrons? There has been very little research on this topic and if we are interested in protecting threatened rhododendron species, more research on this intergeneric relationship might be useful, as we do know that these insects themselves have been under threat for years from land clearing, pesticides (see <https://www.npr.org/sections/thesalt/2017/08/14/542895824/popular-pesticides-keep-bumblebees-from-laying-eggs>) and even in the way we garden. For example, in Britain and Ireland where data on bumblebee occurrence is more readily available, there are 25 species of native bumblebees. Three species have already become nationally extinct, five are now designated UK Biodiversity Action Plan species in recognition of their precarious situation, four more are scheduled for inclusion, and 15 have undergone major range contractions (<http://www.bumblebeeconservationtrust.co.uk>). If this is also occurring in areas where native rhododendron species are more common, the question is how essential are bumblebees to rhododendrons in those areas? Endemic bumblebees are found primarily in higher altitudes or latitudes in the Northern Hemisphere, although they are also found in South America where a few lowland tropical species have been identified

Are bumblebees the prime pollinators?

There have not been many studies on what animals actually visit rhododendron flowers although it is generally accepted that the most conspicuous are bumblebees. Stout (2007a,b) has made it quite clear that just because an animal visits a flower, it does not mean that it is pollinating it. Many insects go in and out but in order to pollinate, the animal must be large enough to rub against the flower's anthers and accumulate pollen. Among insects, only bumblebees and wasps did this in her study of *Rhododendron ponticum* in Ireland. The other species visiting were just seeking nectar.

When studying *R. semibarbatum* pollination in Honshu, Japan, by the bumblebees *Bombus bonshuensis* and *B. ardens*, Ono *et al.* (2008) found that the plants were visited by the males of *B. ardens* more frequently than the workers of *B. bonshuensis* and the former species also contributed to more effective seed production. A similar difference in pollination effectiveness was found by Gaku Kudo *et al.* (2011) in studying *R. aureum* in the snow fields of Hokkaido. He found that the emerging queens that visited the flowers early in the season after the snow cleared were far more effective pollinators than the bumblebee workers that emerged later in the season. These studies show that, although bumblebees may well be the prime pollinators of rhododendrons, the actual relationship between these insects and rhododendrons may be complex.



Fig. 1. *Bombus terrestris*.

An Opportunity That Should Not Be Missed.

Australia and New Zealand are a particularly interesting region for studying the relationship between bumblebees and rhododendrons. Excluding the two vireya species that occur in isolated populations in the mountains of Queensland, there are no native bumblebees or rhododendrons in Australasia. Rhododendrons, however, have been introduced into gardens in New Zealand and into the southern temperate regions of Australia, and more recently, bumblebees have been introduced into both countries. In the case of Australia, only one species, the European *B. terrestris* (Fig. 1), has been introduced, but this species occurs only in Tasmania where it has recently become widespread. It is thought that the origin of this introduction was one queen illegally introduced to the island around 1992. On occasion, individual workers have turned up on the mainland, apparently in boxes of raspberries from Tasmania.

With these facts in mind, two questions arise. What animal is pollinating rhododendrons in the absence of bumblebees and where the bees have been introduced, have they again become the main pollinators of the introduced rhododendrons? No focused research has been undertaken to answer either questions but there is some anecdotal information.

New Zealand

New Zealand now has four species of introduced bumblebees, two, *B. subterraneus* and *B. hotorum*, are restricted in their distributions to the areas around Christchurch on the eastern side of the South Island. The other two, *B. terrestris* and *B. ruderatus*, are found throughout both islands. It is thought that these bees were introduced so that they would pollinate clover, but there are also extensive rhododendron gardens throughout the two islands. Unfortunately, there was little information on rhododendron pollination in New Zealand before the introduction of bumblebees and with two of the species now spread throughout the country, we have lost the opportunity to learn there about how pollination occurred before the arrival of bumblebees.

Tasmania

There have been earlier studies in Tasmania, however, that provide some information about pollination in the absence of bumblebees, although bumblebees have now spread throughout the island. Andrew Higston (2006) has led research on the impact of bumblebees on the native flora of Tasmania and he has expressed considerable concern that bumblebees could stimulate the occurrence and range expansion of introduced European plants, and particularly *R. ponticum*, there. The spread of *R. ponticum* in the British Isles and Ireland has caused economic damage, and it is now beginning to spread along the west coast of Tasmania. *R. ponticum* was not recorded as naturalised in the late 1990s in Tasmania but according to Matthew Baker of the Tasmanian Herbarium (Higston 2006), “large numbers of seedlings have recently been seen at several locations in western Tasmania. John Tooth of the Rhododendron Association of Southern Tasmania has also noticed that the percentage of fertilised flowers in tall *Rhododendron* species with non-tubular flowers, such as *R. ponticum*, has increased from approximately 15% to around 85% since the introduction of bumblebees.”

This observation is confirmed by Maurice Kupsch, the Curator of the Emu Valley Rhododendron Garden in Burnie, located in the northwest corner of the island. This area has recently seen the arrival of *B. terrestris* as it migrated from the Hobart area to all corners of the state. He wrote (pers. comm.) that “We find them a bit of a menace really as they are so efficient and pollinate so well that this makes for a lot of seed formation—in the big leaf rhododendrons particularly—which means that the plants should ideally be deadheaded and, as our bushes are now quite large and our volunteer workers are few, you can see the problem.”

The Australian Mainland

The Australian Mainland gives us ample opportunity now to examine rhododendron pollination in the absence of bumblebees, and there are two scientific issues of particular interest. One is the conservation problems that would arise if *B. terrestris* or another bumblebee species was established on the mainland. The very high pollination efficiency of bumblebees on agricultural crops is resulting in considerable pressure from the Australian agricultural industry to allow for the introduction of bumblebees into mainland Australia. This has been resisted to date by the government, however, partly because where this has occurred, they have reduced the availability of nectar, especially in *Eucalyptus*, for certain native bird species, and this change might have a significant, long-term impact on the native fauna and flora of the continent.

Given the absence of bumblebees in mainland Australia, what species are then pollinating the rhododendrons? There are many large rhododendron gardens on the mainland of Australia, particularly in the southeast. Although there is a complete absence of bumblebees there, there is an abundance of the introduced honey bee (*Apis mellifera*), but this species does not seem to pollinate rhododendrons. From my observations on Vancouver Island, BC, Canada, I have rarely seen honey bees visiting rhododendrons, and the usual visitors to these flowers are bumblebees and sometimes wasps. Honey bees are abundant in my garden but their activities are confined to the flowers of other genera such as lavender (*Lavandula*) and *Deutzia* that attract large numbers of both honey bees and bumblebees.

Wattle birds (*Anthochaera*, a genus of birds in the honeyeater family Meliphagidae) seem to be the most likely Australian native bird to be the pollinator, but we lack any systematic studies to determine if they are the principal player or whether another animal group is playing this role.

Thailand and India

In one study in Thailand, Kjellsson *et al.* (1985) have shown that the large flowers of *R. lyi* are pollinated by *B. eximius* (Fig. 2), a large species that is uncommon but widely distributed throughout east and south Asia. Glen Jamieson (pers. comm.), on the other hand, has observed sunbirds (family



Fig. 2. *B. eximius*

Nectariniidae, 132 species in 15 genera; counterparts to two very distantly related groups, the hummingbirds of the Americas and the honeyeaters of Australia) feeding on *R. arboreum* and *wallechii* in Sikkim. In this case, the large size of the beak would suggest that they are seeking nectar but also acting as pollinators.

Vireyas

Vireyas and bumblebees do not overlap geographically in the wild and there is limited observational information on what species are naturally pollinating them but butterflies, moths, bats and birds seem to be the prime candidates (Stevens 2017). It has also been observed that many vireyas are capable of self-pollination. Francis Crome (pers. comm.) has pointed out that in the tropics, many plants are pollinated at night and one cannot draw any definitive conclusions until the role of night flying moths and bats, for example, have been studied. This would apply particularly to the white vireyas.

The Role of Butterflies

I am grateful to Don Hyatt for bring to my attention the excellent research of Mary Jane Epps (Epps *et al.* 2015) on wing fertilization of *R. calendulaceum* by large-winged butterflies. This research shows that the prime insect fertilizing this azalea is a large-winged butterfly and not a bumblebee. The research raises an interesting question: Does this method of fertilization apply to most of the rhododendrons in the *Pentanthera* and *Azaleastrum*? In these groups the stigma tends to extend well beyond the anthers. Both groups seem to occur in warmer climates where large wing butterflies are found. On the other hand, in examining many photos of rhododendrons, I found that the stigma is usually below or level with the anthers in the rest of this genus.

Co-Evolution of Bumblebees and Rhododendrons

Irving and Hebda (1993) have been written about the evolution of the genus *Rhododendron*, but not about the evolutionary relationship of *Rhododendron* and other ericaceous plants such as the heathers, cranberries and similar genera with the genus *Bombus*. There are a number of reasons to believe that that rhododendrons and bumblebees may have co-evolved. Firstly, both groups naturally occur in the Northern Hemisphere in Eurasia and North America but are absent from Africa, India and Australasia and much of the lowland tropics. The exception is that bumblebees occur in the Southern Hemisphere only in South America where there are no rhododendrons. This suggests that bumblebees may have migrated south along the cooler mountain backbone of Central America when the Panama Isthmus closed.

Both genera are circumpolar and occur at high latitudes and high altitudes. In fact, the circumpolar distribution of rhododendrons in the Sub-Arctic suggests that they evolved under those conditions and subsequently spread south, at least in Asia (Irving and Hebda 1993). This colder-climate origin is also suggested by the development of flower buds in the year before flowering, a common feature of Arctic and alpine plants and an adaptation to a short growing season. Evolutionary theory assumes that plants and animals evolved from the simple to the more complex. Many of the rhododendrons of colder latitudes and higher altitudes have small, simple flowers. One can imagine that they could, over time, evolve into some of the larger rhododendron flowers of the milder climate forests on the southern slopes of the Himalayas.

Bumblebees have a considerable advantage over other pollinators in cold climates as they are one of the few insects that can significantly raise their body temperatures almost to that of humans. Active bumblebees have a thorax temperature



Bombus polaris in Taiwan.

of 35° C (95° F). This means that they can function when the outside temperature does not rise much above 5° C (41° F) during the day. After a very cold night, they will be closer to ambient temperature but as soon as day breaks, they can disconnect their wings, vibrate their wing muscles to generate a high thoracic temperature (King and Buchmann 1995) and then be off to visit flowers to obtain the necessary nectar to maintain their body temperature and, in doing so, pollinate the flowers. They can also apparently use this mechanism to open closed pollen sacs in some plants by producing high frequency pressure waves. To aid in maintaining this temperature, bumblebees living in sub-Arctic or alpine habitats are covered in body “hair”. The corollary of this is that in warmer climates they tend to have

fewer body hairs and in hot climates, they cannot survive as they have a maximum temperature tolerance of 44° C (111° F). This correlates with their absence in the natural distribution of vireyas throughout tropical SE Asia, as although vireyas occur in the cooler elevations on mountains, bumblebees cannot occur in or transit the tropical areas between the cooler mountain habitats.

A Need for Untidy Gardens

The information described above is based on scientific studies but regardless, there is an important conservation role for gardeners in protecting bumblebees and the general biodiversity in our gardens. The last few decades have seen a steady trend to “sterilize” our gardens. This has involved heavy, continuous use of pesticides and fine homogenous shredded bark mulch in an effort to reduce disease in our favourite plants and reduce the need to fight back the weeds. I should point out that a thick layer of course mulch consisting of ground up branches, twigs and leaves can make a suitable bee habitat, so some mulches are alright. A well-tended fine mulched garden beds may look great, but the habitats for many beneficial insects and other animals can be enhanced by leaving some areas looking a bit more “untidy” and pesticide free. To a large extent, bumblebees establish their small nests in the ground and prefer a dry friable substrate, such as occurs in compost piles or in mouse holes. Others will build their nests at the base of a hedge or in an old wood pile. This does not mean that these features should be part of the rhododendron beds themselves but rather ideally be present somewhere in a garden. If tree branches fall, rather than clear them all away, shred or pile some up in a corner where they are out of the way so they can act as cover and/or nest sites for insects and other animals such as toads and snakes, both of which are lovers of slugs and snails and which will help to protect your garden plants.

Sometimes one can find small bumblebee nests when digging in loose debris and care should be taken to cover the nest up right away so that the queen and larvae are not killed. This is particularly important in the fall so over-wintering beneficial insects are not killed (see <https://savvygardening.com/6-reasons-not-to-clean-up-your-garden-this-fall/>)

If you wish to do a little more to encourage the presence of bumblebees, build or purchase small nest boxes and secrete them in protected areas near the ground (see <http://www.bumblebee.org/nestboxes.htm>). Another way to encourage bumblebees would be to plant other flowering plants that are attractive to these bees and extend the food season outside the flowering time for rhododendrons. There are many published lists recommending such plants for each district. (see <https://www.fs.fed.us/wildflowers/pollinators/animals/bees.shtml>, <http://beefriendly.ca/25-plants-for-bees-in-your-garden/> or https://www.wildflower.org/collections/collection.php?collection=xerces_bumble). I have personally found that lavender is a major attraction. It flowers throughout the summer and during hot weather is completely covered with feeding bumblebees. We need to learn more about the role that bumblebees play in the lives of rhododendrons and hopefully, better adjust our gardening practices to encourage their survival.

Conclusion

Our enthusiasm for the plants in the genus *Rhododendron* should extend to the study of the organisms that this genus depends on or helps in their survival. For example, each year, rhododendron experts visit different areas of Asia to study the genus in the wild, but sometimes there are also bumblebee experts travelling in the same regions. A joint expedition where both plants, especially rhododendrons, and their pollinators can be identified by experts would allow us to learn a lot more about the ecology of rhododendrons. Questions that might be answered sooner are what is pollinating the very large flowers of *Maddenia*, and what are the pollinators of unusual rhododendron flowers such as those of *R. spinuliformum*? In the warmer areas where bumblebees do not occur, is the pollination of vireyas taken over by nectar feeding birds, moths, or other specialized insects with very long tongues?

Another area of research that would be of interest is the relative importance of flower colour in rhododendrons in determining the quality of nectar and pollen they provide to pollinators. Recently, it has been shown that in dahlias, both vary with colour of the flower, as does the attractiveness of flowers of different colours to bumblebees (Blooms for Bees 2017).

Rhododendrons are a fantastic genus to grow and admire, but they are not the only organisms in a garden. A broader biodiversity approach to gardening might give us more insight into the lives of both plants and animals in our gardens and result in greater understanding and enjoyment, especially in our efforts to protect endangered species, whatever they are.

Further information

For the average gardener who wishes to learn a little more about bumblebees, the paperback “A Sting in the Tale: My Adventures with Bumblebees” (Goulson 2014) is a very readable overview of the life history of bumblebees and their ecological and economic importance. It also deals with some of the conservation problems and difficulties. Although written in Britain, it does cover many issues of international importance.

To identify American bumblebees in your garden, “Bumble Bees of North America” (Williams *et al.* 2014) is informative, well-illustrated and contains maps of the distribution of each of the 46 species north of Mexico. It contains keys that will help to identify individual species. Lists of local species are very useful in reducing the choices one needs to make in the process of identification. There are usually local charts with coloured illustration of the species and also sources on the web with additional illustrations.

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Getting to Grips with Azaleas

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(Modified from the 2018 Dunedin Rhododendron Group Bulletin 46)

Most gardeners instinctively “know” an azalea when they see one. What they may not realise is the extraordinary complexity of the breeding of the azaleas we grow today. This article is an attempt to come to grips with some of the many “families” of hybrid azaleas.

What are Azaleas?

The very short answer is that they are rhododendrons, but that they have sometimes not been!

Taxonomists are scientists who study physical, chemical and genetic features of plants with a view to classifying them into their ‘correct’ place in the plant “family tree”, ideally reflecting how each group has evolved from earlier ones. Linnaeus created the *Rhododendron* genus in his book “Species Plantarum” in 1753 but placed six species in a separate genus (family) called *Azalea*. That name comes from a Greek word meaning “dry”, seemingly because they tend to grow in well-drained situations. However, in 1834 the taxonomist George Don moved azaleas under the rhododendron umbrella, where, despite the eruption of occasional controversies, they remain today, as part of the wider heath (Ericaceae) family.

Gardeners view azaleas as consisting of two kinds: deciduous and evergreen. As a class, they are valued for such things as:

1. embracing a wide range of hardiness (tolerance of varying extremes of heat, cold and drought),
2. being relatively slow growing,
3. being easy to transplant successfully,
4. being readily pruned (or clipped for hedging),
5. often (especially the evergreen varieties) being amenable to container/pot culture, and
6. embracing a wide variety of forms, colours and flower sizes.

Deciduous azaleas are appreciated for their densely “twiggy” branch patterns, their colourful autumn foliage, their vibrant flower colours, and, often, for their fragrance.

Evergreen “Japanese” azaleas can perform well in hotter, drier climates and flower over a long period, and they retain at least some foliage throughout the year, on low to medium height bushes. The flowers come in “hot” colours (but not yellow) as well as pinks and whites. They need light shade in hot climates but full sun in cooler places.

Currently there are at least 70 species of azalea, about 20 being deciduous, mostly native to North America, and more than 50 evergreens, all of which come from east Asia, generally from Japan, China, Korea and Taiwan. There are no southern hemisphere azalea species. The species are grouped into a small number of subgenera and more finely into various sections and subsections. New Zealanders Dr. M.N. Philipson and Professor W.R. Philipson contributed their substantial taxonomic research to the ongoing work of classification, the details of which are still to be settled. Species, often quite rare, are still being discovered, some from countries such as Vietnam and the Philippines.

There is no simple “acid test” for deciding whether a rhododendron is in fact an azalea, but there are various characteristics that can guide the curious.

Flowers

A typical azalea flower (but flowers may vary, even on the one plant!) is funnel-shaped (rhododendron flowers tend to be bell-shaped) with five petals in a “butterfly” pattern—one lobe at the top, one on either side below the top, and further down, one on either side, often quite close together. There are usually only five, often quite prominent, stamens; most rhododendrons have ten. The flowers are sometimes double (very unusual in other families of rhododendron) or even more complex (where the stamens have turned into petals).

Flowers come from buds at the tips of branches and each tip may have one, two or three buds, each producing one flower or a cluster of as many as 30 flowers (this can vary greatly, even within one species). Evergreen azaleas have a range of flowering

times, and with the appropriate choice of plants, some can be in flower for almost the whole year, with the exception of late summer. Flowers may be of a single colour or may be striped, speckled, blotched, flecked or otherwise varied. Fragrance is most common among the deciduous North American species, such as *R. occidentale* and *R. arborescens*, and the European *R. luteum*.

Leaves

The evergreen azaleas, which are all native to east Asia, typically have small leaves, about 2.5 to five cm (one to two in) long. However, their leaves are actually partly evergreen and partly deciduous (the technical term is “dimorphic”). New leaves appear in spring, at or just after flowering, but they turn yellow and drop off in autumn. New leaves also appear in summer, at the tips of the branches, and these may remain for several years before falling off in spring. Summer leaves are smaller, thicker, darker, and more leathery than spring leaves, although these behaviours can vary depending on the climate.

Deciduous azaleas, most of which come from the eastern USA, have leaves which are typically 7.5 to 10 cm (three to four in) long.

Some leaves have a fragrance, and, for example, those of *R. molle* subsp. *molle* and *R. molle* subsp. *japonicum* and their hybrids give off a strong scent in hot weather.

A History of Azalea Hybrids

Introduction

The Japanese have been hybridising their native azalea species for many hundreds of years, growing them both in gardens and as bonsai. The deciduous American *R. viscosum* was first grown from seed in England in 1680 and that same year the evergreen *R. indicum*, from Japan, was introduced to Holland. The deciduous azaleas *R. periclymenoides* and *R. calendulaceum* arrived in England in the 18th century, while the “Chinese azalea” *R. molle* subsp. *molle* was introduced in 1823. *R. molle* subsp. *japonicum* (mentioned in a Japanese book of 1488!) reached Europe in 1830. Seed of *R. occidentale*, collected in California, first flowered in England in 1857 and was a major contributor, through its large fragrant flowers, to the Exbury and Knap Hill hybrids. Evergreen azaleas from China and Japan reached Europe by the mid-1800s. European nurserymen and gardeners initially assumed that all these early arrivals required cossetting in greenhouses.

In the West, azaleas were among the first plant species to be used in hybridising. Individual hybridisers had their own



‘Narcissiflora’ – a Ghent hybrid. Photo: Danny M. Schissler.



‘Brazil’ – a Knap Hill Hybrid. Photo: Danny M. Schissler.



'Exquisitum' – an *R. occidentale* hybrid. Photo: Blue Mountain Nurseries.



'Persil' – a Mollis hybrid. Photo: A. Barra.

breeding aims and the resulting “races” of hybrids acquired generic names, usually derived from their place of origin, such as Ghent in Belgium; the nursery or estate, like Ilam, Knap Hill or Exbury; or the breeder, such as Gable.

There are now perhaps 10,000 named azalea hybrids. That they have been bred from probably only 27 parent species gives a hint as to the complexity of many of the breeding programmes. New Zealand has tended to source its azaleas from Britain and Europe, so although there have been many more breeders in the USA, most of the names of their groups of hybrids are unfamiliar in New Zealand, and so will not be dealt with in any detail in this article.

Deciduous Hybrids

The early Belgian, Dutch and English breeders had access to only a few of the North American species, plus *R. molle* subsp. *japonicum*. In recent years, more superior forms have become available, giving scope for even better hybrids in the future.

- *R. luteum* was introduced to England in 1793 from eastern Europe. A densely branched shrub growing to three to 3.5 m (ten to twelve ft) high with fragrant yellow flowers, it was important in the development of the Ghent Hybrids.
- *R. occidentale*, the only American azalea species growing west of the Rockies, reached the Veitch Nursery in England about 1850 in the form of seeds. Much used in hybridising and valued as a seed parent, the species is a shrub up to three m (ten ft) high with fragrant flowers which may be white, yellow, or orange-pink through to red.
- *R. calendulaceum* from the Appalachian Mountains, grows to 3.5 m (twelve ft) and has large flowers which may be yellow, orange or red but lack fragrance. Important in the breeding of Ghent Hybrids, it was in England by at least 1800.
- *R. arborescens* reached England from the eastern USA about 1810. In the wild it grows to 4.5 m (15 ft) or more, producing late-in-the-season white flowers with a pink and yellow blotch, which possess a strong heliotrope scent.
- *R. periclymenoides* (syn. *R. nudiflorum*) was sent to England about 1734 from the eastern USA. It reaches one to 2.5 m (three to eight ft) with small, lightly fragrant flowers, sometimes partly double, in white, pale to deep pink, through to purplish-pink. It is very cold hardy.
- *R. viscosum* also comes from eastern USA, where it grows from one to 4.5 m (three to 15 ft) high, having small white or light pink flowers with a spicy fragrance. It reached England in 1680.
- *R. molle* subsp. *japonicum* reached Europe from Japan in 1830. In Japan it grows 1.5 to 2 m (five to eight ft) high, with upright stems, bearing large flowers in yellow, yellow-orange, reddish-orange, or red. Breeders value it for the hardiness it confers on its progeny.
- *R. molle* subsp. *molle* (which reached Europe from China in 1823) is similar in size to *R. molle* subsp. *japonicum* but has large yellow flowers with green spots. The two species were important in producing Mollis Hybrids.

Ghent Hybrids

Ghent, in Belgium, was the centre of European azalea breeding from the early 1800s. A Ghent baker, P. Mortier, crossed *R. calendulaceum* with *R. periclymenoides* to produce what were known as Mortier Hybrids, which were later exported to England. About 1820, J.R. Gowen in England produced the Ornatum Hybrids by crossing *R. viscosum* with *R. luteum*.

Meanwhile, another Ghent breeder, M.L. Verschaffelt, crossed Mortier and Ornatum Hybrids with *R. luteum*, *R. viscosum* and other species. Anthony Waterer Sr. did similar work in England. All of the hybrids produced by these efforts are now collectively known as the hardy Ghent Hybrids, and by 1850 there were over 500 named Ghent Hybrids. They are tall, upright shrubs (1.8 to three m (six to ten ft) high by 1.8 to 2.5 m (six to eight ft) wide), very tolerant of cold conditions, flowering mid to late season. The flowers are 3.8 cm to 5.7 cm (1.5 to 2.25 in) across, often fragrant, in off-white to pale yellow to purplish red. However, Ghent azaleas sometimes have their flowers, which are comparatively small, hidden among the leaves. The Double Ghent Hybrids were produced from about 1860 onwards, based on a Mortier Hybrid which had double flowers.

Mollis Hybrids

Although these plants are derived from *R. molle* subsp. *japonicum*, with possibly some use also of *R. viscosum*, the name “Mollis” comes, confusingly, from the earlier name used for the species (*Azalea molle*). The group includes selected forms and crosses of *R. molle* subsp. *japonicum*, first raised at Ghent from seeds grown in Holland in 1861. In the 1880s, *R. molle* subsp. *molle* was added to the breeding programmes in Belgium and Holland. The resulting flowers, generally larger than Ghents, at 5 to 6 cm (two to 2.4 in) across, some of them fragrant, are pale yellow to rose, pink, orange, and reddish-orange. The plants are upright shrubs, up to 2.4 m (six ft) high by 1.8 m (7.5 ft) wide. They are not as cold hardy as the Ghents, flowering a little early, which makes them susceptible to spring frosts, and also have little scent or autumn leaf colour. New Mollis hybrids continue to be developed, and their relative resistance to heat is being used in crosses with North American plants to develop hybrids better suited to hotter climates.

Occidentale Hybrids

About 1870 Anthony Waterer Sr. (of Knap Hill Nursery) crossed *R. occidentale* with *R. molle* subsp. *molle* and later with Mollis hybrids. In *R. occidentale*, he found more scent, well-developed flower presentation, a longer flowering period, and bright autumn foliage colour. The resulting plants usually grow to 2.4 to three m (eight to ten ft) high, with large fragrant flowers five to 7.5 cm (two to three in) across, in light colours with a yellow blotch.



'Ilam Yellow'. Photo: Blue Mountain Nurseries.



'Nicholas de Rothschild'. Photo: Blue Mountain Nurseries.

Knap Hill Hybrids

From 1870, the Waterers also aimed to improve Ghent Hybrids by crossing them with *R. molle* subsp. *molle* and other species. The resulting seedlings had large, late-blooming flowers in a wide variety of rich colours and of good substance. Most were not released for sale, but in the 1920s were acquired by other nurseries, such as Slocock, Badshot, and Sunningdale in England, and breeders, including Lionel de Rothschild of Exbury Estate, Edgar Stead at Ilam, Christchurch, New Zealand, and Sir Eric Savill at Windsor Great Park.

There are now five recognised subgroups of Knap Hill Hybrids: Knap Hill, Slocock, Exbury, Ilam and Windsor. The plants are typically medium to large shrubs, 1.2 to 3 m (four to ten ft) high by 1.2 to 1.8 m (four to six ft) across, with excellent autumn leaf colours. The flowers, usually fragrant, are large, five to 7.5 cm (two to three in) across, some of them being double. Trusses are often very large (18 to 30 flowers per truss). Colours range from near white to yellow,



orange, pink to vivid red. They appear mid to late mid-season. 'Melford Flame'. Photo: Blue Mountain Nurseries.

The Exbury Hybrids have been developed since the 1920s, many of them having been named, although they have also been sold in large quantities as seedlings, by colour. Lionel de Rothschild began with the acquisition in 1920 of a batch of Knap Hill Hybrids from Anthony Waterer Jr. Until then, the Waterers had shared few of their azaleas with anyone. The batch included a pink and yellow flowered plant named 'George Reynolds'; Rothschild used it as a parent in a great many crosses. His breeding objective was to develop azaleas with clearer, more intense flower colour and better trusses. In 1924, Rothschild's first group of hybrids flowered but he felt these could be improved further. These were again crossed and the next generation of plants began flowering in 1930.

The Windsor Hybrids were produced from the 1930s, using plants from Exbury as seed and pollen parents, selecting for clarity of colour, large flowers and trusses, and good habits of growth.

In about 1917, Edgar Stead of Ilam, Christchurch, NZ, was sent seed of three forms (yellow, orange and a rich orange) of *R. calendulaceum* by Professor Sargent of the Arnold Arboretum, Boston, USA. *R. calendulaceum* tends to produce flowers that are resistant to wilting in hot weather. He crossed some resulting plants with some Knap Hill Hybrids which he purchased in 1925. The progeny had mostly orange or yellow flowers with a very sweet scent. He then crossed the Knap Hill plants with his own hybrids (which rarely set any seed), derived from *R. calendulaceum*, *R. viscosum*, and *R. molle* subsp. *molle*, with the aim of producing self-sterile plants, as these would put their energy into buds and flowers rather than seed pods. In 1930, on a visit to England, he made some crosses at Exbury, and Lionel de Rothschild sent him the resulting seed. When these flowered, Stead crossed them with Knap Hill Hybrids, also involving a large-flowered Mollis hybrid, following the Waterers' plan of crossing similar colours. He then selected a resulting plant which had more flowers per truss (12) than the Knap Hill parents and used it to develop plants with good-sized flowers, new colours, larger trusses, and (in the lighter colours only) fragrance. In recent years, significant numbers of Ilam Hybrids have been named and registered, with the prefix 'Ilam Galaxy ...'.

Dr John Yeates, of Palmerston North, NZ, built on Stead's work, using Ilam hybrids as well as Exbury hybrids. He used the name 'Melford ...' (his property was on Long Melford Road) as a prefix when naming selected plants but they are generally regarded as forming part of the Ilam Hybrid group.

Numerous North American breeders have done similar work with Knap Hill and Exbury Hybrids, and for details, consult Fred Galle's (1985) book "Azaleas."

Blue Mountain Azaleas

In the mid-1960s, Denis Hughes of Tapanui, NZ, imported some double-flowered Ghent Hybrids from England. After their first (shortened) growth period, one plant produced a truss with only single flowers and was therefore fertile. Thus, he was able to cross it with a large-flowered (single) Ilam hybrid. The resulting seed produced 300 seedlings, of which 162 were doubles. One, registered as 'Pavlova', has double, scented, medium-size white flowers and is mildew resistant, with good autumn foliage. Another seedling proved to be fertile and readily set seed, so was used in crosses with pollen from a wide range of Ilam Hybrids, resulting in over 10,000 seedlings, many of which were doubles. About a dozen of these were selected for mildew resistance, large and scented double flowers, autumn foliage colour, large trusses and compact growth. These include 'Caroline de Rothschild', 'Nicholas de Rothschild' and the large-flowered, scented 'Pink Chiffon' and 'Soft Lights'.

Evergreen Hybrids

Evergreen azaleas were first described in 1681 in a Japanese book that covered 15 species and 317 "varieties." Apart from *R. kiusianum*, the Japanese place their evergreen azaleas in two groups: the early flowering Tsutsuji and the Satsuki, which flower about one month later. The latter group includes *R. indicum*, *R. tamurae* and their hybrids.

All the early introductions to the West, including Robert Fortune's introduction of *R. obtusum* to England in 1844 from China, *R. simsii*, *R. indicum* and their hybrids, were known, curiously, as "Indian Hybrids." In the mid to late 1800s, they were popular as potted indoor or greenhouse plants. They were also popular in the southern USA from about 1858. Further breeding gave rise to a group known as Belgian Indian Hybrids.

The best-known evergreen azaleas are the Kurume Hybrids, the result of several centuries of breeding using species local to Kurume, Japan (probably *R. kiusianum* and *R. sataense*). Introduced to England by the mid-1800s, they became better known after 1919, when E.H. Wilson sent his selection, known as the "Wilson's Fifty", to the Arnold Arboretum, USA. Kurume Hybrids are dense, upright plants growing 1.8 to 3.6 m (six to twelve ft). Their flowers, mostly single, are small (1.3 to 3.8 cm (0.5 to 1.5 in) across), ranging from white, through pink and red to purple. They struggle to cope with English winters but hardier plants are being developed in Europe.

Kaempferi Azaleas, derived in part from the cold-hardy Japanese species *R. kaempferi*, which reached the West in the 1890s, were initially developed in Holland during World War I and then by many USA breeders and also in England, including at Exbury. The original hybrids were medium to tall shrubs (1.2 to three m, four to ten ft), hardier than Kurumes, with flowers 3.8 to 6.4 cm (1.5 to 2.5 in) wide in pink through to reds and purples. The leaves often offer good autumn and winter colour.

Satsuki Hybrids are highly prized in Japan for landscape use (usually trimmed to resemble rocks, or for hedging) and as bonsai specimens. They derive from age-old hybrids of *R. indicum* and *R. tamurae*. They flower relatively late in the season. Flowers, generally single, range between 3.5 and 7.5 cm (1.5 to three inches) across and from white to pink, red, reddish orange and purple, often with stripes, flecks or picotee effects. Plant habit can vary, although most are slow-growing compact dwarfs, while some can reach 1.5 m (five ft) or so. The leaves are variable, but are typically about 2.5 cm (one in) long. The plants are not as cold hardy as Kurume Hybrids. Further breeding has been carried out in the West, especially the USA.

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Alan Edwards is Editor, Dunedin Rhododendron Group Bulletin, and is a long-time member of that Group.

* (Please note that references to page numbers for articles appearing in the Journal American Rhododendron Society refer to the printed copy and not online versions starting with Vol. 66(4).)

Bronze Medal Awards

North Island: Antje Guertler

It was with great pleasure that President Maureen Denny presented the American Rhododendron Society Bronze Medal to Antje Guertler on December 11th, 2018. The ARS Bronze Medal is awarded for outstanding contributions to a chapter and is the highest commendation awarded by a local chapter in the society.

Antje, with late husband Peter, supported the North Island Rhododendron Society even before they joined the club in 2006. We were introduced to these avid and very skilled gardeners when they agreed to have their beautiful property on our annual Mother's Day Garden Tour. Their knowledge of soil development, plant care, pruning, and design are evident in the overall health and beauty of their colourful and multi-roomed garden. Over the years they have allowed their special place to be on tour many times, to the delight of our members and the tour-going public.

As active members of the NIRS, Antje and Peter participated fully in all our club events. They worked at the Rhodo Sale each year, bringing their down-to-business attitude and smiling enthusiasm to any task given to them. When not hosting a tour of their own garden, they loved to attend the open gardens both locally and throughout District One. As part of club tours, as well as on their own, they travelled to our 'sister' Chapter on Whidbey Island in Washington State, enjoying the gardens and hospitality of our southern neighbours. Their interest in Rhododendrons and garden development led them to attend a number of ARS conventions both here and abroad, making friends with members throughout the Society. Following one of the conventions that took place primarily in Germany, the Guertlers were encouraged to share their experience and made a wonderful presentation to the club at our chapter meeting. In addition to their general support, they have always been exceedingly generous with their now legendary baking. A highlight of our meetings was to see the Guertlers arrive, typically holding some delicious cake or torte to share with the members.

Antje is modest and efficient, typically working quietly in the background. She has exceptional organizational skills and, in 2017, Antje agreed to chair the NIRS Social Committee. Managing supplies, keeping things in order, and getting any job done well are a fundamental part of her makeup. The club can rely on Antje and her team to ensure that the social aspect of any function runs smoothly.

Interested in all aspects of gardening, Antje joined the NIRS Propagation Group. From the beginning, and over the years, she has assumed more responsibility for the practical aspects of its success. She has been a regular and dependable part of the plant-care maintenance team, spending many hours making sure our developing plants are doing well.

We thank Antje for her many contributions to the club and congratulate her on being awarded the ARS Bronze Medal by the North Island Rhododendron Society.

North Island: Robert Argall

It was with great pleasure that President Judi Murakami presented the American Rhododendron Society Bronze Medal to Robert Argall on June 16, 2018. The ARS Bronze Medal is awarded for outstanding contributions to a chapter and is the highest commendation awarded by a local chapter in the Society.

Robert joined the North Island Rhododendron Society in November 1997 and was Vice President of the chapter for the 2004-2005 term. Robert has hosted countless tours of his garden estate, welcoming fellow North Island club members, visiting ARS Chapter members, as well as groups and individuals from the general public. Our annual NIRS picnic has been held in Robert's beautiful property on a number of occasions, and the garden has been a highlight of our fundraising Garden Tour many times over the years. Each year Robert invites the whole of the NIRS membership to his garden for a glorious 'Tour and Tea' which usually marks the beginning of our spring season.

Robert has a large collection of rhododendrons and is always generous in sharing his knowledge. People both new to the genus rhododendron and gardeners who have grown them for many years have been inspired by Robert's rhododendron collection and the artistic placement of them as part of the overall garden design.

Robert has a particular interest in spring bulbs as companions to rhododendrons. As the main speaker at our Chapter meetings on a number of occasions, he has motivated others to extend the rhodo season with spring bulb colour. He has also written articles for our club newsletter, provided short educational presentations over the years, and brought many interesting blooms for the 'Show and Tell' portion of our meetings. Robert is always willing to share his love for gardening and, in particular, his interest in the species rhododendron.

It is with great pleasure that we thank Robert for his contributions to the club and congratulate him on being awarded the ARS Bronze Medal by the North Island Rhododendron Society.

North Island: Frances Thornton

It was with great pleasure that President Maureen Denny presented the American Rhododendron Society Bronze Medal to Frances Thornton on September 11, 2018. The ARS Bronze Medal is awarded for outstanding contributions to a Chapter and is the highest commendation awarded by a local Chapter in the Society.

Fran joined the North Island Rhododendron Society in 2004 and has been an active member and volunteer throughout this time. Fran is a regular at our monthly meetings and participates in the majority of our social functions and tours. Cheerful, warm and welcoming, Fran has always been available to act as a 'gate sitter' at our Annual Mother's Day Garden Tour and to volunteer at our Rhodo Sale and Truss Display each spring. Fran has been an integral part of the core of volunteers working at, and for many years helping to coordinate, the NIRS table at the Sale.

Elected as a Director in 2014, Fran served a four year term heading the Revenue Table at our monthly meetings. With her subtle sense of humour, Fran highlighted the items for sale and was always very successful at 'moving the merchandise'! Fran's broad knowledge of plants, and her love of rhododendrons, has enabled her to be a great support to the club. We thank Fran for her contributions and congratulate her on being awarded the ARS Bronze Medal by the North Island Rhododendron Society.

Bronze Medals - Cont.

Vancouver: Kirsten Martin

You have been a most generous and effective contributor to our society. You have served as president and carried out many other essential tasks to keep the wheels of our society well-oiled and running smoothly. Simply put, you have significantly contributed to the enjoyment of membership within our society.

Through your family nursery you have provided floral beauty to our monthly meetings with plant offerings at our display and raffle tables. The society has come to rely on you as the source of most of the plant stock for its annual plant sale, always a great success both financially and in the promotion of our society. You have generously invited us to your home for spring picnics, one of our annual highlights. Most importantly, your enthusiasm, energy and cheerfulness are an inspiration to us all.

For your outstanding contributions, the Vancouver Rhododendron Society, a chapter of the A.R.S., is honoured to bestow on you our highest award, the Bronze Medal.

The Fall ARS Conference in Parksville on Vancouver Island, British Columbia

Marilyn Dawson, Qualicum Beach, British Columbia, Canada

In recent issues of JARS, readers may have noticed several references to the various charms of Vancouver Island. Now, instead of reading about it, rhodophiles have an excuse to see the island for themselves as the Mount Arrowsmith Rhododendron Society (MARS) hosts the 2019 ARS regional fall conference titled "Rhododendrons by the Seaside," on Sept. 27-29, 2019, at the Parksville Conference and Community Centre.

Parksville and Qualicum Beach are two small communities situated about 75 miles (120 km) north of BC's capital city, Victoria, at the southern tip of the island and the site of three previous ARS spring conventions. The nearest main airport city to Parksville is Nanaimo, home of the Nanaimo Rhododendron Society and perhaps the better-known delicious Nanaimo bar, but there are also many ferries to the island.

Attending an ARS conference is a good reason to visit Vancouver Island. The weather in late September is still mild and MARS has lined up a varied group of speakers around the theme "Rhododendrons as the World Warms," including Marc Colombel of France. Two banquets, hands-on workshops and garden tours will round out the weekend, with one of the tours at Milner Gardens and Woodland where Steve Hootman, executive director of the Rhododendron Species Botanical Garden in Federal Way, WA, will lead visitors through both the main garden and the recently opened Greig Rhododendron Species Garden.

Mid-Vancouver Island, with its background of mountains and scenic water vistas, is for many a year-round destination for all ages. For those who plan to extend their visit, stays on beaches on both coasts can be a relaxing experience. The West Coast of the island, the wettest part of Canada, has many fjords, islands, walking trails and hidden beaches, and it is not uncommon to see sea lions, sea otters and gray whales, all feeding close to shore.

On the East Coast of the island, the warmer waters of Georgia Strait, now part of the Salish Sea, are both warmer and calmer. This part of the island is much drier and is where most island residents live, and is ideally suited to gardening and wine making. With the mildest winter weather in Canada, the area has developed into an affordable, active retirement community for many, with wide-ranging activities available, such as year-round golf, hiking, boating and fishing. For the shopper, boutiques abound, and the area is a magnet for artists of all kinds, with glass-blowers, metal workers, jewelry makers, potters and painters working in a variety of media.

Ten minutes to the west of Parksville is the village of Coombs, known to locals for its great Italian restaurant and being a funky place to shop, but for tourists, it's often remembered as the place with "goats on the roof." In good weather, goats graze on the sod roof of the general store, which by the way is well worth a visit for its wide collection of international foods and unusual items.

There are also many other attractions in the immediate area—Cathedral Grove's old growth Douglas-fir forest, oyster farms, a wildlife recovery centre and refuge, art galleries, and even a renowned paleontology museum in Qualicum Beach.

While the conference itself is in the Parksville Community and Conference Centre, there are motels, hotels, B&Bs and campgrounds nearby to suit most wallets. Many are nearby on the beach, about a 15-minute walk away. What's important to note is that September is still a busy time for tourists, as with children back at school, the shoulder season is when adults often prefer to holiday. It's thus wise to book your accommodation early. We hope you will come and see us, as we have prepared a special weekend for all our rhodo friends! 2019 is also the 30th anniversary of the Mount Arrowsmith Rhododendron Society. Please come and help us celebrate!

Rhododendrons for Beginners: Subsection *Taliensia* in the *Rhododendron* subgenus *Hymenanthus*

Glen Jamieson
Parksville, BC,
Canada

Photos are from
Hirsutum.info
unless noted.



Rhododendron subgenus *Hymenanthus* is a subgenus of the genus *Rhododendron*, with a widespread distribution in the temperate Northern Hemisphere. They are elepidotes (without scales) and the subgenus includes two sections, section *Ponticum*, divided into 24 subsections and about 180 species, and since 2005 section *Pentanthera*. The species in section *Ponticum* are evergreen shrubs and small to medium-sized trees (up to 20 m tall), with medium-sized to large leaves (very large, over 40 cm long, in a few species). The flowers are large, produced in terminal trusses of 5-40 together. Plants in this section are the plants that most people think of when they hear the word rhododendrons, and they are widely planted in temperate climate gardens.

In a previous article, I discussed the general characteristics and taxonomic relationships of species of deciduous azaleas in subgenus *Hymenanthus*, section *Pentanthera* (Jamieson 2018). In this article, I present the species in section *Ponticum*, subsection *Taliensia*, one of its subsections with the most species (at least 49). Species of *Taliensia* grow in the wild at higher elevations in the Himalayas and are cold hardy, dislike hot summers and high soil nitrogen, and require good drainage (Cox and Cox 1997). They are generally long-lived, slow growing and have fine foliage, but may take many years to begin flowering. When trekking at elevation in Sikkim, India, with Steve Hootman in 2015, we hiked through huge swaths of the flowering *Taliensia* species *R. wightii* as the dominant shrub just above the tree line (Fig. 1), which put on a spectacular display in the mist with sunbirds (Nectariniidae) feeding on its flowers!

Section *Ponticum* (24 subsections, about 304 species (McQuire and Robinson 2009))

- | | |
|---|---|
| 1. <i>Arborea</i> (12 species) | 19. <i>Sheriffii</i> (3 species) |
| 2. <i>Argyrophylla</i> (20 species) | 20. <i>Taliensia</i> (49 species) |
| 3. <i>Auriculata</i> (2 species) | 21. <i>Thomsonia</i> (15 species) |
| 4. <i>Barbata</i> (6 species) | 22. <i>Williamsiana</i> (one species, <i>R. williamsianum</i>) |
| 5. <i>Campanulata</i> (4 species) | |
| 6. <i>Campylocarpa</i> (7 species) | |
| 7. <i>Falconera</i> (14 species) | |
| 8. <i>Fortunea</i> (27 species) | |
| 9. <i>Fulgensia</i> (1 species, <i>R. fulgens</i>) | |
| 10. <i>Fulva</i> (4 species) | |
| 11. <i>Glischra</i> (11 species) | |
| 12. <i>Grandia</i> (15 species) | |
| 13. <i>Griersoniana</i> (one species, <i>R. griersonianum</i>) | |
| 14. <i>Irrorata</i> (16 species) <i>Lanata</i> (6 species) | |
| 15. <i>Maculifera</i> (14 species) | |
| 16. <i>Neriiflora</i> (44 species) <i>Parishia</i> (5 species) | |
| 17. <i>Pontica</i> (19 species) | |
| 18. <i>Selensia</i> (8 species) | |



R. wightii near the treeline in Sikkim, India. Photo: Glen Jamieson.

Section *Pentanthera* (2 subsections)

1. *Pentanthera* (18 species)
2. *Sinensia* (one species: *R. molle*)

Warren Berg (1994) stated “The *Taliensia* subsection is a large, complex group of plants, with uncertain relationships. With the addition of the former *Lacteum* series and 13 new species, it is even more obscured [there are now about 49 species]. Horticulturally speaking, these species include some of the most beautiful plants in the genus. Many have outstanding foliage, with variations of indumentum and tomentum to enhance their charm, as well as many other fine qualities, including hardiness, form, and often compactness. They are usually long-lived and are quite free flowering when mature. In the past, this subsection was rather looked down upon, especially by Kingdon Ward, because they were so slow to bloom and rather difficult to root. However, with improved propagation methods and a greater tolerance for the time it takes to flower, their popularity in the garden has mushroomed considerably.

Of the 13 new *Taliensia* that Peter Cox mentioned in “The Larger Rhododendron Species”, ... *R. bhutanense* is probably the most westerly representative of this subsection. ... *R. wiltonii* may be the most easterly *Taliensia* and possibly the least hardy, because of the lower elevation 2300-3300 m (7500-11,000 feet) at which it grows.

It's very difficult to pick the finest member of this very interesting subsection, but for me it probably comes down to *R. bureavii* or *R. proteoides*. ... I believe there would be very little disagreement that a properly grown, mature *R. bureavii*, in its best form such as the Exbury A.M., is about as handsome as any species in the genus. It normally is easy to grow, when given partial shade. The dark, shiny, bullate foliage, with the rich, rusty red indumentum is absolutely outstanding, even for the most discriminating. When mature, it is free flowering with flushed rose or white suffused rose blooms, fading to white and most often with crimson spots, which enhance its beauty. There are usually 10 to 15 flowers in the truss...

Halfdan Lem was one of the first in the United States to use *R. bureavii* in his crosses. This was with ‘Fabia’, of which he named one ‘Hansel’* and the other ‘Gretzel’*. These hybrids, and many since by other hybridizers, all have beautiful foliage and habit, inherited from the *R. bureavii*.”

Species of *Taliensia* are dwarf shrubs to small trees (and hence are listed in either Cox (1985) or Cox (1990), often compact and shapely, and are generally long-lived with fine foliage, but are slow growing and many may take years before they start flowering freely. In the wild, their range extends from Bhutan and eastern Tibet to Sichuan and Yunnan, China, from about 2300-4900 m (7500-16,000 ft) elevation (McQuire and Robinson 2009), depending on the species. Consequently, all, except for *R. wiltonii*, are hardy to a minimum of -21 to -24° C (-5 to -10° F) or colder (Cox 1990, Cox and Cox 1997). Leaves are generally glabrous (without hairs) on top, with indumentum usually present below. Taxonomic relationships between species are complex and many remain uncertain. Because of the slowness of many to mature and bloom, it is only relatively recently that their true cultural value has become apparent, with many making fine foliage plants and now showing their fine flowering characteristics. The majority are hardy, adaptable, long-lived and shapely species (Cox 1990).

Species have been organised in a number of ways in the literature, with Cox (1990) and Cox and Cox (1997) not organizing the species into any groups. Cox (1985) suggested a key for the smaller *Taliensia* species on the basis of indumentum, leaf size and shape, flower colour, calyx length and mature height. In contrast, McQuire and Robinson (2009) split the species firstly into four groups based on leaf characteristics: leaves linear/elliptic (Roxieanum Group), leaves oblong to more or less ovate, leaves lanceolate/oblanceolate, and the *Lacteum* Group with leaves that have a thin grayish or brown “wash” of hairs that is distinctive to the naked eye. Here, I present descriptions of *Taliensia* species obtained from Cox (1985, 1990), Cox and Cox (1997), McQuire and Robinson (2009) and the Rhododendron Species Foundation (RSF) website, grouped by their leaf characteristics.

Rhododendron*, subsection *Taliensia (about 49 species, 21 discussed, red font species are more available)

Group A (6 species): Leaves linear/elliptic (Roxieanum Group) (narrow with parallel sides or tapering equally at both ends)

R. proteoides

R. roxieanum

Group B (10 species): Leaves oblong (parallel sides and blunt ends) to more or less ovate (egg-shaped).

R. aganniphum

R. clementinae

R. aureodorsale

R. principis

R. bhutanense

R. sphaeroblastum

Group C (14 species): Leaves lanceolate/oblanceolate (lance shaped, tapering more gradually to the tip, or the reverse, tapering more gradually to the leaf base)

R. adenogynum

R. balfourianum

R. bureavii

R. bureavioides

R. elegantulum

R. phaeochrysum

R. pronum

R. taliense

R. traillianum

R. wiltonii

Group D (5 species): Leaves with a thin grayish or brown “wash” of hairs on their underside.

R. beesianum

R. lacteum

R. wightii

Species Details

Group A. Leaves linear/elliptic (Roxieanum Group) (narrow with parallel sides or tapering equally at both ends)



R. proteoides. Photo: Carl Adam Lehmann.



R. roxianum var. *oreonastes*. Photo: Garth Wedemire.

R. proteoides (epithet: resembling *Protea* [a genus of South African flowering plants])

A slow-growing and very compact dwarf shrub, 15-30 cm (6-12 in) high in cultivation, eventually forming a low mound. Leaves strongly recurved, with a thick, woolly, rust or cinnamon coloured indumentum. Flowers white to cream flushed rose and spotted. Its closest relative is *R. roxianum*, and the two species merge in places where they meet in the wild, with this species being at a higher elevation. Although very slow to flower, this species is prized by connoisseurs for its foliage and habit and is used in hybridizing to produce dwarf hybrids with indumentum. The species crosses with *R. aganniphum*, resulting in *R. bathyphyllum*.

R. roxianum (epithet: after Mrs. Roxie Hanna, a friend of George Forrest)

The height of this species is very variable, ranging from 15 cm to four m (six inches to 13 ft), depending on variety, but is usually 30 cm to 1.2 m (one to four ft). Its habit is dwarf and compact to leggy and upright. Flowers are creamy white or white with a rose blush, with or without crimson spots. There are three varieties: var. *oreonastes*, with its very narrow leaves giving it a porcupine-like appearance, which looks nice when topped with neat rounded trusses; var. *cucullatum* has wider leaves than var. *oreonastes* and a less dense indumentum than var. *roxianum*, with the latter the largest variety.

Group B. Leaves oblong (parallel sides and blunt ends) to more or less ovate (egg-shaped).

R. aganniphum (epithet: snowy)

This species is basically a wider-leaved version of *R. adenogynum* with a slightly thinner indumentum and smaller flowers. The indumentum is whitish to pale pinkish-brown when young, becoming a deep red-brown at maturity. Forms differ in



R. aganniphum var. *aganniphum*. Photo: Douglas Justice.



R. bhutanense. Photo: Douglas Justice.

the quality of their flowers. Var. *flavorufum* differs from var. *aganniphum* in that its indumentum splits on maturity into irregular patches.

R. aureodorsale (No photo)

This recently introduced taxon is quite different in appearance from *R. clementinae* under which it was originally placed as a subspecies, and it should perhaps be given specific status as it occurs in the wild far to the north and east of the range of that species. It is a very attractive and hardy species with impressively large leaves for a *Taliensia*.

R. bhutanense (epithet: from Bhutan)

Quite similar to *R. phaeochrysum* var. *agglutinatum* but has loose hairs at the base of the midrib and a distinctive upright foliage posture in the autumn. 0.6 to three m (two to ten ft) compact shrub, with deep pink flower buds that open to pale pink flowers. A relatively new RSF species to cultivation, this high alpine *Taliensia* has dark red-brown indumentum on the lower leaf surface, with brightly coloured rose to deep pink to almost red flowers in mid-spring. It grows best in very light shade with excellent drainage.

R. clementinae (epithet: after Clementine, wife of George Forrest)

This is the only member of *Taliensia* with a 6-7 lobed corolla, and in the best blue-leaved forms, the foliage resembles *R. aeruginosum*. The foliage in some forms can also resemble *R. sphaeroblastum* or *R. aganniphum* but these do not have such glaucous young leaves. Although slow to start flowering, this species is worth growing for its foliage alone, reaching a height of 1-4.5 m (three to 15 feet). Flowers are white suffused with pink, with or without crimson spots.

R. principis

The beautiful foliage of this species has a dense and soft felted whitish to tan indumentum on the lower surface, with pink to white flowers in early spring. It begins blooming at a much earlier age than most other *Taliensia* and is much easier to grow, eventually forming a large upright shrub. It is one of the earliest elepidotes to flower each spring, and so may be damaged by early spring frosts. One of the most westerly occurring *Talienisa*, this species was previously known as *R. vellereum*.



R. clementinae. Photo: Steve Henning.



R. principis. Photo: Hank Helm.



R. sphaeroblastum var. *wumengense*. Photo: Tommy Andersen.



R. adenogynum var. *adenogynum*. Photo: Douglas Justice.

R. sphaeroblastum (epithet: with rounded buds, which is misleading!)

This is a fine species in both foliage and flower, reaching a height of 0.6-6 m (two to 20 feet). Flowers are also white suffused with pink, with or without crimson spots, and leaves have a white indumentum when young, maturing to a dense, felted reddish-brown. Theqvist (2018) noted that the leaves of this species have a strong, sweet honey scent, which he could smell up to 100 m away when the sun shone on its leaves! Leaves are flatter than *R. clementinae*, and in its narrower leaf forms, merges with *R. phaeochrysum* in appearance.

Group C (14 species): Leaves lanceolate/oblanceolate (lance shaped, tapering more gradually to the tip, or the reverse, tapering more gradually to the leaf base)

R. adenogynum (epithet: with a glandular ovary)

This is a compact plant (1.8-4.5 m (six to 14 ft)) with fine foliage, and Cox and Cox (1997) suggest the paler pink flowered forms are the most pleasing colour. It is freer flowering and starts blooming at a younger age than most *Taliensia*. Flowers are white to rose-purple, with or without purple markings, with a densely glandular calyx and ovary. Similar to *R. balfourianum*, but having narrower leaves and a more spongy, darker olive green-yellow indumentum instead of a silvery to greyish-pink one.

R. balfourianum (epithet: after Sir Isaac Balfour, a Regius Professor of Botany, Edinburgh)

Like *R. adenogynum*, this is one of the easiest *Taliensia* to grow and is free flowering at maturity, and differences between the two species are described above. The better forms have rose-coloured flowers in well-filled trusses.

R. bureavii (epithet: after E. Bureau, a French professor)

This is one of the most distinct and easily identified *Taliensia* species, and is closely related to *R. bureavioides*, which differs in its shorter, bent petiole, a larger corolla, and glands but no hairs at the base of the style. It has amongst the finest foliage of all rhododendrons, is easy to grow, and hence is the most popular *Taliensia* species. Plants are 1.2-7.7 m (4-25 ft) high, with



R. balfourianum. Photo: Frederick Thurber.



R. bureavii. Photo: Garth Wedemire.



R. elegantulum. Photo: Coen Zonnefeld.



R. phaeochrysum var. *agglutinatum*. Photo: Stephan Bubert.

glabrous, dark green, shiny leaves with a dense, deep salmon-pink indumentum turning to a rich rusty red at maturity. Flowers are white to rose. (See Nelson, this issue, p. 45)”

R. bureavioides (No photo) (epithet: resembling *R. bureavii*)

The best forms of this species rival *R. bureavii* in foliage and have superior flowers. It grows to two to five m (six to 16 feet) in height, with white to rose flowers. It was introduced into culture only in 1986, and plants acquired prior to this date under this name are likely *R. bureavii* hybrids.

R. elegantulum (epithet: elegant)

This 1-1.8 m (three to eight feet), free-flowering at a relatively young age plant with fine foliage is one of the best garden plans in the *Taliensia*. Blake (1989) stated “flowers on my specimen are a delightful light pink with darker spots, in a rounded truss. The chief glory is in the foliage, it unfurls its new growth in a lovely light, silvery cinnamon tomentum with indumentum which deepens to a very rich dark pinkish shade before maturing to a deep cinnamon on the undersides of the leaves. The indumentum is like velvet to touch.” This species is believed to be a natural hybrid, perhaps with *R. adenogynum* (Cox and Cox 1997).

R. phaeochrysum (epithet: dark golden)

This extremely variable species is the commonest *Taliensia* species in the wild, merging and/or hybridizing with *R. aganniphum*, *R. przewalskii* and *R. sphaeroblastum*. With *R. roxieanum*, it produces offspring known as *R. alutaceum*. Many forms of this species are free-flowering at maturity and make great garden plants, if given well-drained, cool soil. Height is one to 4.5 m (three to 15 feet) and flowers are white to pink, spotted, sometimes heavily. There are three varieties: var. *phaeochrysum*, var. *agglutinatum* and var. *levistratum*.



R. prunum. Photo: Marc Colombel.



R. taliense. Photo: Coen Zonnefeld.

R. pronum (epithet: prostrate)

This distinct species, like *R. proteoides*, is also very small (15-60 cm (six to 24 in) and a choice container plant. It resembles a dwarf *R. clementinae* or *R. aganniphum*, with a dense, compact habit and bluish or bluish-green foliage. It is easy to grow, but growth starts in April and is easily damaged by frost, so some protection may be needed. Flowers are white to pink and are heavily spotted.

R. taliense (epithet: from Tali Range, Yunnan)

This species is characterised by its tomentose branchlets, a dense, tawny brown to rufous bistrate indumentum and a glabrous ovary. It's becoming more widely grown, and the best forms have creamy flowers with the thickest rufous indumentum, and differs from *R. sphaeroblastum* in its narrower leaves. Its height is 0.8 to four m (2.6 to 13 feet), and so is a dwarf and compact to upright shrub that can get leggy with age.

R. traillianum (epithet: after G.W. Traill, botanist and father in-law of George Forrest)



R. traillianum var. *traillianum*. Photo: Ken Gibson.



R. wiltonii. Photo: Hank Helm.

This species is closely related to *R. phaeochrysum* and differs in its fine, powdery rather than agglutinated or felted indumentum. It is a handsome foliage plant and easy to grow, although its white to rose flowers are relatively small in comparison to its leaves. It is 60 cm to 8 m (two to 26 ft) in height, usually as a stiff upright shrub.

R. wiltonii (epithet: after Sir Colville Wilton, Chinese Consular Service, Ichang)

This is a one to 5 m (three to 16 feet) broadly upright shrub with white to pink, spotted and blotched flowers, which is easily identified by its deeply-veined upper leaf surface with a fairly dense, cinnamon to rusty-red indumentum. It is not closely related to other *Taliensia*, but is an attractive, free flowering with age plant that is easy to grow.

Group D (5 species in the Lacteam Alliance): Leaves with a thin grayish or brown "wash" of hairs on their underside.

R. beesianum (epithet: after Messrs. Bees, nurseryman in Cheshire)

A broadly erect 1.8-9 m (six to 39 feet) stiff shrub that is rare in cultivation and grows best when grafted in a location sheltered from wind. It has white to nearly red flowers, which separate it from the other species in this group.

R. lacteum (epithet: milky)

This is one of the finest yellow flowering rhododendrons, but is hard to grow well and does best when grafted. It prefers light shade and a very acid soil. Flowers are a pale to a clear canary-yellow, with or without a blotch and grows to 1.2 to 8 m (four to 26 feet) in height.



R. wightii (epithet: after R. Wight, superintendent of the Madras Botanic *R. beesianum*. Photo: Garth Wedemire.



R. lacteum. Photo: Hank Helm.



R. wightii. Photo: Glen Jamieson.

Garden)

This species is also rare in cultivation and is also difficult to grow unless grafted. It is two to six m (two to 20 feet) in height, has white to lemon-yellow flowers, and a pale fawn indumentum that turns brown with age. It differs from *R. lacteum* in leaf shape and smaller flowers. The true species was first introduced in 1971, with plants before that likely a hybrid, probably with *R. falconeri*, that originated in Surrey, that should probably have a cultivar name and which is much easier to grow.

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“It is a good idea to be alone in a garden at dawn or dark so that all its shy presences may haunt you and possess you in a reverie of suspended thought.”

James Douglas

Species in the Garden: *Rhododendron bureavii*

Sonja Nelson
Mount Vernon, WA

Photos by the author
unless noted otherwise.



Gardeners, for the most part, count on their rhododendrons to bloom and display their crown of flowers in a year or two after planting in the ground. What a surprise awaits them when they plant the oft-touted *Rhododendron bureavii*! Instead of flowers in its early years, this rhododendron does the unexpected—it waits what seems a lifetime to bloom but in the meantime puts on a foliage show so splendid that bearing flowers seems almost like an afterthought. Granted, the flowers are nice, but the exquisite rounded, compact plant form and, especially, the sensuous indumentum of its leaves amaze the unprepared gardener with its beauty.

Early Discovery

R. bureavii captured the attention of Western botanists as early as the 1870s when French Jesuit missionaries were allowed into China, some of whom collected herbarium specimens and sent them home to France. It was first described in 1887 by Adrien Franchet, a French botanist at the Paris Museum national d'Histoire naturelle, while another Frenchman, Louis Edouard Bureau, a French physician and botanist, introduced the plant to cultivation in 1917. These were the days before the great Western collectors George Forrest, Joseph Rock and Frank Kingdon-Ward explored in China. Kingdon-Ward apparently looked down on *R. bureavii* because it was slow to bloom and difficult to root (Kneller 1995).

Cultivation

Recommendations for adding this species to the garden come from three highly regarded rhododendron explorers and growers, the late Warren Berg of Port Ludlow, WA, and Peter and Kenneth Cox of Perth, Scotland. While in the wild, they undoubtedly were occupied with plant identification, not to mention staying alive, but judging from their writings, the question of a plant's beauty was never very far from their minds. Warren Berg wrote "I believe there would be very little disagreement that a properly grown, mature *bureavii*, in its best form, such as Exbury A.M., is about as handsome as any species in the genus" (Kneller 1995). And the Cox and Cox (1997) wrote "*R. bureavii* has amongst the finest foliage of all rhododendron species."

Gardeners perceive a plant as beautiful according to their own aesthetic sense. For added enjoyment, however, they can also look to science to see what lurks behind the plant's beauty. One way to start is to look in detail at the architecture of the plant—its form, its leaves, its flowers. In rhododendrons, and in *R. bureavii* in particular, the form results from branches and leaves that are spirally arranged and born close together in what are known as "false whorls," that are separated by relatively long bare branches (Cullen 2005). The beautiful result in *R. bureavii* is a rounded plant form with leaves (and flowers)



Mature foliage of *R. bureavii*.



New growth of *R. bureavii*.



Mature foliage of *R. bureavii* with other ericaceous plants at its feet.

R. bureavii in winter.

developing as a covering over the network of bare branches. The plant's height in the garden will be approximately four ft (1.22 m) in ten years (Greer 1996).

The second element of its architecture is the foliage, which is the crowning glory of *R. bureavii*. Its foliage is most attractive when the leaves are mature, when the upper leaf surface is a shiny dark green and the lower surface, including the leaf stems or pedicels, has a thick woolly rust-red covering (indumentum). When a gentle wind blows and twists the leaves, the rust-red lower surfaces show themselves like little flags, and when it stops, the plant is shiny green again. The source of the indumentum on the lower leaf surface is a covering of tiny, branched hairs that densely cover the lower surface like a woolly rug. These hairs, of which there are many types in the genus, have been extensively studied by botanists and are used in species identification. The upper surface of some *R. bureavi* leaves sometimes exhibit a semi-permanent indumentum, which is then called a tomentum.

Finally, the flowers—or inflorescence if referring to the whole truss—appear, although my *R. bureavii* took about ten years to initiate flowering. Each inflorescence has 10–20 flowers, which are white flushed rose, spotted with purple specks sitting at the end of the shoots, encircled by a dark green whorl of leaves. The brightness of the flowers contrasts nicely with the darkness of the leaves and for a brief time, diverts attention away from the foliage. Is it worth waiting years for flowers? Yes, especially if the plant can be placed in a spot where the foliage can be enjoyed year-round, as the flowers are then simply an extension of its overall beauty.

Classification

Because the genus *Rhododendron* is so large and broken up into many taxonomic units, such as subgenus, section, subsection, etc., it is useful to see where *R. bureavii* sits in the taxonomic tree (Jamieson 2019, this issue):

Genus *Rhododendron*

Subgenus *Hymenanthus* (Clade B)

Section *Ponticum*

Subsection *Taliensia*

It shares subsection *Taliensia* with numerous other desirable species, including *R. adenogynum*, *balfourianum*, *roxieanum*, *wightii* and *wiltonii* (Jamieson 2019).

Care in the Garden

As always, when growing a species *Rhododendron* in the garden, its location in the wild may give clues to its optimal placement and care—or at least offer some interesting facts to mull over! *R. bureavii* grows in North Central and North East Yunnan, China, in open forests and thickets at an altitude of 3,000–3,900 m (10,000–12,750 ft). This is a zone in China near the tree line, where many rhododendrons from subsection *Taliensia* grow in profusion (Cox 1993). It usually does not grow there over three m (ten ft (Cox and Cox 1997)) in height. In the open, it is a compact and rounded shrub, but since its mountain habitat can not be replicated, the gardener must rely on the experiences of others in finding the best site and best care for it in the garden.



Flowers of *R. bureavii*. Photo: Garth Wedemire.

The “imaginary perfect site” Peter Cox (1993) described in his book “The Cultivation of Rhododendrons” suits *R. bureavii* in most respects, as it does the bulk of rhododendrons. The “perfect site” is characterized by deep, well-drained, sandy loam soil; sheltered or open woodland; rainfall 50 in (1270 mm) during the summer; and a minimum temperature of 14° F (-10° C). However, *R. bureavii* does veer off on its own in a couple of areas. It is cold hardy to a chilly -20° C (-10° F) and while long living, it does not do well in climates with hot summers, which makes southeastern US inhospitable for it. Its foliage will burn in hot, sunny sites, it is susceptible to root disease, and good drainage is an imperative. Also, it has an aversion to high nitrogen fertilizers (Cox and Cox 1997).

However, even with these limits, Peter Cox recommends growing *R. bureavii* for Britain, northern Europe and western North America (Cox 1993). The late Warren Berg grew it in his garden in Port Ludlow, WA, and wrote it was “normally easy to grow given partial shade” (Kneller 1995). In my garden, also on the Pacific Northwest coast, I grow it in partial shade.

The Danish Rhododendron Society lists *R. bureavii* as one of its top 75 *Rhododendron* species (www.rhododendron.dk). Further afield, Icelandic gardens can likely successfully grow this species, as Iceland’s lowest average minimum temperature is -3.1°C (26.4°F)). Kristian Theqvist (2018) reported that a nursery there is growing it in Icelandic silt and horse manure. In the University of British Columbia Botanical Garden in Vancouver, it grows in an unshaded area (botanicalgarden.ubc.ca). The Rhododendron Species Botanical Garden in Federal Way, WA, grows it under a forest canopy. Dennis Bottemiller, the RSBG propagator, says it is not the easiest thing to propagate, but we currently have about 30 in one gallon pots which will be included in their spring 2019 catalog, and many more will be available for sale in about 2020 (Bottemiller, personal communication).

Summary

To get around its slowness to bloom, hybridizers have used *R. bureavii* in various crosses, such as ‘Gretzel’*, ‘Hansel’*, ‘Kodiak’* and ‘Teddy Bear,’ but it is hard to beat the species for exquisite foliage. Finally, in recent years, gardeners have increasingly begun to appreciate not only a rhododendron’s flowers but also its form and foliage, which makes *R. bureavii* ideal as a rhododendron that never fails to surprise and amaze, no matter what the season.

* = not registered.

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

David Hobson

2019 Rhododendron of the Year Plant Descriptions

Linda Derkach and Bob Weissman
ARS Plant Awards Committee

Great Lakes Region

Elepidote Rhododendron: 'Scintillation'

Flower strong purplish-pink shaded lighter towards center, flared greenish-yellow markings in throat, outside deep purplish-pink, openly funnel-shaped, wavy edges, 2½" across. Held in ball-shaped trusses of 11-15 flowers. Several forms exist of this hybrid. Blooms midseason. Leaves oblong, apiculate apex, rounded base, glossy, deep green, waxy texture. Broad habit. Grows to a typical height of 5 ft. in 10 years. Cold hardy to -15°F (-26°C). Hybridized by Dexter.

Lepidote Rhododendron: PJM Group

Flower lilac purple to light violet, openly funnel-shaped, wavy edges, 1½" across. Several clones are known as well as a number of forms. Ball-shaped truss holds 5-12 flowers. Blooms early midseason. Leaves elliptic, flat to convex, obtuse apex, cuneate base, 1¼" to 2" long, glossy, mid green, rust-colored scaly indumentum, deep mahogany-purple in winter. Upright, dense growth habit. Grows to a height of about 4 ft. in 10 yrs. Plant is cold hardy to -25°F (-32°C). Heat and sun tolerant. Hybridized by Mezitt.

Evergreen Azalea: 'Caroline Gable'

Flower purplish-pink with a darker blotch, single, 1¾" across, hose-in-hose. Blooms midseason to late midseason. Plant has an upright, spreading habit. Leaves are elliptic, acute apex, cuneate base, mid green. Grows to a typical height of 4 ft. in 10 years. Cold hardy to -5°F (-21°C). Hybridized by Gable.

Deciduous Azalea: 'Crimson Tide'

Flower strong red, outside of tube deep yellowish pink, 2¼" across, tubular funnel-shaped, frilly lobes and short, rather compact petaloid center. Blooms midseason. Held in dome-shaped truss with 20-40 flowers. Leaves are elliptic, flat, and ciliate, turn bright yellow to orange in fall. Upright plant habit. Mildew resistant. Vigorous grower. Typical height: 5 ft. in 10 years. Cold hardy to -20°F (-29°C). Hybridized by Girard.

Mid-Atlantic Region

Elepidote Rhododendron: 'Ken Janeck'

One of the best forms of *R. degronianum* ssp. *yakushimanum*) with appealing foliage and richly colored pink flowers. Flowers are funnel-shaped, 2½" across, held in trusses with 13 to 17 flowers. Blooms midseason. Leaves oblanceolate, re-curved, dark green with thick indumentum beneath. Compact, mounding plant habit. Grows twice as wide as high. Height: about 4 ft. in 10 years. Cold hardy to -15°F (-26°C). Selection received an Award of Excellence (1969). There is debate as to whether the plant is a variety of the species or is a hybrid containing *R. smirnowii* or another species. Selected by Janeck.

Lepidote Rhododendron: 'Rhein's Luna'

Flower light purple at edges shading lighter in throat, no markings, openly funnel-shaped, 1¾" across. Ball-shaped truss has 4-6 flowers. Blooms early midseason. Leaves elliptic, acute apex, cuneate base, convex, 2¾" to 3⅝" long, semi-glossy, moderate olive green. Open growth habit. Grows to a typical height of 5 ft. in 10 years. Plant and bud hardy to -15 °F (-26°C). Hybridized by Rhein.

Evergreen Azalea: 'Treasure'

Flower white with very faint pink on lobe edges, light pink spotting on dorsal lobe, single, funnel-shaped, 3½" to 4½" across. Truss holds 2-3 flowers. Blooms early midseason. Leaves elliptic, cuneate base, acute apex, flat, light green. Spreading, broad, plant habit. A vigorous grower. Grows to a typical height of about 5 ft. in 10 years. Plant and bud hardy to at least 0°F (-18°C). Hybridized by Morrison.

Deciduous Azalea: *R. cumberlandense*

Flower orange to red, sometimes yellow, slightly fragrant, funnel-shaped, 1½" to 1¾" across. Truss holds 3-7 flowers. Blooms late to very late. Leaves ovate or obovate to elliptic, up to 3" long, deciduous. Low shrub, often stoloniferous. Grows to 4 ft. tall in 10 years. Cold hardy to -15°F (-26°C). Native species found in the eastern United States on the Cumberland Plateau in Kentucky and Tennessee and on the mountains of Georgia, Alabama, and North Carolina.

2019 Rhododendron of the Year Plant Descriptions - continued.

GREAT LAKES USA REGION



'Scintillation'. Photo: Rinus Manders.



PJM Group. Photo: Barbara Kulla.



'Caroline Gable'. Photo: Singing Tree.



'Crimson Tide'. Photo: Tijs Huisman.

MID-ATLANTIC USA REGION



'Ken Janeck'. Photo: Garth Wedemeyer.



'Rhein's Luna'. Photo: Jim Willhite.



'Treasure'. Photo: Jeannie & Calvin Parsons.



R. cumberlandense. Photo: Hank Helm.

NORTHEAST USA REGION



'Nova Zembla'. Photo: Daniele Mangro.



PJM Group. Photo: Barbara Kulla.



'Stewartstonian'. Photo: Rinus Manders.



'Weston's Lemon Drop'. Photo: Bob Stelloh.

North East Region

Elepidote Rhododendron: 'Nova Zembla'

Flower bright red with black spots, openly funnel-shaped, 5" across. Held in ball-shaped trusses with 8-12 flowers. Blooms midseason. Leaves elliptic, acute apex, cuneate base, thick, olive green. Upright plant habit. Grows to a typical height of 5 ft. in 10 yrs. Heat and sun tolerant. Cold hardy to -25°F (-32°C). Hybridized by Koster.

Lepidote Rhododendron: PJM Group

Flower lilac purple to light violet, openly funnel-shaped, wavy edges, 1½" across. Several clones are known as well as a number of forms. Ball-shaped truss holds 5-12 flowers. Blooms early midseason. Leaves elliptic, flat to convex, obtuse apex, cuneate base, 1¼" to 2" long, glossy, mid green, rust-colored scaly indumentum, deep mahogany-purple in winter. Upright, dense growth habit. Grows to a height of about 4 ft. in 10 yrs. Plant is cold hardy to -25°F (-32°C). Heat and sun tolerant. Hybridized by Mezitt.

Evergreen Azalea: 'Stewartstonian'

Flower moderate red with a slight flush of strong reddish orange along lower midribs in the throat, faint spotting of strong red on lower lobe, openly funnel-shaped, 1" across. Truss holds 2 flowers. Blooms early midseason to midseason. Leaves elliptic, ¾" long, glossy, green tinged red. Leaves turn wine red in winter. Dense, compact habit. Grows to about 5 ft. in 10 years. Cold hardy to -15°F (-26°C). Hybridized by Gable.

Deciduous Azalea: R. 'Weston's Lemon Drop'

Flower pale yellow that fades with age, tubular funnel-shaped, 1¾" across, fragrant. Held in dome-shaped truss of 9 flowers. Blooms very late. Leaves obovate, broadly acute apex, cuneate base, 2" long, up curved margins, semi glossy, bluish-green, red in the fall. Mildew resistant. Open multi-stemmed deciduous shrub with a rounded form. Plant grows to about 7 ft. tall in 10 years. Hardy to -35°F (-37°C). Hybridized by Mezitt.

North West Region

Elepidote Rhododendron: 'The Hon. Jean Marie de Montague'

Flower strong red with dark red spotting in the dorsal throat, wavy edges, broadly funnel-campanulate, 3⅛" across. Domed-shaped truss holds 14 flowers. Blooms midseason. Leaves elliptic, heavy textured, 5" long, dull, mid to dark green. Dense, upright plant habit. Thrives in heat and sun. Grows to a height of 5 ft. or more in 10 years. Cold hardy to -5°F (-21°C). Hybridized by van Nes & Sons.

Lepidote Rhododendron: 'Crater Lake'

Flower brilliant violet, with no markings. Flat saucer-shaped, wavy lobes, 2" across. Held in trusses with 3 flowers. Blooms early midseason. Leaves elliptic, acute apex, cuneate base, 1½" to 2" long, yellow-green, retained for 2 years. Plant has upright habit. New growth bronze yellow. Grows to a height of 5 ft. in 10 years. Cold hardy to -5°F (-21°C). Hybridized by Phetteplace.

Evergreen Azalea: 'Gumpo Fancy'

Flower white flushed and marked deep pink, single, funnel-shaped, wavy-edges, 2½ - 3" across. Blooms late midseason to late. Leaves elliptic, ½" long, glossy, dark green. Grows wider than tall. Grows to a typical height of about 2 ft. in 10 years. Hardy to 5°F (-15°C). Hybridizer is unknown.

Deciduous Azalea: 'Klondyke'

Flower strong yellow, suffused with reddish-orange, with an orange-yellow blotch, funnel-shaped, 2⅝" to 3⅛" across. Ball-shaped truss holds 8-15 flowers. Blooms early midseason to midseason. Deciduous. Leaves deep brownish-red when new, deep bronze in autumn, mildew-resistant. Broad, upright, dense growth habit. Height: 5 ft. in 10 years. Cold hardy to -15°F (-26°C). Raised and introduced by Edmund de Rothschild. Winner of the Royal Horticultural Society Award of Garden Merit.

South Central Region

Elepidote Rhododendron: 'Dexter's Peppermint'

Flower light purplish-pink with light yellow-green blotch in throat, openly funnel-shaped, wavy lobes, 3½" across. Very fragrant, smells like peppermint. Blooms late midseason. Leaves oblong, apiculate apex, rounded base, 4½" long, glossy, olive

2019 Rhododendron of the Year Plant Descriptions - continued.

NORTHWEST USA REGION



'The Hon. Jean Marie de Montegue'.
Photo: Herman Van Ree.



'Crater Lake'. Photo: Garth Wedemire.



'Gumpo Fancy'. Photo: Bloom River
Nursery..



'Klondyke'. Photo: Rinus Manders.

SOUTH CENTRAL USA REGION



'Dexter's Peppermint'. Photo: Peter Norris.

Lepidote Rhododendron: no selection.



'Rosebud'. Photo: Rarefind Nursery.



'Northern Hi-Lights'. Photo: Wayside Nursery.

SOUTH EAST USA REGION



'Cynthia'. Photo: Garth Wedemire.



R. minus var. *chapmanii*. Photo: Hank Helm.



'Koromo Shikibu'. Photo: Tadeusz Dauksza.



R. conescens. Photo: Susan Lightburn.

2019 Rhododendron of the Year Plant Descriptions - continued.

SOUTH WEST USA REGION



'Grace Seabrook'. Photo: Tijs Huisman.



'Crater Lake'. Photo: Garth Wedemire.



'Cherry Drops'. Photo: Bloom River Nursery.



'Humboldt Picotee'. Photo: Dick Cavender.

green, retained 2 years. Upright, open plant habit. Typical height: 4 ft. in 10 years. Plant is cold hardy to 0°F (-18°C). Hybridized by Dexter.

Lepidote Rhododendron: no selection

Evergreen Azalea: 'Rosebud'

Flower strong purplish-pink, flushed with slight veining of deep purplish pink, broadly funnel-shaped, double, hose-in hose, 1⅛" across. Blooms midseason. Leaves elliptic, 1" to 1½" long, glossy, mid green. Spreading, dense habit. Grows to a typical height of 4 ft. in 10 yrs. Hardy to -10° F (-23° C). Hybridized by Gable. Received the ARS Award of Merit and the First Class Certificate from the Royal Horticultural Society.

Deciduous Azalea: R. 'Northern Hi-Lights'

Flower pale yellow with vivid yellow blotch, aging to yellowish white, tubular funnel-shaped, 2⅜" across, fragrant. Ball-shaped truss has 7-10 flowers. Blooms late midseason. Leaves obovate, acute apex, cuneate base, 2½" long, hairy, deciduous. Dense, spreading growth habit. Grows to a typical height of 3 ft. in ten years. Extremely cold hardy to -25°F (-32°C). Hybridized by the University of Minnesota.

South East Region

Elepidote Rhododendron: 'Cynthia'

Flower rose-pink with deeper red staining on the upper lobe, funnel-shaped, wavy edges, 3⅞" across. Held in conical trusses of about 24 flowers. Blooms midseason. Leaves oblong, about 6" long, mid green. Dome-shaped habit. Sun and heat tolerant. Grows to a height of 6 ft. in 10 yrs. Plant is cold hardy to -15°F (-26°C). Hybridized by Standish & Noble. Award of Garden Merit from Royal Horticultural Society in 1993.

Lepidote Rhododendron: *R. minus* var. *chapmanii*

Flower pink to purplish pink, sometimes spotted green, funnel-shaped. Truss composed of 4-12 flowers. Blooms early midseason to midseason. Leaves oval to oblong-oval, up to 4" long, apex rounded. Plant habit varies from compact to rather straggly, branches are erect and rigid. Grows to a typical height of 3 ft. in 10 years. Plant and bud hardy to -5°F (-21°C). Native species found in the wild in Florida.

Evergreen Azalea: 'Koromo Shikibu'

Flower light purplish pink, with darker tips and spots at base, single, 2½" across, narrow, deeply divided, strap-like lobes, ¼" wide and 1½" long. Blooms early midseason. Leaves elliptic, acute apex, cuneate base, 1"-1½" long, light green. Upright, open plant habit. Grows to a height of 4 ft. in 10 years. Cold hardy to -15°F (-26°C). Hybridizer is unknown.

Deciduous Azalea: *R. canescens*

Flower pale to deep pink, rarely white, tube often deeper colored than the lobes, fragrant, tubular funnel-shaped. Truss has 6-19 flowers. Blooms early midseason. Leaves ovate or obovate to elliptic, up to 3½" long, deciduous. Shrub grows to 5 ft. or more in 10 years. Cold hardy to -5°F (-21°C). Native species found growing in eastern North America in the coastal plain of North Carolina to Florida and west to Texas.

2019 Rhododendron of the Year Plant Descriptions - continued.

South West Region

Elepidote Rhododendron: 'Grace Seabrook'

Flower currant red at margins shading to blood red at center, funnel-shaped, wavy-edges, 3" across. Held in tight, ball-shaped truss of about 12 flowers. Blooms early midseason. Leaves are large, pointed, very thick, dark green with sparse indumentum. Typical height: 4 ft. in 10 yrs. Plant and bud hardy to -5°F (-21°C). Hybridized by Seabrook.

Lepidote Rhododendron: 'Crater Lake'

Flower brilliant violet, with no markings. Flat saucer-shaped, wavy lobes, 2" across. Held in trusses with three flowers. Blooms early midseason. Leaves elliptic, acute apex, cuneate base, 1½" to 2" long, yellow-green, retained for 2 years. Plant has upright habit. New growth bronze colored. Grows to a height of about 5 ft. in 10 years. Cold hardy to -5°F (-21°C). Hybridized by Phetteplace.

Evergreen Azalea: 'Cherry Drops'

Flower cherry-red, openly funnel-shaped, frilly lobes. Truss has 3-4 flowers. Blooms midseason. Leaves small, glossy, mid green. Compact grower with densely branching habit. Plant grows wider than tall. Typical height is 2 to 3 ft. after 10 years. Cold hardy to 0°F (-18°C). Hybridized by Mauritsan.

Deciduous Azalea: 'Humboldt Picotee'

Flower inside white with strong orange yellow blotch, strong red picotee edge; red coloration is extremely variable; outside almost entirely strong red, tubular funnel-shaped; 1¾" across, strongly scented. Leaves elliptic, broadly acute apex, cuneate base, flat, glossy 3" long, green overlaid with varying degrees of dark red. Blooms midseason to late midseason. Grows to a typical height of 2 ft. in 10 years. Cold hardy to 5° F (-15°C). Selected by Smith and Mossman.

Southern California/Hawaii Region

Vireya: 'Princess Alexandra'

Flower white, tinged light pink, pink stamens, waxy, tubular funnel-shaped, 1½" long. Loose truss has 7-10 flowers. Blooms several times a year. Leaves elliptic, acute apex, cuneate base, ¾" wide x 3½" long, dark green. Dwarf, compact growth habit. Hybridizer is unknown.

South California/Hawaii Region



'Princess Alexandra'. Photo: Portland ARS.

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 November 1, 2018, 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



'DD Gold'. Photo by Henry Helm.

(a) 'DD Gold'

Deciduous azalea: *R. occidentale*, open-pollinated (wild-collected seed, collection data lost). G (pre-2012): Doug Denkers, Bainbridge Island, WA; S (2012), N (2012), REG (2018): Henry R. Helm, Bainbridge Island, WA. Flrs 19/dome truss, tubular funnel, 2 inches (50mm) long x 2.4 inches (60mm) wide with 5 acute lobes, very frilly margins. Bud: white with pale pink stripes. Inside: white with large vivid yellow (15A) blotch on dorsal lobe and vivid yellow (15A) streaks on all other lobes, occasional pale pink midvein or accent at lobe tip. Outside: white with pink tube. Calyx: 0.1 inch (3mm) long, green. White filaments and style; green stigma. Fragrance: strong. Truss 2.75 inches (70mm) high x 5.25 inches (135mm) wide. Lvs 1.5-2.75 x 0.6-1.2 inches (40-70 x 15-30mm), obovate, cuneate base, broadly acute apex, flat margins, light green, matte. Indumentum: some hairs, white to colorless, principally on leaf underside. Shrub 8 feet (2.4m) high in 15 years; dense habit, upright and spreading. Flowering midseason (late May in Seattle). Etymology of name: incorporating the initials of the first grower, Doug Denkers.

(r) 'Ed's Heavenly Sunshine' (No photo.)

Elepidote rhododendron: 'Janet Blair' (s) X ('Evening Glow' x 'Crest'). H (2007): H. Edward Reiley, Woodsboro, MD; G (2018): Mary L. Reiley, Woodsboro, MD; N (2018): Susan L. Reiley Westplate, Lake City, MN; REG (2018): Reiley Ridge Nursery, Woodsboro, MD. Flrs 8-10/ball truss, broad funnel, 3 inches (76mm) wide with 5-7 rounded lobes, slightly wavy margins. Bud: strong orange yellow (22A). Inside: pale greenish yellow (10D), light yellow (10B) at throat; midveins light yellow green (145B) on some flowers, strong purplish red (64B) on others. Outside: light yellow (10C). Calyx: 0.1 inch (2mm) long, strong yellow green (143C). Stamens very short, perhaps sterile. Truss 4 inches (102mm) high x 5 inches (127mm) wide. Lvs 4 x 1.5-2 inches (102 x 38-51mm), oblong, rounded base, broadly acute apex, downcurved margins, moderate olive green (146A), matte. Shrub 4 x 4 feet (1.2 x 1.2m) in 10 years; open habit, lvs held 2 growing seasons. Hardy to 5°F (-15°C), heat tolerant to 90°F (32°C). Flowering midseason (May in Maryland). Etymology: named by a daughter of the hybridizer and incorporating his name.



'Mr. Carl'. Photo by Lonnie Player.

(Carl) Player, father of the hybridizer.

(r) 'Mr Carl'

Elepidote rhododendron: 'The Honourable Jean Marie de Montague' (s) X 'Babar'. H (1998), G, N, REG (2018): Lonnie M. Player, Fayetteville, NC. Flrs 13/dome truss, funnel, 3 inches (76mm) long x 3.5 inches (90mm) wide with 5 lobes, wavy margins. Bud: strong red (46A). Inside and outside: opening strong red (53D), fading to strong purplish red (54A), with deep red (53A) interior dorsal spotting originating at base. Truss 4.5 inches (114mm) high x 6.5 inches (165mm) wide. Lvs 6 x 2.5 inches (152 x 64mm), elliptic, rounded base, broadly acute apex, flat margins, thick, moderate olive-green (147A) above, semiglossy; moderate yellow green (146B) below. Shrub 4 feet (1.2m) high x 5 feet (1.5m) wide in 10 years; intermediate habit, lvs held 2 growing seasons. Hardy to -5°F (-21°C), heat tolerant to 105°F (40°C). Flowering midseason (mid-April in eastern North Carolina). Etymology of name: for H.C.



'Mrs Daniels'. Photo by Lonnie Player.

(r) 'Mrs Daniels'

Elepidote rhododendron: 'Mrs Sam'* (s) X *R. hyperythrum*. H (1998), G (c. 2002), N (post 2002), REG (2018): Lonnie M. Player, Fayetteville, NC. Flrs 12/dome truss, funnel, 2 inches (51mm) long x 3 inches (76mm) wide with 5 rounded lobes, flat margins. Bud: light purplish pink (55C). Inside: white with strong red (46A) spotted blotch in dorsal lobe. Outside: white. White filaments and style: Truss 4 inches (102mm) high x 6 inches (152mm) wide. Lvs 4 x 1.5 inches (102 x 38mm), elliptic, rounded base, broadly acute apex, flat margins, moderate olive green (137A) above, glossy; moderate yellow green (138B) below. Shrub 8 feet (2.4m) high x 9 feet (2.7m) wide in 20 years; intermediate habit, lvs held 2 growing seasons. Hardy to -5°F (-21°C), heat tolerant to 105°F (40°C). Flowering midseason (mid-April in eastern North Carolina). Etymology of name: for Mary Lou Daniels, aunt of the hybridizer. She and Martha Player (mother of the hybridizer) were sisters; 'Mrs Daniels' and 'Martha Player' are sister seedlings. Synonym: Player 2-98-1; minimal propagation as 'Mary Lou' before hybridizer became aware of prior use of that name.



'Peg of My Heart'. Photo by Tony Dove.

* 'Mrs Sam' – not registered. It is believed to be *R. catawbiense* X *R. maximum*.

(r) 'Peg of My Heart'

Elepidote rhododendron: *R. fortunei* subsp. *discolor* (s) open-pollinated (seed collected c. 1982, National Arboretum, Washington, DC). G

(2004), S (2018), N (2018), REG (2018): Tony Dove, Harwood, MD. Flrs 10-14/ dome truss, funnel, c. 2 inches (50mm) long x c. 3 inches (80mm) wide with 7 rounded lobes, frilly margins. Bud: very light purple (76B). Inside and outside: very pale purple (76C shading to 76D at center of lobes), interior with brilliant greenish yellow (151D) at throat and spots on dorsal lobe. Most stamens aborted. Fragrance: moderate, sweet, spicy. Truss 3-3.5 inches (80-90mm) high x 4-5 inches (100-120mm) wide. Lvs 7.5-8.5 x 1.5-2.25 inches (190-220 x 33-57mm), elliptic, rounded base, broadly acute apex, flat margins, deep yellowish green (141A), semiglossy, above; strong yellowish green (141C) below. Indumentum: sparse minute hairs on midrib below and on petiole. Shrub 13 feet (4m) high x 12 feet (3.7m) wide in 33 years; intermediate habit, leaves held 2 growing seasons. Plant hardy to -13°F (-25°C), buds to -5°F (-22°C); tolerant to AHS heat zone 7. Flowering late season (early June in Washington, DC, area). Etymology of name: for Margaret (Peg) Conrad, mother-in-law of the registrant.

(r) 'Reileyridge Lisa Marie'

Elepidote rhododendron: 'Scintillation' (s) X ('Janet Blair' x 'Crest'). H (2007): H. Edward Reiley, Woodsboro, MD; G (2016), N (2016): Mary L. Reiley, Woodsboro, MD; REG (2018): Reiley Ridge Nursery, Woodsboro, MD. Flrs 7/truss, broad funnel, 2 inches (51mm) long x 3 inches (76mm) wide with 5-6 rounded lobes, some emarginate, wavy margins. Bud: strong purplish red (61B). Inside: pale purplish pink (62D) at margins shading to pale greenish yellow (9D) in center with strong purplish red (63A) throat and strong purplish red (63B) spotting on dorsal lobes. Outside: pale purplish pink (62D) at margins and along midrib, shading to pale yellow (8D). Calyx: 0.25 inch (6mm) long, light yellow green (145B). 12 stamens; yellowish stamens and pistil. Truss 3.5 inches (90mm) high x 5.5 inches (140mm) wide. Lvs 4 x 2 inches (102 x 51mm), oblong, rounded base, obtuse apex, flat margins, moderate olive green (137A), semiglossy. Shrub 6 feet (1.8m) high x 5 feet (1.5m) wide in 11 years; intermediate habit, lvs held 2 growing seasons. Hardy to 0°F (-18°C), heat tolerant to 90°F (32°C). Flowering midseason (late May in Maryland). Etymology of name: for Lisa Marie Million of Taneytown, MD, a granddaughter of the hybridizer.



'Reileyridge Lisa Marie'. Photo by Ed Reiley.



'Scotian Fire'. Photo by John Weagle..

(a) 'Scotian Fire'

Evergreen azalea: 'Pink Clusters' (s) X *R. nakaharae* 'Mount Seven Star'. H (1983), G (1985), N (1990), REG (2018): John K. Weagle, Halifax, Nova Scotia; I (c. 2003): Rhodo Land Nursery, Canada. Flrs 2/terminal, open funnel, 1.4 inches (35mm) long x 1.9 inches (47mm) wide with 5 broadly acute lobes, flat margins. Bud, inside and outside: vivid red to vivid reddish orange (44A-44B), interior with vivid red (45A) spots and dorsal area (18 x 20mm), barely discernible. Calyx: 0.3 inch (8mm) long, brilliant yellow green (149A). Red pistil and stamens. Lvs 1.4 x 0.7 inches (35 x 17mm) in summer, 0.7 x 0.4 inch (17 x 10mm) in

winter, elliptic, cuneate base, broadly acute apex, flat margins, moderate olive green (146A) in winter. Indumentum: undersides moderately covered with adpressed silver white hair; mid-rib, petiole and new shoots heavily covered. Shrub 2 x 2 feet (0.6 x 0.6m in 10 years; open habit. Hardy to -13°F (-25°C). Flowering late season (mid to late June in coastal Nova Scotia).

(r) 'Shannon for You'

Elepidote rhododendron: Parentage unknown. H (2006): H. Edward Reiley, Woodsboro, MD; G (2016), S (2017), N (2018): Mary L. Reiley, Woodsboro, MD; REG (2018): Reiley Ridge Nursery, Woodsboro, MD. Flrs 13/truss, broad funnel, 2.25 inches (57mm) long x 3.5 inches (90mm) wide with 6 rounded, reflexed and partially dissected lobes, very wavy margins. Bud: strong reddish purple (78B). Inside: very pale purple (77B) picotee, blending to creamy white in center of lobes with vivid yellow green (154A) at throat. Outside: strong purple (77B) at margins blending to light purple (77C). Fragrance: light. Truss



'Shannon for You'. Photo by Ed Reiley..

brilliant yellowish green (140B), semiglossy. Shrub 6 feet (1.8m) high x 8 feet (2.4m) wide in 28 years; lvs held 2 growing seasons. Flowering midseason (late May in Seattle area). Flowers present as orange at opening, quickly fading to underlying yellow.

Corrections and additional information

(r) **'Babar'**: IRRC (Second Edition, 2004), p. 108. This is the correct spelling of the name published as 'Barbar'.

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).



'Yellow Bliss'. Photo by Henry Helm.

3.5 inches (90mm) high x 5.5 inches (140mm) wide. Lvs 5.5 x 2 inches (140 x 51mm), elliptic, rounded base, broadly acute apex, downcurved margins, moderate olive green (137B), semiglossy. Shrub 3 feet (0.9m) high x 3.3 feet (1m) wide in 12 years; intermediate habit. Hardy to 5°F (-15°C), heat tolerant to 90°F (32°C). Flowering midseason (May in Maryland). Etymology of name: For Shannon Reiley of Woodsboro, MD, a granddaughter of the hybridizer, who coined the name before his death.

(r) **'Yellow Bliss'**

Elepidote rhododendron: 'Hotei' (s) X 'Wickiup'. H (1990), N (2018), REG (2018): Henry R. Helm, Bainbridge Island, WA; G: Doug Denkers, Bainbridge Island, WA. Flrs 15/ball truss, funnel, 1.75 inches (44mm) long x 2 inches (51mm) wide with 5 rounded, often emarginate lobes, flat margins. Bud: vivid red (45C). Inside and outside: vivid yellow (12A) with vivid red (45C) spots on dorsal lobes, spots fading to vivid yellow (12A). Calyx: 1 inch (25mm) long, vivid yellow (12A) with vivid red (45C) overlay, particularly on dorsal side, red fading to yellow. Yellow filaments, style; brown anthers; yellow-brown stigma. Truss 4 inches (102mm) high x 4.5 inches (114mm) wide. Lvs 3-4 x 1.75 inches (76-102 x 44mm), oblanceolate, cuneate base, broadly acute apex, flat margins,

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 2018). 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.

"I want it said of me by those who knew me best, that I always plucked a thistle and planted a flower where I thought a flower would grow."

Abraham Lincoln

Book Review: Woodland Gardening with Rhododendrons, Magnolias, Camellias and Acid-loving Plants

Reviewed by
Glen Jamieson
Parksville, BC,
Canada



Woodland Gardening with Rhododendrons, Magnolias, Camellias and Acid-loving Plants

Cox, K. 2018. Glendoick Pub., Perth, Scotland: 394 pp. Hardbound.

This book, written by Ken Cox, one of today's most knowledgeable plantsmen, is an overview of the horticultural style of woodland gardening as it's practiced today. It describes the history of this gardening style, which began in eighteenth-century England by combining informal landscape design with what were then spectacular exotic plants. From that time onwards, temperate European and North American gardens in particular, increasingly utilized the hardier oriental plants, and in so doing, adapted woodland gardening worldwide. As the author points out, this is the first book to document the history of this gardening style, to showcase many of the exceptional woodland gardens worldwide, and to illustrate (there are more than 500 colour images) and recommend the best selection of plants to grow in them. There are five major parts to the book, with a number of chapters in most parts, that discuss woodland gardening history, its design features, cultural aspects and challenges, recommended plants, and finally the author's personal choice of the two world's greatest woodland gardens.

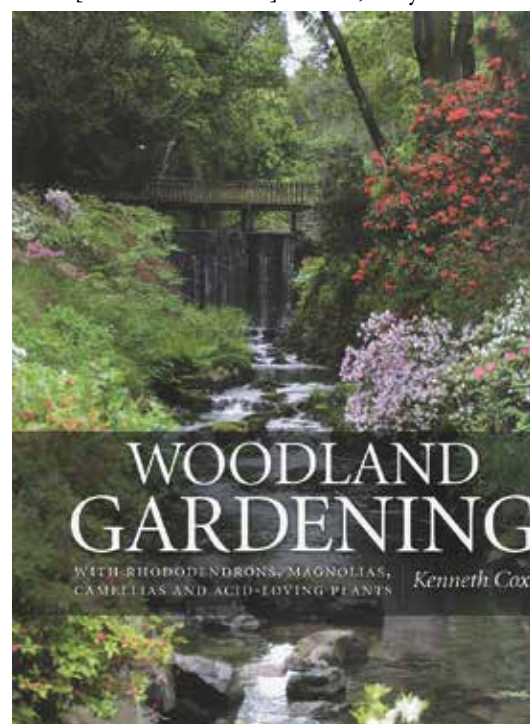
What I found most enjoyable while reading the book was the descriptive, easy-flowing but informative writing style of the author, as demonstrated by the following from the opening chapter:

"Sometime in the early 1920s, Ernst Wilson presented Euan [Cox] with a plant of *R. sutchuenense* W. 509, in exchange for some Cox and Farrer plant collections. Euan selected a site for Wilson's gift on the steep bank above one of the three waterfalls on Glendoick's burn. Almost a hundred years later, Wilson's plant is still growing happily at Glendoick, a gnarly old gent now 5 m [16 ft] high and almost as wide... This single plant spans the generations of the Cox family and symbolizes a key aspect of woodland gardening: longevity. Woodland gardening is legacy gardening, planting for posterity. Glendoick's *R. sutchuenense* has kept growing through a century of upheaval, survived two world wars, several great freezes, storms and periods of drought."

An important point is Cox's definition of woodland gardening, as technically, it can cover a very wide range of gardening styles and practices, from planting a pinetum or arboretum to "improving" a patch of woodland by naturalizing bulbs, encouraging wildflowers and creating paths through it. Cox defines woodland gardening more narrowly, as gardening that shares most of the following characteristics: moist acidic soil, having three layers (a tree canopy, shrubs and an understory of perennials and bulbs), and a moderate temperature (especially 'maritime temperate' and 'oceanic'). Interestingly, garden size is not critical, and while most woodland gardens are 0.5 to a hundred hectares [one to 250 acres] in size, they can be as small as a neglected corner of a garden using existing or newly planted trees, underplanted with shrubs, bulbs and perennials.

There is a tremendous wealth of information in the book, and the images are truly spectacular. It is impossible in a short review to summarise all the main aspects of woodland gardening that the author describes, so I will just point out a few of his observations that particularly caught my attention. In his historical part, he discusses this style of gardening in Japan, Europe and North America, and in the latter, even briefly mentions the jungle vireya gardens on the Big Island of Hawaii. In addition, descriptions of woodland gardens in different countries (e.g., new Zealand, Australia, Ireland, Finland, etc.) are scattered throughout the text on coloured pages to break up the rather detailed points in aspects otherwise being discussed. In the garden design part, he singles out the concept of the "borrowed landscape," where one takes advantage of the surrounding countryside and its natural features to augment a garden's design, and the challenges of incorporating colour, scent and even an area's natural wildlife biodiversity.

In the practical part, aspects of the three structural layers of woodland gardening are considered in detail, as are the influences of soils, maintenance and climate; and weeds, pests and diseases. In the plants for woodland gardens part, he discusses the attributes of rhododendrons of all types, other



ericaceous genera, camellias, magnolias, hydrangeas, and a wide variety of other woodland trees and shrubs; and then various understory perennials and bulbs.

The final part of the book identifies the two gardens Cox personally feels best exemplify a world-class woodland garden, because of their scale, longevity, and the high level of ongoing stewardship in their maintenance. Many gardens were previously discussed in the book, but these two gardens, Windsor Great Park, consisting of the Savill Garden and Valley Gardens, in England, and Bodnant in North Wales, are each described in greater detail. This is the shortest part of the book, being only eight pages, but it is an appropriate ending for such a thoughtful and informative treatise.

A positive aspect of woodland gardens is that unlike most other garden styles, when severely neglected, woodland gardens can be resurrected relatively easily and be brought back to life, by removing trees and brambles where necessary and extensively pruning. Perhaps the main negative aspect of woodland gardens is that they typically take decades to mature if started from scratch, so may not be of interest to those who want a finished garden look in just a few years.

Finally, the Afterword concludes by stating that gardening is really an individual experience, with a garden often a summation of the memories, moments and people that were involved in its creation. As one walks through one's garden, associations of many of the plants and elements in it bring back memories of how it was created, and the special influences friends and acquaintances had in its design and development. Gardening truly is an individual experience, and a fitting, although perhaps ephemeral, legacy. This book is truly an enjoyable read, but be prepared to take the time required because one cannot process all its contents quickly!

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

Errata

The ARS Photo Contest Runner up for Plant in Bloom was incorrectly stated as Gus Thompson, when in fact the image was submitted by Linda Derkach. The image is reprinted below with the proper acknowledgment.

Runner up

Linda Derkach,
Mount Arrowsmith
Chapter.

Rhododendron schlippenbachii.



A New Species Introduction to Appreciate:

R. huianum

Maria Stewart
Sandy, OR



On April 25 and 26th in 2014, The Rhododendron Species Foundation celebrated its 50th Anniversary in Federal Way, Washington. During the Celebration, my husband and I had the pleasure of walking in the Rhododendron Species Botanical Garden to view the many species and companion plants that have been collected over the last fifty years. One of our favorite species, and there are many to call our favorites, is *Rhododendron huianum*. It was in full bloom at the RSBG when we visited. Here is more about *R. huianum*:

Classification: Section: *Hymenanthus*, Subsection: *Fortunea*,
R. huianum is separated from its other *Fortunea* relatives by its pointed leaves and its noticeable calyx.

Natural origin: South and Southeast Sichuan, Northeast Yunnan, Northeast Guizhou at 3250 to 9000 feet (990 to 2745 m) in broad leaved forests. It was introduced outside of China in 1994-5.

It is an elepidote. It has no scales on its leaves.

Flowers: usually deep rose to purple with nectar pouches. Each corolla has a distinctive calyx that decorates like the “cap” of an acorn with its seven rounded lobes. There are about six to twelve corollas in a loose truss that shows off the calyx on each one. Blooms in April.

Leaves: oblong-lanceolate with pointed tips and somewhat glaucous underneath

Height and structure: six to nine feet (1.8 to 2.7 m) in ten years and grows into a small tree or large shrub.

Hardiness: 0° F. (-18° C)?



R. huianum. Photo by author.

Maria Stewart is a member and past president of the Portland, OR, Chapter. She and her husband, Mike, also owned and operated the Dover Nursery in Sandy, OR.

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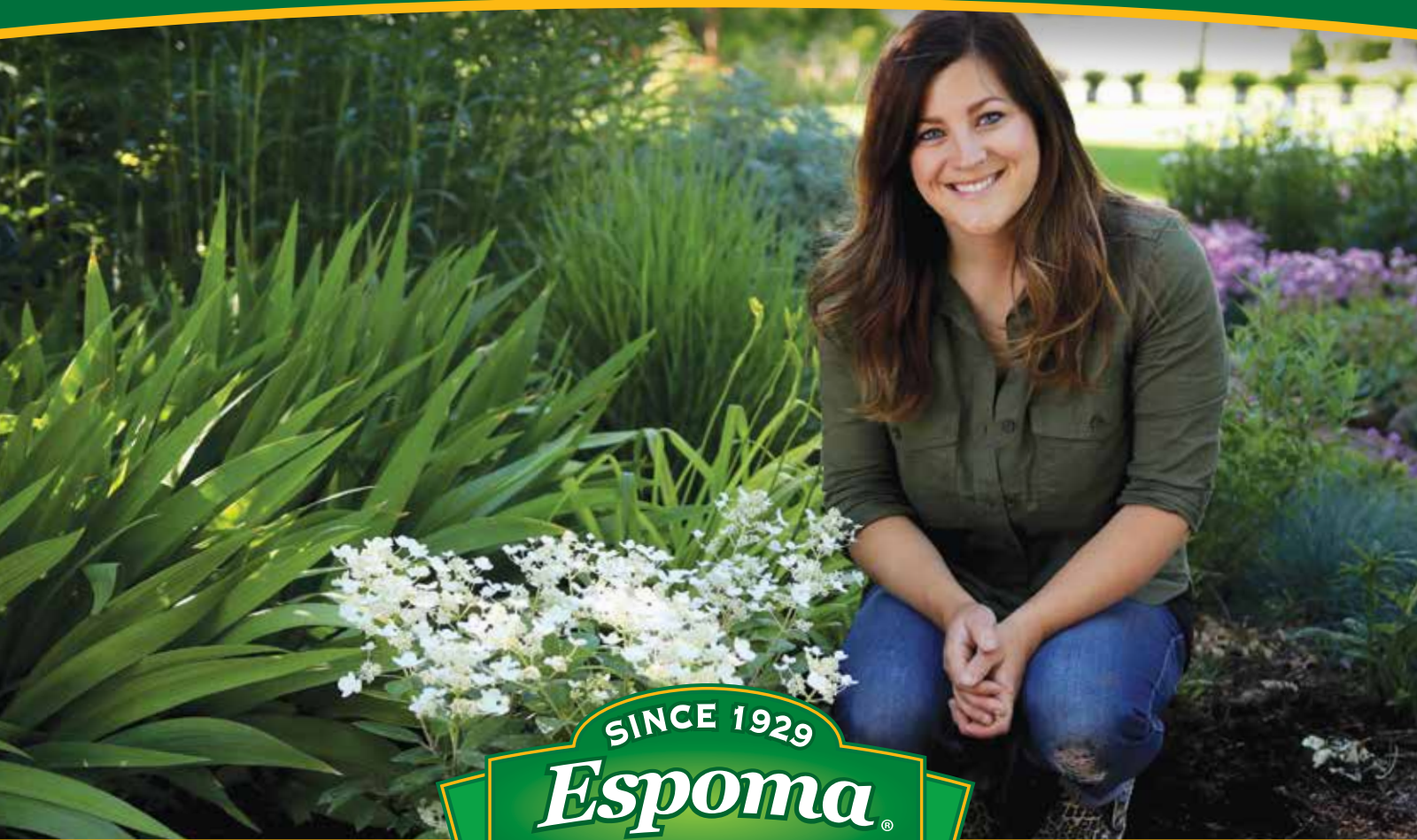
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