

# American Rhododendron Society



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# American Rhododendron Society

## A GUIDE TO THE SOCIETY

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## Society's Purpose

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

## To Join the Society

Membership categories:  
(January 1 – December 31)

Regular	\$40.00
Commercial	\$90.00
Sustaining	\$75.00
Sponsoring	\$150.00
Life single	\$1,000.00
Life family	\$1,500.00

You can join the ARS through your local ARS chapter (check the website [www.rhododendron.org](http://www.rhododendron.org) for chapter contact info) or by sending a check or money order directly to the Executive Director of the American Rhododendron Society at the above address. Checks must be in US funds. Make checks payable to the "American Rhododendron Society." Membership includes one year (4 issues) of the *Journal American Rhododendron Society* and affiliation with the chapter of your choice. **To receive the winter issue of the Journal, renewals must be postmarked no later than Dec. 1.**

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## From the President



Ted Stecki  
Vorhees,  
New Jersey

As my term of President comes to an end in May, 2011, Don Smart, who has been the Western VP for the last four years, will become the new President of the Society. As I look back over the last two years, I would like to make you aware of some of the problems that confronted me. Membership has been a big issue, as this is one of the items that make up a major cost element for the Society. In 2000 we had 5,400 members—in the fall 2010 census we had approximately 3,687. There are many items that can be attributed to the decline in membership. A few are that as people age, many of our members have

retired, passed on, moved to a smaller house with a smaller garden, and so on. Our membership chair, Shirley Rock, is working to increase membership. Some of our members who have contacted me and may have dropped their membership did so because as one member told me, he joined the Society primarily to learn what yellow and salmon colored flower rhododendrons would grow in the Chicago area. I asked him if he knew of any such varieties and their hardiness that grow in the Chicago area, and did he check with other chapter members to see what information and help they could provide. He said that he hadn't, but that he would bring up the subject at a chapter meeting. This is one example of a member not getting the help he needed at the chapter level. Another issue that I have addressed is the destruction of the Glen Dale azaleas at the National Arboretum in Washington, DC. The major cause of destroying the azaleas is the lack of a monetary donation from a private donor, which has caused the Arboretum to lay off the two workers

who maintained the 15,000 azaleas that were planted there by Ben Morrison from his hybridizing effort in 1946–47. The present administration staff also feels that the azaleas lack labeling and are growing out of control. Many of our chapters have given money to support the maintenance of the azaleas, which will be discontinued in the future if the azaleas are destroyed. The azaleas are a major attraction to many visitors to the Arboretum in the spring when they bloom. Members of the Azalea Society and our Society have done an excellent job of communicating with the Director, local politicians and newspapers. To date no decision has been made on the future of the azaleas. Those of you who have computers can go on line and get up to date information from the National Arboretum's web site.

I want to thank all of you for giving me the opportunity to be your President. I know that you will give Don Smart and future presidents the same support that you gave to me.

## From the Editor



Dr. Glen Jamieson  
Parksville, BC  
Canada

I recently received the *Rock Garden Quarterly*, the bulletin of the North American Rock Garden Society, and noted that they have just published the winners of their 2010 photo contest. They have 6 classes: Class 1 - Portrait of a plant in the wild, Class 2 - Natural scene with plants, Class 3 - Portrait of a plant in cultivation, Class 4 - Rock garden scene, Class 5 - Macro photograph [of a rock garden plant], and Class 6 - Plant in container. It struck

me that having a similar annual contest open to all ARS members might help engage current members more fully, and perhaps even encourage new members to join our society. Winners and short-listed entries would have their photos published in *JARS*, perhaps along with comments from the judges.

The above categories mentioned seem relevant to me, only substituting rhododendron for "rock garden plant," as this could engage both the more active and less active members. However, some more ideas and draft general contest rules are given on P. 89. I floated this idea to both the Editorial Committee and a keen photographer in the ARS, Don Hyatt, and their suggestions were to ask members if they thought this was of interest to them. Don Hyatt noted that the ARS has often conducted a photo contest at its annual meeting and even at some regional

meetings, but mostly only people either local to the convention area or attending the conference participated. In some cases it was a judged event, and at others the winners were determined by convention attendees who cast ballots for their favorite images. Some ARS chapters, such as the Potomac Valley Chapter, have also had contests, so there seems to be some interest across the broad ARS membership.

What I am proposing here is a competition that would be open to all ARS members, making it much more inclusive than either local chapter or convention contests. Any thoughts here would be welcome—please send them to me at [ars.editor@gmail.com](mailto:ars.editor@gmail.com) with the subject heading "photo contest"—and I will let you know in a future *JARS* issue whether members feel that this idea is worth pursuing.

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## In this issue...



'Bob's Favorite', a cross by Bob Rhodes, is one of the Vancouver Island hybrids Alan Campbell discusses on page 69.



Don Voss creates a provisional key for dealing with the taxonomically troublesome *Ledum* on page 99.





John Hammond and Gordon Wylie update the work at the O. Howard Hinsdale Garden, Spruce Reach Island near Reedsport, Oregon, on page 106.



'Night Music' is one of nine newly registered names for crosses by Jim Barlup. Page 115.

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## Cover Photos

Clockwise from top left: The Stanley Smith House at Pukeiti, New Zealand by Andrew Booker; *R. ericoides* on Mt. Kinabalu, Borneo, by Barry Davidson; Unnamed hybrid of 'Midnight Mystique' × 'Midnight Beauty' at the Hachmann Nursery in Barmstedt, Germany by Don Hyatt; 'Margaret Abbott' (*R. prionophyllum* × *R. calendulaceum*) by John and Sally Perkins.

## Spring ARS Convention

Dover Nursery is one of the four destinations during the ARS Annual Convention, May 11–15, sponsored by District 4. On page 73 Bob MacIntyre gives an overview of this horticulturally rich Oregon District





Mt. Kinabalu.

# Vireyas and Orchids in Papua New Guinea and Borneo



Barry Davidson  
Hobart, Tasmania  
Australia

Photos by the Author



*R. commonae*, rare flesh-coloured form.



*Dendrobium cuthbertsonii*, red form.



*Phyllocladus hypophyllus*, celeri top pine.



*R. ericoides*, 3300 m (10,827 ft) on Mt. Kinabalu.

*(Reprinted with permission from the 2009 issue of Australian Rhododendron Society's The Rhododendron.)*

The pattern of vireya distribution is very interesting. There are about three times as many species on the island of New Guinea than there are on the comparable sized island of Borneo, while the Indonesian archipelago and the Philippines are much lower in species richness. The knee jerk reaction is that New Guinea is the origin of the group and that they radiated out from there, but that is far from correct. The epidendroid, or mostly evergreen, orchids are also very abundant in New Guinea and they did not originate there either. Both groups of plants are of Eurasian origin. How did they get to New Guinea so easily and why did they diversify there so rapidly?

The most primitive vireyas, the Pseudovireya, are found from Nepal through South East Asia to Vietnam, including some in southern China and one species in Taiwan. The number of species increases in density in a West-East direction. Vireyas are lepidotes and the evidence suggests that they evolved from that group and moved into predominantly montane areas of the tropics.

Typically vireyas occur in the more mountainous regions in a climate more typical of that associated with ericaceous plants. Some do occur at sea level, but on Mt. Kinabalu (4095 m; 13,435 ft) in Borneo, the majority are found from the lower montane forest at 1200 m (3937 ft) to the subalpine forest at 3500 m (11,483 ft), with the greatest density between 1500 m (4921 ft) and 2500 m (8202 ft). This conclusion is general for vireyas. At lower altitudes the epiphytic habit predominates and higher up, the tendency is to become more terrestrial. Both adaptations in their habitats give access to adequate light and a stable environment in which to live.

Eurasia is the old northern continent formed when Pangaea broke into two, and Borneo is part of this old continental mass. Australia was part of the southern

continent of Gondwana until it broke up further. Gondwana moved north and New Guinea formed on the leading edge about 15 million years ago, which makes it quite young in geological terms. New Guinea is not very stable and parts of the country are still rising rapidly. Mt. Wilhelm (4509 m; 14,793 ft) may have the most rapid rate of uplift in the world at the present time and many ridges and valleys are still being formed. This produces many diverse habitats and results in the rapid formation of new species. Back in Borneo, we find that the island is much less active geologically and Mt. Kinabalu is an old granitic mass that was slowly lifted in the more distant past. Ridges and valleys are not being formed at the same rate as in New Guinea and new species form at a slower rate.

The Australian plate from Gondwana is moving north and is in the process of crashing into the Eurasian plate and many islands, such as Sulawesi, are forming as a result. During the present ice age period, which has been going for a few million years, the sea level has risen and dropped many times. Borneo has during this period been joined by a land bridge to mainland Asia on more than one occasion and vireyas would have been able to move across onto that island. It is most unlikely that there has ever been a land bridge from New Guinea to Borneo, but with lower sea levels there are reduced distances between islands. Vireyas have very fine seeds and wind dispersal to New Guinea occurred. Orchids did the same thing and some of both groups have made it into Australia. With drying out of the Australian continent over the last few million years, the southern movement of both groups was limited.

Alfred Wallace, a contemporary of Charles Darwin, lived for some time in what is now Indonesia. He noted that, if a line is drawn between Borneo and Sulawesi and extended down to go between Bali and Lombok, we find tigers and monkeys in Borneo and Bali on the western side and tree kangaroos in Lombok and

Sulawesi on the eastern side. What he had done was to recognise the boundary between land of Gondwanan origin and that of Eurasia. The strait between Bali and Lombok is quite deep. Wallace was a very perceptive scientist and he recognised that his idea held true for animals and generally for plants with larger seeds, but it did not work with vireyas, orchids and other plants with very fine seeds that are wind blown.

There are a few key adaptations that enable vireyas and orchids to move rapidly through the environment. As mentioned, they both have very fine seeds, a very necessary condition if a plant is to be epiphytic. Vireyas have wings on their seeds to facilitate being wind borne and orchids have extremely small seeds. They both have mycorrhizal fungi to facilitate germination as they cannot carry sufficient food stored in the seeds to sustain the growth of the new plant. Each group has mass pollen transfer and there is evidence that the pollinators for each plant are quite specific. Vireyas have pollen grains that cling together and orchids have pollen in little bags called pollinia and, when the right pollinator comes along, there is mass transfer onto the appropriate vector to the next flower. Pollen cannot be wasted with random distribution when you are an epiphyte. Many orchids have a special type of photosynthesis called CAM photosynthesis that enables them to conserve water and explains how many can be seen growing quite well on stems. **[Editor's note:** The three types of photosynthesis are C3, C4, and CAM (Crassulacean Acid Metabolism). C4 and CAM photosynthesis are both adaptations to arid conditions because they result in better water use efficiency. In addition, CAM plants can "idle," saving precious energy and water during harsh times, and C4 plants can photosynthesize faster under high heat and light conditions than C3 plants because they use an extra biochemical pathway and special anatomy to reduce photorespiration.] I am unaware that this has been demonstrated in

epiphytic vireyas, but the process does occur quite widely in succulents, cacti and bromeliads and probably many others in water stress environments. CAM photosynthesis results in a slower growth rate and makes the need for nutrients lower. Vireyas and orchids are fertilised slowly in the trees from exfoliating bark, leaf drop, death of insects and bird excretion, etc.

The rainforests of New Guinea and Borneo are very special habitats needing protection from clearing and agriculture. Fortunately, the Malaysian government has recognised the need for protection and has set aside World Heritage Areas, a number of parks and reserves and there are plans to declare more. The process of protection is less advanced in New Guinea. Why are these rainforests and subalpine environment so important? Along with the normal reasons, as a result of their positions, both islands contain components of both Eurasian and Gondwanan floras. For example, there are a few members of the Magnoliaceae from Asia in New Guinea and Borneo has some Gondwanan plants. It comes as quite a shock to the system to see *Phyllocladus hypophyllus* (Podocarpaceae - large (25–35 m high) canopy conifer) on Mt. Kinabalu, starting at about 1800 m (5905 ft). The other places that celery top pines occur are Tasmania and New Zealand and the locals in Borneo call their trees by the same common name. Higher up, and endemic to the same mountain, grows *Leptospermum recurvum* sporting a typical tea tree flower and small rounded glossy leaves. There are numerous *Syzygium* spp. or lillypillies (Myrtaceae; most species are evergreen trees and shrubs, with the economically important species being the clove *Syzygium aromaticum*) and *Dacrydium* spp., a type of (podocarp) conifer common in New Zealand. Before reclassification, the Huon pine (Podocarpaceae: *Lagarostrobos franklinii*, now found in Tasmania) was considered to be of this genus. Pitcher plants have been assumed to have originated in the Borneo

and Sumatra areas, but did they? Pitcher plants also occur in Madagascar, the Seychelles, Sri Lanka, the Himalayas (one species), Indonesia, New Guinea and there are two species on Cape York in Australia. This distribution suggests a Gondwanan origin and that when they got to the East Indies, they just happened to like the area and diversified in a changing geological environment.

A group led by Geoff Stocker and Phil Spence went to Papua New Guinea in September 2008. The visit was mainly to look at orchids, but since vireyas grow in similar environments and I am interested in both groups of plants, I went along. The tour was very well-planned and led, as the two leaders had an intimate knowledge of the region and knew exactly where to go in order to find plants.

We started in Port Moresby, at sea level, and then proceeded to the highlands, including Mt. Wilhelm, where we made many interesting finds. The first two gardens we visited contained only orchids, but one of the interesting features was that the plants simply grew tied to poles driven into the ground, just like epiphytes. I had seen this in pictures and it gives some idea of the rainfall and humidity present. Typically, in the wild at low altitudes, orchids and rhododendrons grow along the river valleys where the humidity is highest.

On the second day we flew to Tari in the Southern Highlands Province and stayed at Ambua Lodge. At the higher altitudes the temperature was considerably lower and the humidity higher. Along the way, the most frequent vireya growing in the 1500–2500 m (4921–8202 ft) altitude range was *Rhododendron macgregoriae* forming quite conspicuous groups and one at the lodge was at least 5 m (16.4 ft) high. Most were of a yellow to orange colour and were in very good condition. We also found *R. christii* and *R. culminicolum*. There were many orchids apparently enjoying the warm, wet and humid conditions. We went up to the Tari Pass at over 2500 m (8202 ft) and

found other rhododendrons including *R. beyerinckianum* that grew considerably taller than the form that we grow in our garden. It may be the conditions, but I suspect that there is some genetics involved and the form that we grow comes from a much higher provenance. In the more open areas, *R. commonae* lived up to its name; however, in fairness to the plant, the bright red flowers looked most impressive. A flesh-coloured form was growing in the garden at the lodge. For the orchid fanciers, there were numerous colour forms of *Dendrobium cuthbertsonii* that comes from high altitudes and grows quite well outside in southern Australia. The flowers will last for a year if the humidity is kept up.

The flight from Tari to Mt. Hagen in the Western Highlands Province gave us quite a close view of the epiphytic vegetation! We had seen a natural orchid and vireya garden at Ambua Lodge, and at Mt. Hagen there was another. The plants were very well-tended and the condition of the orchids in particular was excellent. From Mt. Hagen the group proceeded to Kumul Lodge, which means “bird of paradise” in the local language. We made a few excursions and saw more mainly orchid gardens, but walks out of the lodge and up the road revealed quite a few vireyas in the undergrowth. Bob Cherry has a very keen eye for spotting plants and we found many such as *R. inconspicuum* and *R. phaeochitum*. Hanging out of a tree overhanging the drive into the lodge was a fine specimen of *R. konori* of a very deep colour and it would have made a fine addition to any collection.

Our next stop was Kundiawa in Simbu Province and from there we drove up the four wheel drive link to Betty's Lodge, well-situated to start a walk up Mt. Wilhelm. Betty is a real character and she and her lodge are not to be missed. Among her many achievements is a trout farm that supplies many of the top restaurants in the country. We went to a singsing or native celebration a little down the road from the lodge where the locals danced



*R. inconspicuam*, very deep coloured form from Mt. Wilhelm.



*Nepenthes kinabaluense*, a pitcher plant.



Jakalina, the female orang-utan.



*Rafflesia keithii* in Mt. Kinabalu National Park



in traditional costume and made us most welcome with a feast. This was not to be missed. We walked up Mt. Wilhelm (up to 3400 m; 11,155 ft) and found many orchids and rhododendrons, particularly sub-alpine forms. Seeing a cirque almost on the equator is quite a sight and in that region Bob and I searched in vain for *R. saxifragoides*. The open mountain grassland was perfect and the altitude was right at around 3400 m, but the real problem was that this species does not grow on Mt. Wilhelm. We would have had more luck on Mt. Giluwe, not that far away from us.

Our last stop was back at Port Moresby. The flight out of Kundiawa was an experience. The airstrip goes from the heart of town and ends in a cliff that drops off vertically and we were not far off the ground when the earth beneath disappeared. On a day trip to the start of the Owen Stanley Range, we saw a magnificent endangered *Bulbophyllum* orchid, the start of the Kokoda Trail, and the magnificently planned and maintained Bomana War Cemetery. At the parliament house there was an orchid show and this was indeed a display to match any. *Dendrobium*, slipper orchids (*Paphiopedilum*) and moth orchids (*Phalaenopsis*) were in profusion. Papua New Guinea is a wonderful place to visit, but I would suggest that any person going there for the first time take an organised botanical tour. People in the know, like we had, make all the difference.

In late April and early May this year, I was again lucky enough to go on a trip to Borneo led by Ben Wallace. This was also a great tour and again highlighted the importance of going with a leader who has been before and knows the best places and times to visit. We went to the Malaysian states of Sarawak and Sabah. There are lots of places to visit and things to do in Malaysian Borneo and I did some homework before leaving.

The history of the two states is quite colourful. The White Rajah, James Brooke, and his successors ruled the area for a century until the outbreak of

World War II. Sir Hugh Low was another character who did much to explore Northern Borneo and was the first person to lead an entourage that climbed Mt. Kinabalu in 1851. It is steep and high with dense undergrowth and he climbed it a couple of times too! The local natives did not climb the mountain because it was supposed to be the haunt of spirits of the dead, but that did not stop them letting Sir Hugh climb it as long as he paid the appropriate fees. Thomas Lobb, a plant collector for the famous Veitch Nursery in England, was prevented from climbing the mountain in 1856 because there had been a poor harvest the year following Low's visit, and Lobb would not agree to pay what he regarded as the "extortionate demands of the villagers."

The people, their villages and their cities are a very positive feature of a visit to Borneo. Kuching, the capital of Sarawak, and Kota Kinabalu, the capital of Sabah, are both fine places. The people are prosperous, wealth is shared around and they are very proud of their cities. Everyone whom I met was friendly and cheerful and seemed to enjoy life. The infrastructure is well-planned and maintained. Our local tour guide assured us that if you could not sleep, it was perfectly safe to go for a walk even at 3 a.m.. The whole scene was quite unexpected, and I guess I was expecting to see grubby little streets and food stalls that would not be to my palate. Nothing could have been further from the truth. I can recommend these venues to anyone.

The first of three national parks (NP) visited was Bako NP, just out of Kuching. You cannot drive into the park, but instead climb into a longboat and travel down river past little houses while getting a fine view of Mt. Santubong, and enter the park through a mangrove swamp with proboscis monkeys swinging about. After a short walk up to about 200 m (656 ft), we found the kerangas or heathland. Sarawak is fairly wet most of the year with two short breaks between the monsoons. The best time to visit is when we did, at the end of April into May. The kerangas

can be quite hot and dry and it certainly was for us. That was fine, as the aim was to see many different habitats and this one was on poor sandstone producing leached soils of low fertility.

There were ground orchids all over the area and pitcher plants (*Nepenthes* spp.) of many kinds. There are 36 species of *Nepenthes* in Borneo and we saw quite a few on this first major excursion. Some pitchers are big. The largest *N. rajah*, although it was not seen here, can hold up to two litres (2.1 US qt) of liquid and that is only half full as the top half is typically empty. The pitcher is actually an extension of the leaf, and the leaf is drawn out into a tendril that usually winds around a twig for support and the pitcher develops on its end. Pitcher plants can be bushes, but most are climbers and they produce two types of pitcher; a lower pitcher that sits on its base and faces the tendril, and upper pitchers that have the tendril wound around a twig and a long tubular shape that faces away from the tendril. The most usual prey is ants or termites, but some of the larger pitchers have been known to catch animals as large as rats; the digestive enzymes that are secreted into the liquid make fast work of digestion and absorption.

When we came down for lunch there were a few macaques screaming in the trees and on one of the lower limbs was a bright green camouflaged pit viper. It was just over a metre (3.3 ft) long and looked like a green death adder, but you have to be careful taking photos, because they hang on by the tail and can spring out at you. The book says that they are painful and harmless, but our guide seemed to think that was wrong and that a little discretion should be used. A couple of macaques invaded the lunch area when some people left a table, and they moved like lightning and knew exactly what to do. One was having trouble swallowing some bread fast enough and crumbs were flying in the air like a storm.

The next National Park was Gunung Mulu in the heart of Sarawak. This area is famous for caves and is approached again

in a longboat. At dusk we watched an estimated three million bats flying out. It was a spectacular sight, as was the bat hawk flying above deciding which one looked tender enough for a meal. We also had an experience on a skywalk. Emergents, trees that stand up above the canopy, were used as supports from which to suspend the skywalk sections. The various sections covered quite some distance and the bases of the walkway looked like covered Bailey's ladders complete with steps, while the sides were some sort of fishing net. It was not for the faint hearted! At this park we saw the magnificent slipper orchid, *Paphiopedilum lowii*, named after Sir Hugh. We also saw *P. sanderianum*, which has two hanging lateral petals curled and up to a metre (3.3 ft) long. The plant was discovered in the late 1800s and lost from both cultivation and in the wild and so thought to be extinct, but Sheila Collette found it again half way up a vertical limestone cliff in the park in the middle of the last century.

Our next major stop was Mt Kinabalu National Park in Sabah, Malaysia. The mountain stands like a beacon over Sabah and has a magnificent flora which is well-protected by its World Heritage listing. Park headquarters is at 1500 m (4921 m) and the start of the walk to the top is at 1800 m (5905 m). The temperature is very pleasant at that altitude and, at a few degrees above the equator, remains that way all year. We saw many pitcher plants on the way up and, on the whole trip, we would have seen at least a dozen species. Those who did not make the trip up went on an excursion and saw numerous *N. rajah*, but I did get to see one behind a fence. The walk to the peak is quite simple. You go up to 3300 m (10,827 m), stay the night and then set off at 2 a.m. in order to see the sunrise from the peak. Typically the mountain becomes clouded over before midday and it is pointless to set off later. About three hundred walkers go up and down each day. On the way up we saw some rhododendrons including *R. fallacinum*. This is quite a spectacular thing

really with its neat well-formed trusses. *R. lowii* is the crème de la crème of vireya rhododendrons with magnificent trusses up to 30 cm (a foot) across and yellow or yellow-orange flowers. It is generally in flower, and we did manage to see one truss on its way out. Just below 3000 m (9843 ft) we found *R. buxifolium* and above 3000 m was *R. ericoides*. It has unique *Erica*-like small needle leaves and subtle little orange-red tubular flowers. There is no other rhododendron like it. We did not make it to the top as the wind and rain were quite savage that night, but of course it cleared up by 9 a.m. when we set off to come down. A traveler could easily spend a week based at Kinabalu, and the park cabins were very comfortable.

The next day we went to Kundasang where there is the memorial to the 2400 World War II Prisoner of War soldiers, predominantly Australian, who lost their lives in the Death Marches at the end of the war. The evidence suggests that the last 1000 men could have been saved, a fitting end, after enduring unthinkable hardships, but they were left to die. The Death Marches started at Sandakan and they marched through jungle towards Ranau near Mt. Kinabalu, a distance of about 240 km (150 mi).

The final highlights came when we went to the Poring Springs Orchid Garden. It is a natural garden in the National Park and contained many different orchids including *Paphiopedilum rothschildianum*. This is "THE" slipper orchid for true devotees. Paphiopedilums can look a bit unattractive to the novice orchid fancier, but they do grow on you. We were very lucky as we saw perhaps three of the best paphiopedilums on the trip.

At that moment Jakalina appeared. She is a wild orang-utan who comes down for a feed morning and night and was adept at performing for the crowd. She walked over to a picnic table to pose in every possible manner and then lay down on the seat for a few more relaxed poses. Jakalina knew exactly what she was doing and loved the attention. We got quite close,

about a metre (3.3 ft) from her, but you cannot touch her, because if you go to hold her hand, she has quite a grip evidently! All animals are important in the web of life, but when you see an orang-utan, it makes you really understand what destruction of the rainforest means. "Orang" means man and orang-utan is thus "man of the forest". It was quite amusing to see, as we stepped onto each skywalk, the sign "6 Orang," to limit the numbers of people on each skywalk section.

That was not all. Next we went to see a rafflesia! *Rafflesia* spp. are internal parasites on *Tetrastigma* vines and are endangered. The flowers pop up from the roots usually and are the largest flowers in the world. *R. arnoldii* in Sumatra is the largest, but the one that we saw at Poring is *R. keithii* and would have been 90 cm (35 in) across. The buds take about a year to open from when they first appear on the roots. They are practically odourless and open for approximately seven days. This one was on its fourth day. The flowers are unisexual and it is thought that two species have already become extinct. We were very lucky to see one.

If you want to see vireyas in the wild, then trips to Papua New Guinea and Sabah should be on the list. Papua New Guinea has some way to go towards achieving desirable conservation, but it is a developing country with people living throughout the highlands, and this makes protection efforts very difficult. It appears that Malaysia has looked at the countries around her and decided to go down a better path. Its environment is quite well protected. The forward planning of parks for conservation and tourism creates a feeling of optimism.

*Barry Davidson is a member of the Australian Rhododendron Society, Southern Tasmania Branch, and is an avid vireya gardener.*

# Vancouver Island Rhododendron Hybridizers – Part 2



Alan Campbell  
Shawnigan Lake,  
BC  
Canada

(Modified from two issues of the Cowichan Chapter Newsletter, Oct. and Nov., 2006. Part 1 in the Winter 2011 issue covered the Ted and Mary Greig hybrids.)

## The Work of Bob Rhodes

Dr. Robert C. Rhodes has been the face of rhododendron culture in District 1 of the American Rhododendron Society (ARS) for perhaps five decades. While living in Maple Ridge, BC, he began his involvement with the ARS with membership in the Vancouver Chapter, joining in 1959. Upon retiring from his medical practice in 1984, and then moving to Gabriola Island, BC, in 1988, he and his wife Jean took up membership with the Victoria Chapter, moving on to the Cowichan Chapter on its forming and are now members of the Nanaimo Chapter.

I vividly recall my first awareness of Bob Rhodes when attending one of my wife Sandy's and my first few meetings of the Cowichan Valley Rhododendron Society in 1994. While enjoying the tea after the meeting, I sidled up to a small group of elderly gentlemen deep in conversation. Bob Rhodes, Dave Dougan, and Peter Stone were discussing the merits and difficulties of growing *Rhododendron lacteum*. It quickly became apparent to me that this rhododendron stuff was about more than sticking a plant in the ground. If I was going to learn anything about rhododendrons, I had best get to know these men well.

The first introduction of a Rhodes rhododendron hybrid into our garden was 'Bob's Blue' ('Ilam Violet' × Blue Diamond Group). We chose this low-growing, violet-coloured lepidote to plant

next to a pathway and bracketed it with two of Cox's "yellow birds," 'Curlew' and 'Chikor'. The colour combination gives a nice effect.

Skirting a second pathway in our garden, we chose another small-growing hybrid of Bob's called 'Nathaniel' (Humming Bird Group × Elizabeth Group). This bright red-flowering hybrid, named for his son, is a larger-leaved plant than 'Bob's Blue' and will grow somewhat larger and faster. Given a site with more sun than it receives in our garden, 'Nathaniel' would flower quite profusely. A sister seedling of 'Nathaniel' is 'Arlene Trustham\*', named for Bob's daughter.

Mention the name of Bob Rhodes to any rhododendron grower and the first corresponding hybrid that will be mentioned is 'Haida Gold' (*R. wardii* × Goldfort Group). This is a fine yellow-flowered rhodo with nice green leaves and some fragrance. Having a tendency to be affected by powdery mildew, 'Haida Gold' needs full sun and good air circulation. Strictly speaking, 'Haida Gold' is not a Rhodes hybrid. In the 1960s, when everyone was trying to produce a good hardy yellow, Bob saw advertised by the Bovee-Mayo Seed Company the seed reported to be *R. wardii* and 'Goldfort' and thought it looked promising. The best seedling from the seed lot was grown on and evaluated over several years to eventually be registered as 'Bob's Yellow'.

The most common and repeated story of how 'Bob's Yellow' became 'Haida Gold' is that at one time Bob and Jean adopted a young native girl of the Haida First Nation and named the plant for her. Not quite correct! Les Clay began to reproduce 'Bob's Yellow' through his tissue culture lab as it is very difficult to propagate by cutting. Les began sending hundreds of clones of 'Bob's Yellow' to Britain and Europe, but the nurseries did not like the name, which prompted a search for a jazzier one. It was during a Rhodes holiday

to the Queen Charlotte Islands (Haida Gwaii) that the new name was conceived and the Europeans had their snappy name with a good Canadian connection. Bob's and Jean's adopted daughter was actually of the Salish First Nation, located around the Strait of Georgia.

An interesting and somewhat amusing aside to this story of 'Haida Gold' concerns a visit to the Rhodes garden some years ago by Douglas and Margot Harris of England. Douglas Harris had been head gardener of Exbury, but was now running his own nursery just south of London. Mr. Harris stated that he had never heard of 'Haida Gold', but grew and sold an excellent hardy yellow called 'Bob's Yellow'. It took some time and research to convince him that it was the same clone.

Not all of Bob's work has been registered. A Subsection Triflora cross that has produced some fine plants is an example. 'Jean's Favorite'\* (*R. augustinii* 'Towner Court' × *R. russatum*) is very well known in Vancouver Island gardens, an airy, fine-growing plant with light lavender flowers showing a greenish-yellow blotch—one of my favourites also. Two other plants from this crossing are 'Bob's Favorite'\* and 'Gabriola Blue\*'. I have not flowered 'Bob's Favorite' as yet, but have been told that it somewhat resembles 'Electra', whereas 'Gabriola Blue' has a darker purplish-blue flower. I should ask Bob how it came about that Jean's favourite got into the trade and his favourite did not.

Many of the Rhodes hybrids interest me, but I think that I would have to pick *R. 'Lillian Hodgson'* ('Solent Queen' × 'Old Copper') as my favourite. This is a large-growing plant with good-sized leaves of a rather lighter green and a large truss with flowers having a shell-pink edge colouring to a blending of light orange and yellow centre. The plant was named after an original member of the Vancouver Chapter who became "ecstatic

upon seeing the plant's truss for the first time." Another hybrid that intrigues me is the one called 'Captain Bob'\* ('Red Cloud' × 'Gypsy King'). There is a No. 1 and No. 2 of this cross. I grow 'Captain Bob' No. 2. Both "Captains" have a dark red flower with black spotting, but it is the better leaf of No. 2 that catches my eye with its dark green colouring and the slight twist down its length. Bob obtained the seed of this cross from Merl Cisney and selected the resulting seedlings. The next hybrid is 'Norma Hodge' (unknown × Fabia Group), named for Bob's first wife. The seed for this hybrid was given to Bob by Eric Langton—the man who led Bob into hybridizing—and who had crossed the Fabia Group selection with an unknown species growing in the garden of Dr. McKee of Langley. The Homer Salley and Harold Greer (1986) book on hybrids describes the flower as varying shades of red and rose.

Sometime in the mid- to late 1960s, the aforementioned Lillian Hodgson received a seedling of a new cross done by Bob Rhodes, raised the plant to maturity, and registered it with the name 'Jean Rhodes' (Naomi Group × 'Mrs Horace Fogg'). This pre-emptive move, without Bob's knowledge, somewhat irked the Rhodes as Bob had chosen a different seedling of the same seed lot which he considered superior. The seedling of Bob's choice had a nicer flower, but apparently was not as hardy—it died off during a colder than normal winter. Perhaps Lillian Hodgson's precipitous move held some gnostic insight! A third seedling from this cross was grown on by Ken and Dot Gibson in their Tofino, BC, garden, and they named the plant 'Brianna' for their granddaughter.

'Gabriola Glory'\* (*R. yakushmanum*, Exbury form × *Kingianum* Group) is one Rhodes hybrid that I have yet to root from a cutting, not that it is difficult to root, but each year this plant sets flower buds so profusely that there is no cutting material to take. One hybrid with which I have had difficulty (actually absolute

failure) rooting is a yet unnamed crossing of 'Haida Gold' with Joanita Group. Another unnamed plant is a crossing of 'Elsie Frye' with *R. edgeworthii* [previously *R. bullatum*]. This hybrid is rather easy to root as are most of those of the Maddenii Group. Bob and Jean grow many tender rhodos on their ocean-side property, but there is a cool greenhouse to shelter them should a winter turn nasty.

Here on Vancouver Island, we don't see the hybrid 'Camflo'\* very often, but it is much sought after in the Fraser Valley. Its scarcity can be attributed to difficulty in rooting. The copy I have is a graft on 'Catalode' [syn. 'County of York']. When touring gardens, I have eavesdropped on many conversations in which people speculate that the name 'Camflo' is derived from species: "it has to be *campanulatum* crossed with *floccigerum...*", or "no, I think it is *campylocarpum* crossed with *floribundum...*" or a number of combinations. Sorry, but it's none of these! Bob let me in on his secret: the name 'Camflo' is derived from the names of two of the favourite stocks in his investment portfolio, but unfortunately he did not divulge what stocks those were. Here again Bob received seed from a crossing done by another hybridizer and eventually chose the best seedling from the lot. 'Camflo' is a sister seedling to 'One Thousand Butterflies', the cross of 'Lem's Cameo' × 'Pink Petticoats' hybridized by Jack Lofthouse in 1975.

Lastly, I would like to mention 'Dinty Moores', not the canned stew produced in the United States, but the hybrid from *R. yakushmanum* crossed with 'Purple Splendour'. I came across the listing in Salley and Greer (1986) showing "Dr. R. Rhodes" as the hybridizer, "Wildfong" as raiser, and "R. Behring" as registrar (1983). I called Bob up on this one, and he had to say that he didn't recognize the name, but did recall doing the cross and giving seed to Milton Wildfong. This is a good illustration why hybridizers need other growers. It is virtually impossible for a hybridizer to germinate all the seeds

produced in a cross and grow them all on to maturity. Other willing growers are needed to help find the best plants in any given seed lot. I have not been able to find a plant of this name growing anywhere in District 1. Should any reader know of one, please let me or Bob Rhodes know—we would both like a copy.

Both Bob and Jean have garnered a vast amount of knowledge on rhododendrons and are very willing to share their experience as well as their garden "Steepsides." The ARS has recognized their dedication and accomplishments with the awarding of Bronze and Silver Medals to them. Should you get a chance, visit this Gabriola treasure and experience walking down a lane bordered with fragrant Maddenii Group rhododendrons.

### The Weesjes/Larson Connection

The University of British Columbia (UBC) knew talent when they saw it. Evelyn Jack received her degree in horticulture in 1954 and was immediately hired by the university into its horticultural program. Three years earlier, the university had hired a young man newly emigrated from Holland and employed him in its burgeoning Botanical Garden. The young man was Nick Weesjes, and he was elevated to head gardener in 1955. The next 25 years saw Evelyn Jack and Nick Weesjes increase the prominence of both the genus *Rhododendron* in western Canada and the Pacific Northwest area of the United States and the breadth and depth of UBC campus gardens. During this time, three relationships developed which would enhance the gardening pleasures of the growing number of rhododendron enthusiasts in British Columbia.

Though I have mentioned in an earlier article the relationship that grew between UBC and the newly formed Rhododendron Species Foundation at Federal Way, Washington, I would like to expand slightly on that subject. In 1964, Dr. Milton Walker of the Foundation and Mary Greig approached UBC concerning U.S. import regulations, which disallowed

the Foundation to bring plant material directly from Britain to the U.S. I should clarify here that even though plant material could not go directly from Britain to the United States without being fumigated, effectively destroying the plant material as well as any parasites, British material could enter Canada and, by agreement, the United States and Canada would allow plant material to cross their border into the USA. It was another case of foreign elements using Canada as a stepping-stone into the United States.

Dr. Walker had amassed a large amount of seed and cutting material from the best of British gardens, so much that UBC had to dedicate the task of propagating this material to a proficient individual. Evelyn Jack was that person. The agreement with the Foundation allowed UBC to keep for itself an example of each species that Evelyn propagated. These in turn were handed over to Nick Weesjes to add to the botanical garden on the campus grounds. It was from these introductions that Evelyn began to propagate additional plants to begin her own collection of rhododendron species.

The second relationship that developed, fortunately for rhodo growers, was also with a fellow from the Lower 48 States. Hjalmar Larson, a nurseryman in the Tacoma area, was no stranger to BC. During his annual fishing trips to Campbell River, BC, he became acquainted with the Royston Nursery and established a friendship with Ted and Mary Greig. In 1954, Larson was invited to give a lecture on grafting at UBC, and through this event came to the attention of Evelyn Jack and Nick Weesjes. Sometime later, Ed Trayling, a rhododendron grower and hybridizer on the Lower Mainland [the Fraser River valley area around Vancouver, BC], also a friend of Larson's, closed the loop by arranging a visit to the Tacoma nursery for Evelyn and Nick. From as early as the late 1940s, Larson had been receiving seeds of rhododendron species and cuttings of English hybrids from Great Britain, somehow despite USA

import restrictions.

Not only was Hjalmar a nurseryman, but he also entered the realm of hybridizer. Here again, the problems of too much product and not enough time and space became an issue. He needed the help of other competent growers and Evelyn was high on his list. Over time, she received the product of 40 hybrid crosses and grew on more than 1000 seedlings from them. Growing these seedlings on, painfully evaluating every single plant, and registering those deemed the best, has resulted in some of the finest plants that we can grow in our gardens.

Being the astute readers that you are, the third relationship that I alluded to should be apparent by now. Few people can claim to be employed at an occupation that is also their source of enjoyment and their hobby. Nick and Evelyn were two of these, and while working alongside it was natural that their working relationship should evolve beyond the platonic. The Weesjes, upon reaching retirement age and leaving the employ of UBC in 1981, now directed their energies to their own dreams. Other than the four years between 1938 and 1942, when as a young girl she lived in Scotland, Evelyn had grown up in Victoria, BC, her birthplace, so acquiring land and moving to the north end of the Saanich Peninsula [near Victoria] was not an unexpected relocation. Here were four hectares [9.8 acres] of raw land, a diamond in the rough, ready to be shaped and polished to reflect a dream.

Their garden, "Towner Crest," began in 1982, and it took several years for the planting beds to take shape. The results of 20 years of collecting the best to come out of British gardens while working at UBC quickly filled beds with mature plants, while the assessing of hybrid seedlings filled even more. The main feature of the cultivated three hectares [7.4 acres] is rhododendrons in the natural setting of native conifers, but hardly the only feature. Please keep in mind while you read that this new undertaking was being done by a retired couple. Other

than the driveway and the house site, all work was done by hand. A few bigleaf maples [*Acer macrophyllum*] and any dead or diseased conifers were removed; the remaining native flora was retained. This native flora included Douglas-fir [*Pseudotsuga menziesii*], grand fir [*Abies grandis*], bigleaf maple, red alder [*Alnus rubra*], cascara [*Cascara sagrada*], arbutus [*Arbutus menziesii*], and Pacific yew [*Taxus brevifolia*], as well as Oregon grape (*Mahonia aquifolium*) and sword fern [*Polystichum munitum*] for ground cover.

Nick also dug, by hand, a drainage ditch 60 cm (two feet) deep by 30 cm (one foot) wide to reroute excess water around the four hectares and toward a small creek running through the property, in effect making the property as a whole a raised bed. A maze-like watering system runs through the garden, giving each plant its own drip feed or micro spray, not just to the rhodos, but also to the hundreds of other trees, shrubs, hostas, and candelabra primulas that make up the more than 3000 plants currently planted out.

It will have become apparent to you that in designating Vancouver Island hybrids, I am being liberal, geographically speaking. The hybrid 'Malahat' ('Gill's Triumph' × *R. strigillosum*) I can't include, as this is a Larson hybrid produced and grown in his nursery at Tacoma; he just happened to name the plant after one of his favourite BC drives. The same goes for 'Qualicum's Pride' ('Anna' × 'Cotton Candy'), a hybrid produced and raised by Lloyd Newcomb at his garden in Snohomish, Washington State. The plant was chosen from his garden and named by the Mount Arrowsmith ARS Chapter to be its marquee plant at the ARS Western Regional Conference held in 1995 at the mid-Island community of Qualicum Beach.

But when a stalwart of the local rhodo community, Dave Dougan, raves about a hybrid that the Weesjes' have grown from Larson seed that Evelyn named 'Dave Dougan' (*R. yakushimanum* × (*R. calophytum* × 'Grisette')), that plant

I just have to include. Evelyn says she can see very little of *R. calophytum* in it, but that it is a nice, well-behaved yak hybrid. Evelyn honoured another well-known Island rhododendron grower and historian by naming another of her Larson seedlings 'Bill Dale' (*R. yakushmanum* × *R. strigillosum*). A sister seedling, 'Elze Weesjes', named for one of Nick's sisters, also was registered. Two more of his sisters had rhodos named for them in 1994, 'Adrie Schipper' and 'Nellie Timmerman', appropriately enough, sister seedlings of *R. yakushmanum* × 'Mrs Horace Fogg'. A well-known plantsman and member of the Victoria Chapter lent his name to yet another Larson seedling, 'John Trelawny' (Jutland Group × Fusilier Group). The next hybrid evaluated and found worthy of registering was 'Gretha Rijkse' ('Kluis Sensation' × 'Fusilier'), once again named for a sister of Nick's. After much prodding from Evelyn, an excellent red *R. strigillosum* hybrid was named and registered by Ken and Dot Gibson of Tofino as 'Clayoquot Warrior' (*R. strigillosum* × 'Essex Scarlet'). The latest Larson seedling from the Weesjes garden to be evaluated and chosen is 'Lies Weesjes' (*R. yakushmanum* × 'Belvedere'), named for yet another of Nick's sisters. Of all the Larson/Weesjes hybrids listed above, 'Clayoquot Warrior'

is perhaps the one most available. The others have not been propagated as much, but I'm working on that.

Building a new garden from scratch, growing on and evaluating 1000+ seedlings of Hjalmar Larson's crossings must have kept Evelyn busy, but she did find the time to demonstrate her own aesthetic nature. Her keen eye and artistry are evident in the hybrids 'Nick's Choice' and 'Towner Crest', sister seedlings of ('Van Nes Sensation' × 'Mrs Horace Fogg'). Both of these plants growing in our garden have set buds and bloomed in 2007. Herman Vaartnou of Victoria was honoured by Evelyn with the naming of her hybrid 'Doctor Herman Vaartnou' (unnamed *R. lacteum* hybrid × *R. macabeanum*). Originally the "*R. lacteum*" was received by Evelyn in one of the seed shipments from Britain as species seed, but as the seed grew and matured it just didn't seem to key out to the true species. She expects the seed was the product of naturally-occurring hybridization, which is why she calls the cross as being from "an unnamed *R. lacteum* hybrid." I have yet to get cutting material of 'Doctor Herman Vaartnou', but I have managed to obtain cuttings of the *R. lacteum* hybrid as it is also a fine plant. Evelyn has intimated that there are many more unnamed hybrids

planted out amongst her gems. That teaser intrigues me to no end!

The locals as well as informed others seem to use the Weesjes garden as a semi private park, coming and going as whimsy takes them, and Nick and Evelyn are more than generous in sharing their "Eden" with those who take pleasure from it. In conversation with Evelyn, she asked that I mention herself and Nick less and their garden more, but the garden is them. The garden expresses their expectations, knowledge, drive and commitment much more than any conversation would draw from this quiet and self-effacing couple.

What the garden cannot tell you is that in 1970, the ARS proudly awarded Evelyn the Gold medal, its highest award, for her work on the genus *Rhododendron* and in 1990 the Victoria Chapter was very pleased to present her with the Bronze Medal for her work at the Chapter level. Towner Crest, the garden overlooking Towner Bay from the crest of the hill, is a jewel in the crown of gardens encircling the "Garden City" of Victoria, BC.

#### Reference

Salley, H.E. and H.E. Greer. 1986. *Rhododendron Hybrids: A Guide to Their Origins*. Timber Press, Portland, OR: 391 pp.

**See photos on page 118.**



## Tips for Beginners: What Is Indolebutyric Acid?

(From the Whidbey Rhodies News, Jan. 2011.)

Gail DaPont  
Freeland, Washington

After chuckling through the "Rhody Fever" article in *JARS* July 1981, Vol. 35, No. 3, I found myself wondering at the mention of "3-indolebutyric acid" in its last sentence...what is indolebutyric acid? So I did a little research and found that indolebutyric acid (IBA) is a plant hormone used to promote root formation and root growth

for propagating plants through cuttings. It can be found in your favorite Home and Garden Center as rooting hormone/powder/concentrate/gel and is made by various manufacturers. I also found a do-it-yourself home brew by Ilene Sternberg you can make from willow branches:

Gather about two cups of pencil-thin willow branches cut to 1-3 inch (2.5-7.5 cm) lengths. Steep twigs in a half-gallon (1.9 l) of boiling water over night. Refrigerated liquid kept in a jar with a tight fitting lid will remain effective up to two months. (Label jar so you won't confuse it with your homemade moonshine.)

Overnight, soak cuttings you wish to root. Or water soil into which you have planted your cuttings with the willow water. Two applications should be sufficient. Some cuttings root directly in a jar of willow water. Make a fresh batch for each use. You can also use lukewarm water and let twigs soak for 24-48 hours.

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# ARS District 4

Bob MacIntyre  
Bandon, Oregon



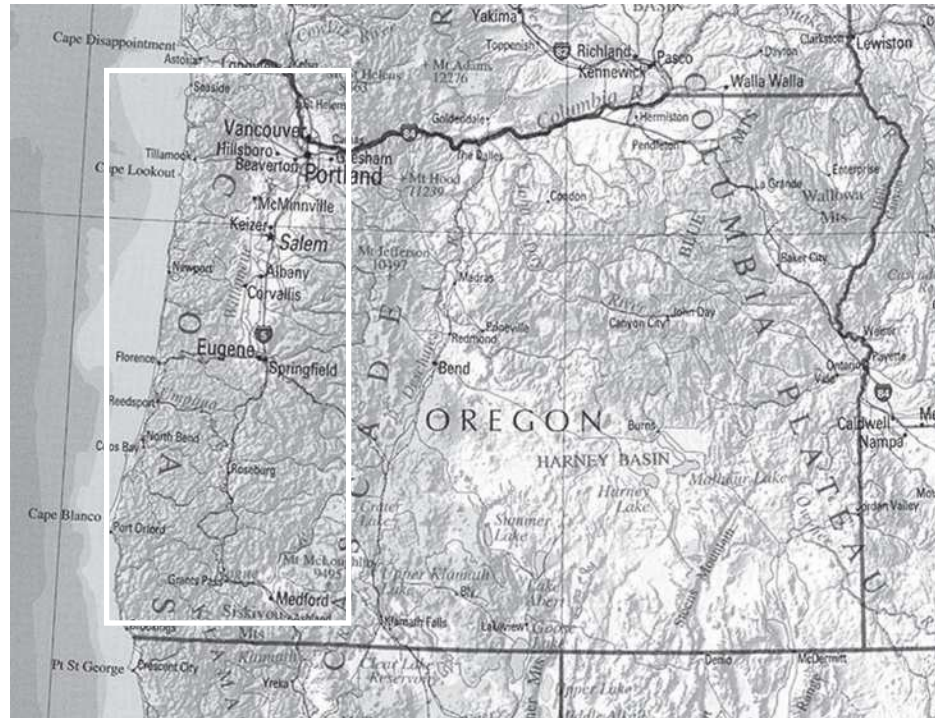
District 4 will be the host District for the upcoming 2011 American Rhododendron Society Annual Convention, *"The World in Your Garden,"* May 11-15, which will be held in Vancouver, WA, just five minutes from the Portland, OR, airport. Please check out the web site for information and registration. It promises to be an outstanding event <http://www.ars2011convention.com>.

ARS District 4 is a diverse collection of six ARS chapters, all located west of the Cascade Mountain range which extends north-south in central Oregon. The district covers the entire State of Oregon but has some members from Southern Washington State. The Portland and Eugene Chapters were instrumental in the formation of the American Rhododendron Society in 1945, and the ARS maintains its incorporation documents in the State of Oregon. Several District 4 chapters, notably Eugene, Portland and Siuslaw, have hosted ARS Annual Conventions and Western Regional Conferences in the past.

The chapters are spread across two distinct climate zones, each with a vast number of microclimates, especially towards the coast. Four of the six District 4 chapters lie in the north-south interstate highway (I-5) corridor through the Willamette Valley, locally called the Central Valley. Chapters in the valley, current membership and when they started are:

Eugene Chapter: Eugene, 62 members, started in 1950,

Willamette Chapter: Salem, 48 members, started in 1978,



ARS District 4 has six chapters, all located west of the Cascade Mountain range (see white box in map). The map is reprinted courtesy of the Perry-Castaneda Library.

Tualatin Chapter: SW Portland area, 23 members, started in 1968, and

Portland Chapter: Portland, 131 members, started in 1945, for a total of 264 members.

The coastal chapters are:

Siuslaw Chapter: Florence, 78 members, started in 1970, and

Southwestern Oregon: Coos Bay and North Bend, 34 members, started in 1968, for a total of 112 members.

Many of these chapters additionally have Associate Members from around the world; total District 4 membership is currently 376.

Climate conditions in the Central Valley chapters are generally the same with cool to cold winters with temperatures as low 5° F (-15 C) to a rare 0° F (-17.8 C) with 4-6 inches (10-15 cm) of snow. Summer can be warm to hot with several days of 100° F (37.8 C) or more. It is generally dry from May to September. Most summer days have a clear blue sky with little wind, but much cooler nights. Summer winds are mostly from the north and winter winds from the south. This climate allows

for the culture of many different species and hybrids of rhododendron.

The coastal climate on the other hand is quite different, with many different micro climates. Average low winter temperatures are just above freezing with temperature highs from the mid 40s (~7 C) to the high 60s (~20 C). Summer winds are generally from the north and east, and are dry. However, if the weather is hot inland, afternoon winds change direction and come off the sea from the west, bringing cool, moist foggy weather. For this reason, we very rarely have warm evenings and a sweater or coat is required at night, which allows many tender plants to be grown, either in the ground or in pots.

There are many municipal and private gardens between Eugene and Portland on the I-5 corridor and between Brookings and Lincoln City on the coast. Several of these gardens will be available for tours during the Annual Convention, so be sure and check the schedule.

Oregon's nursery industry began before Oregon was even a state. The industry dates back to the time when

pioneers used the Oregon Trail to come and live in the Oregon Territory. Word quickly spread that the Willamette Valley was a wonderful place for agriculture, with rich soil, moderate weather, and plenty of rainfall. In the 1880s, the nursery industry's importance in Oregon was further solidified with the founding of the horticulture department at Oregon Agricultural College in Corvallis, now

known as Oregon State University. The nursery industry, which includes several wholesale rhododendron nurseries that ship rhododendrons all over the world, is the second largest in the US after California, producing 11 percent of the nation's nursery crops. Oregon is the nation's biggest producer and exporter of Christmas trees, selling about 7.3 million trees a year.

I would encourage visitors to check the ARS web site, our visitor centers or contact ARS chapter presidents for more direct information on local gardens.

*Bob MacIntyre belongs to the Southwestern Oregon Chapter, is a past President of this Chapter, is an ARS Bronze Medal Award recipient, and is the current ARS District 4 Director.*

## Bed Preparation, Planting and Mulching of Ericaceous Plantings

Frank Brouse, Sr.  
Norristown,  
Pennsylvania



The most important thing to remember when planting is not to work the soil when it is too wet. It is so easy to compact wet soil and cause the loss of air space.

The best way to prepare a bed is a digging fork or shovel. The worst way is with a rototiller as it can compact soil structure. In any case, organic matter should be worked into the soil. Coarse peat moss and pine bark are good. Compost from tree leaves is good, but it has a tendency to have a pH around 7.0. This would not be bad if your native soil is acid. It would not be wise to use grass clippings if the lawn has been sprayed with herbicides.

In transplanting to the final area, the plant's root ball should be soaked in a liquid starter fertilizer such as MiracleGro but not Miracid. Well established rhododendrons should not need much fertilizer. If properly mulched, they should get enough

nutrients from the breakdown of the organic matter. If using new bark or sawdust in the soil, its breakdown may remove nitrogen from the soil, which will need to be replaced with fertilizer.

If you feel the need to fertilize the planting beds, it is best to use an organic fertilizer such as cottonseed meal, alfalfa meal or compost tea. Chemical fertilizers tend to suppress mycorrhiza.

Mycorrhiza are a symbiotic relationship between a fungus and the root system of a plant. [Editors note: for more detail, see *JARS* 63(4); 193.] Mycorrhizal fungi is not commonly for sale on the market, but can be obtained from a few sources, such as MycoGrow™ from *Fungi Perfecti* (<http://www.fungi.com/>) in the USA and Endo/Ecto from *The Organic Gardener's Pantry* in Canada (<http://www.gardenerspantry.ca/microorganisms/mycorrhizalproducts.html?gclid=CPvkm-q9pqYCFQIPgwodW3RYnQ>)

Micorrhiza fungi are important to plants due to the fact they help extract water from the soil for times of drought and help provide needed mineral nutrients. Mycorrhiza fungi are extremely important to enable plants to take up phosphorous from the soil at a pH of 5.5. Normally at this low pH, phosphorous is tied up chemically and is unavailable to plants.

For mulching of the plants following planting, conifer bark is the best, followed by hardwood bark. In perennial and shrub beds, wood/bark chips can reduce the need for irrigation by as much as 50%. Mulching materials that mesh together are more effective at reducing water evaporation from the soil. Under acute water restrictions, gardeners with wood/bark chip mulch have been incorrectly accused of illegally irrigating because their plants are still doing okay, compared to their neighbors!

When placed on the soil surface as mulch, wood/bark chips do not tie-up soil nitrogen. However, incorporating wood/bark chips into a soil can create a nitrogen deficiency due to a carbon-to-nitrogen imbalance, and can interfere with seedbed preparation. It takes ten or more years for chips to decompose in a typical soil. The use of fine chips or sawdust as mulch can tie-up soil nitrogen and can decrease soil oxygen levels (<http://www.cmg.colostate.edu/gardennotes/245.pdf>).

*Frank Brouse is a member of the Valley Forge Chapter, an associate member of the Philadelphia Chapter and is owner of the wholesale Brouse Nursery in Pennsylvania.*



# The Vireya Collection at Pukeiti

Andrew Brooker  
New Plymouth,  
Taranaki,  
New Zealand



Photos by the Author

Top photo: The Stanley Smith House.  
Center photo: *R. konori kasenombi*.  
Bottom photo: *R. lowii*.

More photos on page 78.

*"In company with Mr G. Herman Slade, who is now visiting New Guinea, I have collected several plants of R. gracilentum (F. Mueller) at Edie Creek, New Guinea. On the suggestion of Mr Slade, I am delighted to be able to send you one of these plants."*

This extract from Pukeiti Newsletter No. 13, printed in March 1960, a letter written by Mr J.S. Womersley, signalled the start of the relationship between Pukeiti and the Malesian rhododendrons (vireyas) that was to grow into the sizeable collection we have today. That one solitary plant arriving via airmail, very well packed, at the home of Pukeiti's Honourary Superintendent, Mr. John Goodwin, was the catalyst for the generosity of future collectors to contribute to by far the most viable and outstanding collection of species vireyas growing in New Zealand today.

Pukeiti's small staff and nursery started receiving and propagating vireyas cuttings as and when they became available. And all of this was recorded in the early plant records of the garden, forming the basis of the current information held in the Botanical Garden (BG) Database used today. Each plant was accessioned and records kept of origin, such as the immediate source, whether it arrived as a plant or cutting and ultimately where it was placed in the collection. New Plymouth's own city park nursery was a great source for us in the early days, but it was not until the interest of Pukeiti's young Curator, Graham Smith, was grabbed that things started to take off.

*"We have been attempting to grow as wide a representation of rhododendrons as possible and in recent years I have been experimenting with Malesians..."*

And experiment he did. As the "Malesians" are naturally epiphytic, preferring the free drainage afforded by logs and host tree trunks, Graham was starting off young plants in sections of ponga tree fern trunks (*Dicksonia squarrosa* being the best for this). The next problem was to site these plants where the frosts of a garden set

in the foothills of a mountain would not find them. Not too hard a problem, but it was soon obvious that whilst relatively frost free sites could be found, the required light levels that the young plants needed were proving trickier to achieve.

### **The New Display Gardens and their Evolution**

Collecting vireyas had reached a new level for Pukeiti and over time the volume of plants within the collection grew. Both species and hybrids had been sent to Pukeiti by generous plants men from around the country. To address this new dilemma, a new display glasshouse was to be built for the 25<sup>th</sup> Jubilee celebrations in 1976.

Located adjacent to the lodge, this glass structure was home to 70 vireyas, both species and hybrids, in a well landscaped and heated environment. Terraced with ponga logs and filled with peaty "bush" soil, the conditions were created to replicate those thought to be ideal, with protection from the frosts and Pukeiti's fabled four metre per annum (157 inches) rainfall but with better light conditions than ever before. But by the following year the cry of "*alas the house is not big enough*" could be heard.

As the collection continued to grow, more space was clearly needed to display it to the public, both to build interest in what the genus *Rhododendron* had to offer and relieve pressure on the bulging nursery. By 1989, the next stage, a very open structure consisting of an opaque plastic roof on poles, was ready to be landscaped. This extended the collection's display area and allowed for various terraced levels to be constructed utilising the native tree fern logs (again *Dicksonia squarrosa*) and stumps to give the sharp drainage required. The benefit of this open structure soon became apparent, as the plants inside it received noticeably better air movement and kinder light levels than the ones in the neighbouring glasshouse. We had created that balance needed for vireyas between the dim protection

afforded on the margins of the rainforest and the conditions in the glasshouse.

The year 1993 saw Pukeiti remove the glasshouse and continue the open design of the covered walk. We also extended up into the propagation house as the collection kept growing. This allowed us to transplant some of the larger Borneo-sourced vireya species into an area solely designated for them. A series of carefully constructed ponga walls allowed only glimpses of the treasures within until you were in the middle of the garden.

The looming 50th jubilee prompted the more recent addition to the covered garden areas, and the whole nursery was relocated in 1999 to make way for a new conservatory. So now the whole complex sprawled over more than 400 square metres (4300 square feet), with a diverse range of vireya species, hybrids and other genera that would not be as happy outside in our rainforest garden.

### **The Contributing Collectors**

Since the development of the first display house, Pukeiti had received 200 cuttings from New Guinea that were to be held in quarantine for one year prior to release for planting. Such was the generous nature of the contributors to Pukeiti's collection.

New Plymouth's Pukekura Park was donating plants and cuttings from the mid-1960s and was a very important early source of material for the collection. Other local nurserymen, all members of Pukeiti, shared in the same way. Felix Jury both collected species vireyas on an early expedition to Papua New Guinea, and became a breeder of exceptional vireya hybrids, plants of which he was happy to give to the growing collection. Through his generosity we have some good forms of *Rhododendron christii*, *R. macgregoriae* and *R. phaeochitum*, as well as 'Silken Shimmer', 'Satan's Gift', 'Hot Gossip' and many more.

Keith Adams and his solitary journeys into the wilds of Borneo collecting new species have added some very good, and perhaps rare additions to the collection. His

efforts have introduced into New Zealand a great list of material including *R. yongii*, a plant almost unknown in cultivation until Pukeiti received cuttings from Keith. Others include *R. pneumonantheum*, *R. fallacinum*, *R. lanceolatum*, *R. perakense*, *R. borneense* and *R. lowii*, to name but a few. And Keith's excitement couldn't have been any greater than when in April 2002, he was told by Graham that his *R. lowii* (see image) was flowering for the first time, some 22 years after being collected in the Paka Cave area on Gunong (Mount) Kinabalu in 1980. Mention should be made that there were only three cuttings received, with one surviving as the plant we have today, and in that 22 years, many cuttings would have been taken to conserve that accession.

Graham Smith collected in Papua New Guinea on two separate occasions, once in 1983 as part of an Australian Rhododendron Association expedition and again in 1986 when leading a Pukeiti trip. The contribution Graham has made to the collection goes way beyond the range of species that he introduced to Pukeiti. Being able to see and record first hand how the plants were growing in the wild helped build an understanding of how the plants needed to be treated in cultivation to ensure their survival. One accession in particular collected in 1986 by Graham as "*R. species pink tubes*" and thought to be a natural hybrid for some time, given the cultivar name of "Pukeiti Skyrocket\*" but was classified later as *R. archboldianum* 'Starburst\*".

Vireya species have found their way into Pukeiti's collection from numerous other sources as well, such as Messers Rouse and Snell in Australia, cuttings and seed from RBG Edinburgh and various local collectors. The more recent being a shipment of 70 plants received from one Pukeiti supporter's private collection.

### External Study of Pukeiti's Vireya Collection

Because of the extent of Pukeiti's vireya collection and the depth of the recorded

information kept in the database, our plants are playing an important role in the conservation of this section of the genus *Rhododendron*. Massey University in New Zealand is assisting in an international study of vireya rhododendrons to establish a Red List of endangered species. This important work underlines the value of large public collections such as ours, and the need to continue to conserve all of the accessions we hold and add others to them. Within the next year, the wider world of collectors and enthusiasts will be able to access the BG Base used by the Taranaki Regional Council Gardens in New Zealand to see what is held here. This information can also be used to help grow the NZ Biosecurity database of known plants within this country, becoming an aid to future conservation.

### Cultivation and Care

Initially Pukeiti's potting medium was top soil based with additives of perlite, grit and fertilisers plus trace elements. In the late 1980s and early 1990s, when composted pine bark products became readily available in New Zealand, the medium changed accordingly. Neither the sterile soil-based nor composted bark mediums were totally satisfactory on their own for vireya cultivation. The most suitable additive for improving the drainage of the mix was found to be ponga (tree fern) shredded and mixed 50/50. The advantages were instantly apparent and it was as if the plants had once more become epiphytic.

The composted bark now available, post 2000, is considerably more open and free draining than those of old. We are now adding 50 g (1.7 oz) of dolomite lime and 80 g (2.8 oz) of osmocote 6-9 month slow-release fertiliser to every 50 litres (13 US gal) of potting mix. The resulting growth and standard of plant, be they vireya or Asiatic rhododendron, has been encouraging.

As with all plant care, we continue to monitor our activities and strive to be more effective. Due to the enclosed

nature of the covered walk environs in which our collection grows, there are slightly more instances of pest and disease infestations than in other parts of our garden. The plants are fed with organic liquid solutions, with supplementary side dressings been trialled at present. As with any garden, the process as a whole is one of trial and development and so far the results are pleasing.

### To the Future for the Collection

All of Pukeiti's collections have a significant role in the conservation of rhododendrons. The value of both the living collection of vireya rhododendrons, standing as it does today at some 126 accessions of species plus the many hybrids, and the records held at Pukeiti since the collection began, will increase as the collection grows and the individual species become harder to find in the wild. Plants such as *R. yongii*, mentioned earlier as relatively unknown in cultivation at the time of its inclusion into Pukeiti's collection, or *R. arfakianum*, accessioned in 1984 and as rare in cultivation as it is in the wild, and some other later accessions which are now threatened by extinction share a common bond with all other rhododendrons recorded in the database used at Pukeiti. Their long-term survival is improved as we endeavour through propagation and further distribution to sustain and grow the collections of today for tomorrow.

The vireya collection forms a small but valuable part of the overall rhododendron collection that makes up Pukeiti. Recently, the garden and its collections were transferred into the care of the Taranaki Regional Council from the Pukeiti Rhododendron Trust, to be preserved and improved, forming part of the trio of regional heritage gardens under their management.

\* = not registered.

*Andrew Brooker is Gardens Manager Pukeiti of Pukeiti Collections and a Gardens Manager for the Taranaki Regional Council.*



*R. archboldianum.*



*R. inundatum.*



Ponga pots.



*R. konori.*



*R. superbum.*



A view of Rhodo 2010 from the steeple of St.-Petri-Kirche. Photo by Karel Bernady.

## Celebrating 75 Years of the German Rhododendron Society

Karel Bernady  
Chester Springs,  
Pennsylvania



Plant explorers take a break at Rhodo 2010. From the left: Don Hyatt, Steve Hootman, Peter Cox, Kenneth Cox, Hartwig Schepker. Photo by Karel Bernady.

The Deutsche Rhododendron Gesellschaft, (DRG), German Rhododendron Society, turned seventy-five in 2010. To celebrate this milestone the DRG planned an International Symposium in Bremen and five days of tours during the rhododendron blooming period in this northwest section of Germany. The symposium featured renowned speakers and topics and the tours included public gardens and commercial nurseries. It looked intriguing.

I had traveled to this area five times previously during the 1990s. All but one trip were during prime flowering season and several of the places and events scheduled were familiar to me, so when the celebration was announced, I wanted to return and see what had changed over the past twelve years. In addition, I planned to travel with Don Hyatt of McLean, Virginia, who had been invited to the symposium to present on American native azaleas. Since Don and I travel well together, we agreed to join in on the celebration. This report highlights the events and tours of our trip.

Bremen was the location for the symposium and starting point for all the excursions. Well chosen, it offered excellent accommodations and a central city area made for walking and exploring. "The Musicians of Bremen" from a Grimms Brothers story symbolize the city and was selected to represent the conference as well. The city's governor welcomed the conferees in the town hall.

Bremen sits at the edge of Germany's largest horticultural growing area. North and west of the city lie more than 400 nurseries for trees and shrubs. The climate is mild and maritime, and not the continental conditions experienced in most of eastern North America. The land is flat and below sea level in places. Winds blow strong from the North Sea and windmills for generating electricity are found in large numbers everywhere, a significant change from the last decade.

### International Symposium

The organizers under the leadership of Dr. Hartwig Schepker put together a sensational symposium with topics covering the history and status of rhododendrons around the world. All presentations were given in English. The conference was attended by 239 individuals representing sixteen countries. Several presentations gave interesting historical perspectives to rhododendron culture in the speakers' countries. Highlighted in some talks were plant exploration in Asia and North America. Other topics dealt with rhododendron collections and hybridization. Hartwig gave the status of a soon to be on-line digital database of German rhododendrons with all the information verified against original records and images. The program was well planned, informative and top drawer.

### Excursions

After the symposium concluded, the next day of activities was spent at Rhododendron-Park Bremen and the adjoining Botanika, which houses tender Asiatic species under glass. The park contains huge collections of hybrid rhododendrons, encyclopedic in scope, arranged in part alphabetically and well labeled. One section is dedicated to *R. yakushimanum* hybrids. Another section contains new hybrids, which are periodically renewed, and a third to evergreen azaleas. The oldest plantings in the park display hardy rhododendrons towering to fifteen feet (4.6 m) or more. These were just coming into bloom.

One of the events the day was the naming of a rhododendron for the outgoing president of the DRG. A new unnamed cultivar was dedicated as *R. 'Berndt-Adolf Crome'*\* with the pouring of a glass of champagne onto the plant by both Berndt-Adolf and his wife, each with dignity and smiles. It was an all-fitting way to memorialize a plant. Interestingly, Berndt-Adolf is the fifth and longest-serving (twenty-two years) president of the DRG since its founding in 1936.

In contrast, presidents of the American Rhododendron Society serve terms of just two years.

The Botanika contained vireya and maddenian rhododendrons plus others varieties tender in Bremen. Among the flowering maddenian were *R. nuttallii*, *maddenii* ssp. *maddenii*, *excellens* and *ludwigianum*. The rare, very narrow leaved vireya *R. taxifolium* presented its white blossoms. Another tender blooming species was *R. griersonianum*, which has given us several hardy hybrids, with good red flowers and interesting foliage. The Asian décor of the Botanika adds to the exotic effects of the plants and one may climb stairs to "Mount Kinabalu" to view all from above.

The Rhododendron-Park Bremen and Botanika are a must see for those exploring rhododendrons in Germany. Touring these gardens will take a full day. Congratulations to all, who manage and maintain the park, and make it such an enjoyable experience.

Every four years the German rhododendron industry sponsors a festival to showcase its latest plants entering the market. As in the past, this year's "Rhodo 2010" was held in the town of Westerstede and was on our second day of tours. Twice previously I visited these delightful flower shows and in "Rhodo 98" the new grafting understock *R. 'Inkarho-Dufthecke'* (syn. of *R. 'Rhodunter 48'*) was introduced. Various nurseries build displays indoors in an exhibition hall and outdoors around an eight hundred year old church and its separate bell tower.

As this flower show occurs during rhododendron blooming time, the exhibitors have some advantages in the choice of varieties and numbers to use. Shows in the United States such as the Philadelphia Flower Show generally occur in winter and most plants must be forced into bloom or foliage. This limits the rhododendrons and companions to those that bloom earlier in the normal season. In Rhodo 2010, only some of the plants must have been held back or forced

into flower. One display held a flowering *Kalmia latifolia* 'Pinwheel' that normally flowers after the main rhododendron season. In another, a ground cover of *R. camtschaticum* was utilized with some of the plants in flower.

Rhodo 2010 did not disappoint. Newly exhibited elepidotes 'Hans Hachmann'\*\* and 'Suleika'\*\* graced indoor displays. Outside the compact, large flowered white evergreen azalea 'Maischnee' appeared in mass plantings. I was also pleased to see the lepidotes 'Ramapo' and Russautinii Group blooming in an outdoor exhibit, since these plants have difficulty surviving in our warm eastern U.S. climate and are not often seen. One deciduous azalea 'Jack A. Sand' from the western U.S. showed its colorful semi-doubled flowers. The use of elepidote standards in the exhibits is frequent and the largest one was a fully blooming 'Ken Janeck' of significant age. To partake in these rhododendron festivals is a pleasure.

The tours scheduled offered a rare opportunity to visit nurseries and observe horticultural practices and plants being produced. The Stöckmann Nursery in Bad Zwischenahn has a full range of shrubs including standards and large containerized plants. Fields of evergreen azaleas were in bloom, which we walked through with interest. 'Maraschino'\*\* is one which caught our fancy. This is described variously as a sister or mutation from the H. Hachmann azalea 'Maruschka' that is noted for its outstanding winter foliage. 'Maruschka' flushes green spring foliage, which turns dark burgundy during the summer and remains that way until it is shed. 'Maraschino' also has new green leaves, which become a fine burgundy red. Its flowers are larger and have a warmer red color. The plant with its compact dense habit is quite fetching all over.

A visit to Rhododendronpark Bruns in Gristede concluded day two. Bruns Nursery is probably the largest in Germany. It is noted for trees and large shrubs, many containerized to provide

instant urban landscaping. We were given a hayride around the growing areas and marveled at huge wooded boxes with Japanese maples to 15 feet (4.6 m) high, 12 ft (3.7 m) evergreen topiaries and Japanese style pruned pines.

Following the guided ride, we walked the extensive rhododendron collection in a large wooded area. Bruns is noted for the *R. insigne* hybrids they have produced. The plants I had seen previously are now much taller and many of the labels have disappeared. Recently planted rhododendrons in the area are well tagged, but I missed seeing the beautiful foliaged hybrids I had encountered before.

The hospitality of Bruns was superb. We were treated to a typical Ammerland late day meal, which included the area's specialty, smoked eel. Along with a small bottle of "Rhodowater" schnapps, we enjoyed the ambiance of our hosts in the setting sun.

German nurseries are family owned. It is common for children being prepared to take over the business to intern at other nurseries to broaden their knowledge of propagation and horticultural practices. Some may also intern in North America, as the current owner, Jan-Dieter Bruns had.

The Fredo Schröder Nursery in Wiefelstede was a colossal treat on day three. Timo Schröder, who has taken over control of the nursery since the untimely death of his father, immediately schooled us in the heart of his business, propagation of rhododendrons for the German nursery trade. He demonstrated in detail the grafting method used, i.e., the simultaneous grafting and rooting of a scion/understock unit. Timo took time to answer all our questions and passed around examples of the unit he had just prepared and newly rooted/grafted plants. He is proud of the business he and his father have developed and rightfully so. The nursery propagates 1.5 million rhododendrons per year by this technique. Timo led us through the nursery on a hayride and showed the essential parts of

the operation. Preparation of the unrooted grafts was performed in Poland by workers, who can assemble up to 100 units per hour. These are then shipped back to the nursery for rooting/grafting under heat and mist. His biggest problem is achieving consistency among the workers. I can commiserate with him from experience in rooting cuttings for our chapter's "Plants for Members Program." The successfully propagated plants flush their first growth under plastic and are then grown outside in containers.

Timo then drove us through acres of blooming plants all lined up in rows, about five of each variety. The more than 1000 labeled cultivars produced "oohs" and "aahs," delighting all on board. He then paused to explain sales of finished plants. I believe he has a bit of showmanship in him for when he resumed the ride, he took us through huge blocks of rhododendrons in flower, saving the best for last. The masses of colors reminded me of the tulips in the Skagit Valley of Washington State. The eye candy views staggered us! I would have loved to see the fields from the air. These beds give the large number of scions required to support the business. At a stop along the way, a row (>900 feet (275 m)) of *R. 'Percy Wiseman'* lined the field. When asked why he had so many plants of this cultivar, Timo said he had an order from a nursery for 250,000 liners of it.

Our tour concluded with lunch at the nursery and a chance to have further questions answered. We appreciated the hospitality of the Schröder's and our good fortune to have visited here. It is interesting to note that before producing rhododendrons, the nursery produced "Spargel," i.e., white asparagus grown underground. This still remains a legacy business for them.

The region is a source of peat for horticultural use and we viewed fields with rows of mined material drying out. 'Cunningham's White' has been employed traditionally as grafting understock. Hedges of it line the roads and fields throughout the area.



Spring foliage of *R. williamsianum* hybrids at the Hobbie-Rhododendronpark and the H. Hachmann Nursery. Photo by Don Hyatt.



Quiet contemplation in Pflanzen un Blomem. Photo by Don Hyatt.



Hybrid 'Hans Hachmann'. Photo by Don Hyatt.



Blocks of flowering rhododendrons at the Fredo Schröder Nursery. Photo by Karel Bernady.



Unnamed hybrid of 'Midnight Mystique' x 'Midnight Beauty'\*\* crossed by B. Wickhorst and shown at H. Hachmann Nursery. Photo by Don Hyatt.



Vista at Lütetsburg Castle Garden. Photo by Don Hyatt.



Evergreen azalea 'Marashino'\*\*. Photo by Don Hyatt.



The Park der Gärten in Bad Zwischenahn was mostly new to me having opened in 2002. In it are theme gardens, plant collections and centers for cultural activities. The park exhibits various landscaping designs and horticultural gardens to both educate the public and give appreciation to the plant communities therein.

The rhododendron gardens that had been part of the Teaching and Research Institute, LVG Rostrup, have been incorporated into the park. I had explored these gardens on my previous trips and they too are encyclopedic in their rhododendrons. Over 2000 hybrids and species are found there, as well as conifers and heathers. Since time was limited, we explored these and indulged in the blooming deciduous azaleas and elepidotes. Many of the cultivars are old and almost all were identified. The plants are getting large and overcrowded but the park and its gardens should be seen on a visit to Bad Zwischenahn. This resort town is also a desirable location to stay.

On day four we traveled to Lütetsburg Castle Garden in Lütetsburg, which was new to me and is also a wonderful place to visit. The grounds are laid out thoughtfully to provide beautiful vistas for enjoyment and photography. Nothing is labeled. The rhododendrons stand tall and are older hardy hybrids, which members of the DRG were helping to identify. This land is flat with no elevation, but the achievement in bringing meadow, forest, waterways and plantings into memorable panoramic views is remarkable.

Two surprises awaited us. The garden had a large planting of blooming Subsection Ledum *R. tomentosum*, a species I had not seen previously. There was subtle variation among the plants in flowers, foliage and indumentum. Peter Cox and Steve Hootman observed that this was the finest collection of *tomentosum* they had encountered. In addition, at another spot were three long hedges of *R. Fraseri* Group nearly 9 ft (2.7 m) high in full flower lining the walkway. This is

one of the few hybrids of the diminutive deciduous azalea *R. canadense*, and its other parent is *R. molle* ssp. *japonicum*. The display was striking.

This garden should not be missed. Although peak blooming of its rhododendrons was yet to come, I could visualize the splendor of the plants along the canals reflecting their colors in the water. Adding to the charm of the garden during our tour was a brass band playing for holiday visitors. The refrain of their final song still sounds in my mind, “Que sera, sera, whatever will be, will be.”

We then traveled on to the Hobbie-Rhododendronpark in Westerstede-Linswege. Dietrich G. Hobbie, developed a passion for rhododendrons and explored their native haunts. On land farmed by the Hobbie family for over 800 years, he planted hundreds of species and hybridized prodigiously. The park contains over a thousand cultivars. It is a tourist attraction hugely popular with the public and a grand place when in flower.

Today, management of the park is in the hands of his grandson Volker. He guided us on a tour and highlighted his work to refresh the garden, thinning the tall lanky plants and replacing them with hundreds of modern hybrids. In one area we viewed a magnificent *R. yakushimanum* shrub nine feet (2.7 m) in height sown by Dietrich. Volker pointed out the slower growing *R. fortunei* plant, which Johann Wieting selected to breed for the ‘Inkarho-Dufthecke’ understock. It now reaches 15 ft (4.6 m) high. The original hybrid ‘Viscy’ has bare stems to nine feet (2.7 m) before the blossoms showed.

Some of the *R. williamsianum* hybrids there gave impressive spring foliage. New leaves of burgundy and cherry red on two different plants stood out. From a distance the red shoots of the latter appeared to be the flowers. These colors would be augmented by the golden yellow foliage of the *williamsianum* hybrid ‘Blonda’\* we would see the next day at the H. Hachmann Nursery. All these colorful leaves would eventually age to green. It

struck us that breeding rhododendrons for a different colored spring foliage is desirable as long as the flowers don’t clash harshly. Another example we saw at the Rhododendron-Park Bremen was Frank Fujioka’s ‘Starbright Champagne’ with its burgundy-colored spring leaves.

No trip to Germany for rhododendrons would be complete without seeing the H. Hachmann Nursery in Barmstedt. Our last day of tours took us east to Hamburg and Barmstedt. Hans Hachmann and now his son Holger have been the most prolific hybridizers, possibly worldwide. I anticipated we would see some new things.

Since my last visit the Hachmanns have expanded the nursery significantly. More propagation houses have been erected and a major push into Japanese maples has been made. Holger continues to propagate all their plants. Grafting of elepidotes on already rooted understock is employed. Some deciduous azaleas are rooted and others are grafted onto an easily rooted variety. Evergreen azaleas remain a major production item for direct customer sales and liners to nurseries.

We toured the display gardens. Holger has begun to renew them because of overgrowth and crowding of the plants within. The evergreen azalea beds were recently replaced. In other areas plants that were waist high in 1998 now tower overhead. Holger plans to rejuvenate these plantings.

Some of the elepidotes in the gardens had flowers with the significant contrasting blotches. These included ‘Katja’, ‘Peggy’, ‘Mary Lou’, ‘Goldsprengel’, Domino Group, and ‘Hachmann’s Picobello’. Both Hans and Holger made the crosses yielding these cultivars. Holger introduced the *williamsianum* hybrid ‘Blonda’\* in 2010 because of its novel golden spring foliage. It is a cross of his father. He notes that the foliage is very sensitive to the sun and consequently he doesn’t recommend it. More work needs to be done in this area to capture colorful spring foliage effects, which can be exciting to gardeners.

Holger invited the group for lunch and treated us to yet another delight. In the house where we ate he displayed some new unnamed hybrids in flower. Some of the most striking trusses came from crosses with Frank Fujioka's 'Midnight Mystique' as one of the parents. One that I liked dearly was a hybrid of 'Midnight Mystique' × 'Midnight Beauty'<sup>\*\*</sup> crossed by B. Wickhorst. The exquisite flowers had reddish purple rims, white centers and yellow flares. Other flowers shown were derived from Frank's hybrid and 'Bohlken's Lupinenberg'<sup>\*\*</sup> by Holger, 'Lavender Princess' by Wickhorst and a reverse cross with 'Midnight Beauty'<sup>\*\*</sup> by Holger. It is no mistake that 'Midnight Mystique' is an outstanding parent for producing beautiful gaily-colored flowers. Holger confirmed that the cultivar he named 'Hans Hachmann' is from his cross of 'Midnight Mystique' × 'Burgundula'. All the new plants must be evaluated in production and in the landscape to determine their commercial potential. I thank Holger for showing these new hybrids to spark our interest.

Planten un Blomem is a central park in downtown Hamburg. Beautifully landscaped, it has a large Japanese garden chock-full of plants and trees in mass or as specimens. Rock and water are used effectively to display color and foliage. Although the plants are unlabeled, the views are superb. It is a place of peace and quiet contemplation. The public enjoys it. A teahouse sits on the edge of a pond that is surrounded by flowering shrubs, and one can even partake in a Japanese tea ceremony. This is a lovely park to visit, when one travels to the area to see the H. Hachmann Nursery. This was the last stop of the scheduled tours and a fine exclamation point to all the gardens seen.

### Closing Thoughts

Rhododendrons are big business in Germany. It appears even more so because of the concentration of so many nurseries in the northwestern section of country compared to their diffuse locations in

North America. The business focus is not only on Germany and the European countries, but also on the emerging markets of Russia and the eastern European states. The production methods to serve plant demands remain grounded in grafting, especially for elepidote hybrids, and in rooting. In comparison, North America is largely served by plants propagated by tissue culture and rooting. There is a place for grafted rhododendrons for the specialty market in North America but I doubt this will happen. The German rhododendron industry is moving into greater specialization. Rather than each nursery propagating their own plants, businesses such as Fredo Schröder Nursery are supplying the trade. Obvious too is the capital the industry is investing in infrastructure for future needs.

When you see German hybrids over the course of a week, you are struck by how similar many of the flowers appear. There are dozens of cultivars of the same color range with prominent blotches and likewise there are numerous flowers with picotee and borders effects. One reason for this may be the hybridizers themselves. In Germany nurserymen are more prominent than hobbyists in breeding for new cultivars. This is opposite the case for North America, where individuals create most hybrids. Since the nurseries market their own products, they will strive to meet the public's demand for specific color combinations and hence tend to develop complete lines of products. Sameness results from the competition. It is gratifying to see some new bloodlines being introduced into the hybridizing programs. This may help to diversify the plants and cause excitement for the customer when presented with new flower colors and shapes and with spectacular foliage.

I am quite pleased to have attended this International Symposium and all the tours. My expectations for celebrating the DRG anniversary were met. I thank all who organized this conference and making it the best I have ever attended.

\* = unregistered; \*\* = registration status unknown.

**P.S.** Nothing brought the contrast between Northern Germany and Eastern North America into sharp reality like the temperature change we experienced traveling home. When we left our hotel in Bremen at 8:00 a.m. to go to the airport on May 26, it was 50° F (10° C) outside. Upon leaving the terminal at Newark Liberty International Airport at 5:00 p.m. fifteen hours later, we were greeted with 98° F (36.7° C) swelter. Welcome home!

**Acknowledgements** – I heartily thank Don Hyatt for all his collaboration, photographs and help in putting this report together.

(November 21, 2010)

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## Awards

### OLYMPIC CHAPTER

#### **Bronze Medal: Paul Anderson**

At the Christmas Banquet of the Olympic Peninsula Chapter of the American Rhododendron Society (ARS) on December 2, 2010, Paul Anderson was presented with the ARS Bronze Medal. Paul has been a mainstay of our chapter. He is serving his fourth year as president and was vice president and treasurer in other years. He is especially appreciated at our annual flower show where he picks up and delivers the raffle plants from Whitney Gardens in Brinnon and spends all weekend selling rhodies at our plant sale.

### VALLEY FORGE CHAPTER

#### **Bronze Medal: Chris and Bob Smetana**

Since becoming members of this chapter, you have both willingly undertaken

enumerable tasks, have been active board members and have used your business skills and connections to enhance the chapter and to help it grow.

Chris, you have helped with the plant sale for many years, and last year you took over the running of it, very successfully. Now we look forward to working with you on future plant sales. You have also been our treasurer for five years, keeping us solvent and able to have funds for chapter events.

Bob, you were instrumental in bringing the chapter into the cyber age by helping to set up a web site on which our history, activities and events, annual plant sale, and many photographs of rhododendrons are posted. You were President of the chapter for four years during which you continued to lead us into newer and more

creative ways to organize the Valley Forge Chapter.

Both of you have always been willing to participate in, and take an active role in the chapter and its activities, all the while promoting the chapter. You helped to plan, and worked in, the District 8 Annual Convention in 2004, as well as the 2009 Regional Conference that we hosted. You have also been very gracious hosts, many times, holding the annual picnic at your home.

Therefore, as a token of our esteem and with our appreciation, the Valley Forge Chapter is pleased to present you, Chris and Bob, with our highest award, the Bronze Medal this 14<sup>th</sup> day of November 2010.

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## In Memoriam

### **Ed Egan**

Ed Egan had an intense interest in deciduous azaleas. Over many years of experimenting, trial and error, he developed a very successful method of rooting these beautiful plants. His collection was extensive, including hundreds of varieties of hybrids and many different and fine forms of all of the native American species. In his always friendly and out reaching nature, he made friends with many of the best growers and collectors throughout the country. Through these friendships, he acquired cuttings and plants that eventually culminated in one of the most complete collections in the country. Through the years he and his wife Fran developed a wholesale nursery that supplied azaleas to retail and mail order operations.

Ed's association with the American Rhododendron Society is probably best known for the position he held as ARS Journal Editor. Under his leadership, the ARS Bulletin as it was known, was revamped and redesigned into the scientific journal that it is today. Through his efforts and persistence, the Journal became a larger format and was finally able to have color pictures as part of its regular publication. His experience as the head of the photography department at Tektronix for over 25 years added greatly to the improvement of the Journal, and

he is credited for many of its advances. He also served the ARS as the Honors Committee Chairman, and served on the Board of Directors of the Portland Chapter, and on the Smith Garden Committee. He and Fran received Bronze Medals from the Portland Chapter, the Tualitan Valley Chapter, and the Gold Medal Award from the American Rhododendron Society, which is the Society's highest award.

Ed took a personal interest in helping sell azaleas at the Annual Mothers Day Sale at Crystal Springs Garden. He felt that there should be someone there who really knew deciduous azaleas, so that they could be properly introduced to the public. Ed spent many hours talking about and displaying his plants. By the time he got done with his "lesson" you couldn't walk away without buying one of his azaleas.

He also took a special interest in anyone who was interested in learning about rooting and growing azaleas. He spent many days at our nursery making sure that the lessons he taught us were followed to the "t". For those who listened and learned, he saved us many years of experimenting. Eventually, when he knew we had learned how to successfully root, he would make sure we were given stock plants so that we could continue on our own.

In his youth, Ed was an excellent sailor, archer and trick bareback horse rider.

He and Fran met at Iowa State University where he majored in electrical engineering. He loved the outdoors and through his last week of life wanted to soak his face in the sun every chance he got. His last holidays were spent in California with the families of his two daughters, Carolyn and Sue. He died in Mt. Shasta, California, where Fran will make her home.

Ed was a gentleman, and he always spoke of and treated his friends and family with great respect. Ed and Fran entertained guests in their home often, and the two of them were an extremely gracious couple. They were married for over 69 years. Ed passed away on January 7, 2011. He will be missed, and remembered.

Mike Stewart

### **Wing G. Fong**

On January 18, 2011, we lost a great friend, an incredibly kind and giving man who for more than thirty years as a member of the American Rhododendron Society distinguished himself as an outstanding leader, as a tireless worker, as an unselfish caring individual of unparalleled quality.

Wing G. Fong died peacefully at his home in Cherry Hill, New Jersey, surrounded by his loving wife Pearl, his sons Corey and Bennett, and his daughter

(Continued on next page.)

## In Memoriam

(Continued from page 85.)

Lia Ann. As his family wrote of him, "Wing began his next journey." Wing was born in Sacramento, California, on February 24, 1922, served in the United States Army Air Force, and later attended art school and received a degree in art and design from the Chouinard Art Institute in Los Angeles. Later, in 1952 Wing began his professional career in creative design and advertising with N.W. Ayer & Sons in Philadelphia, serving in a number of capacities, including that of Director of Television Production.

Over the next thirty years, Wing became an expert in computer and multimedia technologies using them as tools in art and design. Wing continued his work until retirement as a consultant for Ayers, and at the same time provided an increasing amount of help to organizations such as the Chinese Christian Church and Center in Philadelphia.

But it was the roles he filled as a member of Princeton Chapter that we remember best. In his family's words, Wing was captivated by rhododendrons and found tremendous pleasure in creating his own lovely garden—which he shared with others in the form of cuttings, plants, seeds.

Over a course of three decades, Wing served as President of the Princeton Chapter; was a recipient of the Bronze Award for his distinguished service; provided the design of countless conventions and regional meetings; served as the ARS Committee Chairperson of the Program Library; and in 2007 received the ARS Silver Medal Award for his "outstanding service to the American Rhododendron Society by giving unstintingly" of his time, his talent, and his energy. The award went on to say, "You have contributed your professional skills as a graphic artist to design and produce brochures, advertising, sales catalogs, badges, labels, displays, CD's, photographic albums, posters, signs, and more."

None of us who knew Wing Fong will ever forget this genuinely good man. Words are paltry and cannot even begin to express the respect and honor we hold for him. Here on the banks and shoals of time, we wish him safe passage.

Peg Van Patton

## Elsie Marie Watson

Elsie Marie Watson, Founding Member of the Seattle Chapter of the American Rhododendron Society, passed away on February 14<sup>th</sup>, 2011, perhaps the last of the Founding Members. Some years ago this energetic, upbeat lady informed her friends that she planned to live to be 100 years of age. When she celebrated her 95<sup>th</sup> birthday, she changed her mind and set a new goal—103 years. She almost won her bet—she reached 97 years.

Elsie was a slender, erect and soft-spoken person who with her husband, George, raised two children and spoke with pride of their grandchildren and great grandchildren.

Life changed considerably in 1965 when George became an invalid and caring for him her priority. Already active in the Arboretum Foundation, it followed that she would spend time studying the basics of their own beautiful and extensive garden. Sturdy rhododendrons and colorful camellias thrived under a cover of tall native conifers. A challenge began to emerge as her curiosity and a passion for hybridizing rhododendrons developed. Soon, as she put it, "her hybridizing activities gave her a focus that helped fill her time and life with purpose." She followed that statement with "Whatever would I have done without rhododendrons? I don't know!"

Elise's early and successful rhododendron crosses thrust up trusses of near-blue or purple-colored flowers. This was deliberate for most gardens were teeming with pale pinks and whites and she preferred the drama of the deeper colors. Records of her hundreds of crosses, including those that she registered, were recorded in detail in a book. That book still exists.

Special interests often lead to another and another, so in time, Elsie helped establish and host her Seattle Chapter's Rhododendron Hybridizers Study Group. This vibrant, eclectic group debated, criticized and learned—learned in part from Elsie's experiences and knowledge. It was a noisy group that shared a lot of fun.

One of Elsie's experiments concerned the weevils that attack our Northwest shrubs in the dead of night. She walked out late one night and selected a rhododendron for the test. A white sheet was spread at the base of the plant and then Elsie attacked. She shook and pushed its branches so vigorously that weevils began tumbling out of its foliage. Elsie counted them—over 100 that first

night! On succeeding nights the battle went on until, at last, no more weevils. Of course, it did require some thought about how to dispose of the little monsters, but Elsie solved the problem. She flushed them down the toilet each night. Her somewhat mournful comment was, "Life would be wonderful without weevils!"

Two rhododendron hybrids have been named for Elsie, 'Elsie Watson' and 'Mama Elsie'.

Elsie gained many friends through her participation in meetings of her three chapters, Seattle, Cascade and Whidbey Island. Members of these groups probably have amusing stories to tell about Elsie and her gardening adventures for she had an endearing sense of humor. The Seattle Rhododendron Society recognized her many contributions and in 1982 awarded her the Bronze Medal. A Double Bronze was added in 2002. Elsie won lots of ribbons and trophies at her chapter's rhododendron shows and though elated, she was honestly humble, frequently declaring that she entered trusses just to help fill out the show.

The Meerkerk Rhododendron Gardens located on Whidbey Island benefited from the stream of cuttings for propagation and plants donated to the garden for their sales. Hands-on labor in this growing public garden gave her great pleasure until failing eyesight limited her activities and her busy life.

As Elsie grew older, she developed a habit of walking around her entire garden every day, weather permitting—her "garden patrol" as she called it. She carried a cane but at first seemed to use it to point at items of interest. Then it became necessary to use it to steady her as vision worsened. Being a realist in her quiet way, she remarked that now she had discovered an awareness of the delicate scents of foliage and flowers and of listening to countless birds living in her garden.

One of Elise's cherished memories occurred in 1995 when she was presented an impressive Citation at the ARS Convention held in Portland, Oregon. The Citation marked an appreciation for her fifty years as a still active Founding Member.

It might be wondered if her long life was influenced in some way by the joys and satisfaction of her years of creating new life in the form of hybrid rhododendrons and, perhaps, even more from the love of the gardeners who grow them.

We shall remember Elsie Marie Watson.  
Gwen Bell

## ARS Eastern Regional Conference and ARS Board Meeting Hosted by The Middle Atlantic Chapter ARS

The Eastern Regional Conference will be held in Richmond, Virginia, October 21–23, 2011, at the Doubletree Hotel Richmond Airport. The ARS Board Meeting will be on Friday, October 21, and registration for the MAC meeting will begin late that afternoon.

Richmond, the State Capitol, combines the atmosphere of a gracious cultural center and the legacy of an absorbing past. From its founding, it has been linked to the activities of patriots, presidents of both the United and Confederate States, and several authors. Many historical shrines and reminders of the events Richmond has witnessed are found throughout the city. It is also home to the renowned Lewis Ginter Botanical Garden. Plantation homes on the James River are open to the public and Williamsburg is a short drive south.

The meeting will open Friday evening with a presentation by Elizabeth Mundy, owner of Acer Acres ([www.aceracresinc.com](http://www.aceracresinc.com)) which specializes in Japanese Maples. She will give an overview of the nursery prior to the scheduled visit on Saturday. The extensive collection of trees

and shrubs includes over 400 cultivars of *Acer palmatum* and *Acer japonicum*. On the grounds are 50 hoop houses; members will find this visit of great interest.

The featured speaker on Saturday evening will be Tim Walsh with support from his wife June. They have an extensive rhododendron garden at their home in California and have been active both locally and nationally in the ARS. Twenty five years ago, June and Tim were visiting in Eugene, Oregon, when they saw a lovely display of rhododendrons in Hendrick's Park. Within two years, they had removed existing plant life, terraced, and planted over 300 rhododendrons in their back year—about one-sixth of an acre. A makeover followed in the front year. Subsequently, the lot across the street was purchased and landscaped, and their lifetime project is the 15 adjoining acres purchased eight years ago.

Tim, past Treasurer of ARS, is currently the District 5 Director and June was ARS Secretary for a 6 year term ending in 2008. Tim will highlight West Coast gardens including the Humboldt Botanical Garden, of which he is a Charter

Board member, and the up and coming new botanical gardens in the world. It promises to be a fascinating evening.

Throughout the weekend there will be plant sales, a plant auction and book sales at the hotel. The Doubletree is adjacent to the Richmond International Airport and is easily accessible from major interstates. Free shuttle service is available to and from the airport. Sleeping room rates for the conference will be \$90 plus tax for a single and \$105 plus tax for a double. These rates include breakfast and are available to attendees three days before and three days following the conference should they wish to prolong their stay in the Richmond area. The ARS Board Meeting will be on Friday, October 21, and registration for the MAC meeting will begin late that afternoon.

Further information on the conference will be on the MAC website ([www.macars.org](http://www.macars.org)) this summer as the October date nears.

A registration form for the conference will appear in the summer issue of the Journal.

### ARS Program Library

The ARS Program Library provides programs on DVDs that chapters can purchase for use at their meetings. These DVDs are viewed with the digital projector, with a computer or DVD player, or viewed on a television set with the DVD player.

Chapter members may borrow from their chapter library, and make a copy, or purchase personal copies.

The DVDs currently available:

- Garden Walks 2006 - Gardens visited during the joint convention of the ARS and Azalea Society of America in Rockville, Maryland.
- Frank Fujioka's Program – May 2006 Societe Bretonne Du Rhododendron in France.
- Elepidote Hybrids in Central New Jersey – Hybrids selected by the Princeton Chapter Study Group. Narration by Jerry van de Sande.
- Arunachal Pradesh, India – Ron Rabideau's trip, narration by Ron Rabideau.
- The Zurich Garden – A narration by the garden's creator, Dr. William M. Zurich.
- Rhododendrons at the Golden Gate – 2007 Annual Convention with narration.
- Rhododendrons in the Wild West – 2008 Annual Convention in Tulsa with narration.
- A Spring Walk in Walters' Woods – Spike & Kay Walters' garden in Western PA.
- Nepal: Our Ultimate Rhodo Flowering Experience! – Narration by Ian Chalk, Australia.
- Oban, Scotland ARS 1996 Convention Revisited – Narration by Win Howe.
- Lendonwood Garden – Len Miller's garden in Grove, Oklahoma. DVD produced by Oklahoma State University Cooperative Extension Service. Available on VHS and DVD for \$15 each. For ordering information call (405) 744-4081. Ask for Episode 3238 Lendonwood Garden.
- New DVD: Charles Feryok on Pruning. Chuck, retired horticulturist living in central NJ, discusses pruning principles and demonstrates as he walks about a small NJ garden.

### Late Journals: Notice to Members

If you as an ARS member do not receive your journal **one month** after the normal mailing period, please notify Executive Director Laura Grant and she will mail you one from her office. This notice is for all members, including Canadian and off-shore members.

You should wait to receive your journal up to the following dates:

Winter issue: March 1

Spring issue: June 1

Summer issue: September 1

Fall issue: December 1

See the inside front cover of a recent journal for Laura's email address, phone number, and mailing address.

The reason for late journals is not entirely clear but probably is due to slow processing at local post offices.

### ARS Board Meeting

The ARS Board of Directors will meet from 9 a.m. to 5 p.m., Wed., May 11, 2011, at the ARS Annual Convention in Vancouver, WA, in the convention hotel.

## Chapter Shows

Chapter shows during March and April were listed in the Winter Journal.

No admission charge unless noted.

**AZALEA** – Public Plant Sale and Truss Sow; 9 a.m. to 4 p.m., Sat., April 16; Oak Grove Methodist Church, 1722 Oak Grove Rd., Decatur, GA; members display their prized trusses and help acquaint the public with the wide variety of cultivars that can be grown successfully in our region; planting demonstrations; sale includes regionally grown rhododendrons, evergreen/deciduous azaleas and companion plants; Paul Norfleet

**EUREKA** – Rhododendron Show and Sale; 9 a.m. to 5 p.m., Sat., April 30, and 10 a.m. to 4 p.m., Sun., May 1; St. Bernards School, Miles Hall, Henderson St., Eureka, CA; entries received 6 to 9 p.m., Fri., April 29, and 7 to 9 a.m., Sat., April 30; Nelda Palmer

**GREAT LAKES** – The Spring Rhododendron Truss Show; Sat., May 21; D'Imperio's Restaurant, Pittsburgh, PA; entries accepted 6 to 9 p.m., Fri., May 20, and 7 to 10 a.m., Sat., May 21; judging at 10 a.m. to noon, Sat., May 21; garden tour in the afternoon, plant auction 4 to 5:30 p.m.; public invited; Jim Browning

**GREATER PHILADELPHIA** – Annual Plant Sale, in conjunction with Morris Arboretum's Plant Sale on May 6 & 7; Blomfield Farm of the Morris Arboretum; on Fri., May 6, Morris Arboretum members and ARS members may shop from 10 a.m. to 7:30 p.m.; on Sat., May 7, the public is welcome from 10 a.m. to 3 p.m.; wide range of rhododendrons, deciduous azaleas, evergreen azaleas and kalmia. On Sun., May 8, the chapter and the Valley Forge Chapter will hold a Flower Show & Competition at Jenkins Arboretum; Linda Hartnett

**KOMO KULSHAN** – Chapter Flower Show; 10 a.m. to 4 p.m., Sat., April 30; Christianson's Nursery, 15806 Best Rd., Mount Vernon, WA; Sonja Nelson

**MASON DIXON** – Annual Show & Sale; 9 a.m. to 4 p.m., Sat., May 7, and 9 a.m. to 2 p.m., Sun., May 8; Carroll County Agricultural Center, Westminster, Maryland; joining with the Potomac Valley Chapter annual show; judged azalea and rhododendron show; azaleas and

rhododendrons, with companion plants such as hollies, mountain laurel, hostas and other perennials will be available for purchase; Richard Mohr, mgmohr@msn.com or Ray Smith

**MOUNT ARROWSMITH** – Mother's Day Weekend Garden Tour; 10 a.m. to 4 p.m., Sat. & Sun., May 7 & 8; at least 12 gardens will be featured in the San Pareil-Nanoose area of Parksville; self-drive tickets with map are \$15, available at local nurseries and Mulberry Bush Bookstores; Marilyn Dawson

**NANAIMO** – Nanaimo Rhododendron Society Annual Truss Show and Plant Sale; 10 a.m. to 2 p.m., Sat., May 7; Centennial Building, Beban Park, Nanaimo, BC

Nanaimo Rhododendron Society Spring Tour of local area gardens, Sun., May 22.

**NEW YORK** – Main Flower Show; 2 to 4 p.m., Sun., May 22; Planting Fields Arboretum, Oyster Bay, NY; no admission fee for show; Arboretum parking fee; Bruce Feller

**NORTH ISLAND** – NIRS Truss Show and Rhododendron Sale; 10 a.m. to 1 p.m., Sun., May 1; Komox Band Hall, 3320 Comox Rd., Comox, BC; Nadine Boudreau.

Annual NIRS Garden Tour; 10 a.m. to 4 p.m., Sun., May 8; Comox Valley, BC; price: \$10.00/pp; Nadine Boudreau.

**NOYO** – Annual John Druecker Memorial Show & Plant Sale; Sat., April 30, and Sun., May 1; Dana Gray School, 1197 Chestnut St., Fort Bragg, CA; theme: "Oldies But Goodies"; over 700 entries are expected in the categories of flowers, bonsai, photographs and arrangements; Kathryn Hall, internationally known publicist, and Mary Jasch, editor of *Dig It!* magazine will be guest judges at our 34<sup>th</sup> annual event. Additional information at [www.noyochapterars.com](http://www.noyochapterars.com); Nannette Giomi

**OLYMPIA** – May Show; Sat., May 21, and Sun., May 22; Tumwater Falls Park; Connie Klein

**OLYMPIC PENINSULA** – Olympic Peninsula Chapter ARS Rhododendron Show; Fri., Sat., & Sun., May 20-22; Fort Worden State Park Chapel, Port Townsend, WA; Cindy Cook.

**POTOMAC VALLEY** – Annual Show & Sale; 9 a.m. to 4 p.m., Sat., May 7, and 9 a.m. to 2 p.m., Sun., May 8; Carroll County Agricultural Center, Westminster, Maryland; joining with the Mason Dixon Chapter annual show; judged azalea and rhododendron show; azaleas and rhododendrons, with companion plants such as hollies, mountain laurel, hostas and other perennials will be available for purchase; Richard Mohr or Ray Smith

**SCOTTISH** – Scottish National Rhododendron Show; 1 p.m., Sat., April 30; village hall at Gargunnoch by Stirling, Scotland; staging of exhibits 3 to 6 p.m., Fri., April 29, and 8 to 9:45 a.m., Sat., April 30; judging by David Chamberlain and Alan Clark starts at 10 a.m. with show opening and prize giving at 1 p.m. John Hammond, Chapter President, and his committee will welcome members and friends to this prestigious event. The AGM will also take place in the afternoon when there will be plant stalls and a member's 50/50 plant sale; Willie Campbell

**SEATTLE** – May Truss Show; entries 1 to 4 p.m., Fri., May 6, and 8 to 9:30 a.m., Sat., May 7; judging 10 a.m. to noon, Sat., May 7; open to public noon to 4 p.m., Sat., May 7, and 9 a.m. to 4 p.m., Sun., May 8; Rhododendron Species Botanical Garden, 2525 S. 336<sup>th</sup> St., Federal Way, WA; admission free to all mothers, general \$5, seniors & students \$3, to the garden and show; entries are for trusses, photos, floral displays, educational; plant sale and raffle Sat. & Sun.; Diane Thompson.

**SIUSLAW** – Festival Flower Show and Plant Show; 1 to 5 p.m., Sat., May 21, and 10 a.m. to 5 p.m., Sun., May 22; Florence Events Center, 715 Quince, Florence, OR. Plant sales open to the public will be held just outside the Events Center on Sat. and Sun. from 10 a.m. to 5 p.m. The public is welcome to bring flower trusses on Sat. from 7 to 9 a.m. to be judged by rhododendron experts. The truss must come from a plant that the owner has grown for at least 6 months. Ribbons and trophies will be awarded. It's a great time to ask questions, find books and information and enjoy azalea and rhododendron blooms. Bill Henning.

## Chapter Shows

(Continued from page 88.)

**TACOMA** – 2011 Rhododendron Show; 10 a.m. to 4 p.m., Sat., April 16 & Sun, April 17; Rhododendron Species Botanical Garden, Federal Way, WA; in conjunction with RSBG Spring Plant Sale; garden entrance fee waived; Fred Whitney.

**TUALATIN VALLEY** – Spring Rhododendron Show; 12 noon to 4 p.m., Sat., April 23; Historic Jenkins Estate, Main House,

8005 S.W. Grabhorn Rd., Beaverton, OR; free admission and parking; plant sale 10 a.m. to 4 p.m., Sat., April 23, on the veranda; truss entries and sprays will be accepted 7:30 to 9:30 a.m., and judging 9:45 to 11:45 a.m.; show open to public after the judging—about 12 noon; public is encouraged to bring examples of their best rhododendron and azalea blooms for display. The Rhododendron Garden at

the Jenkins Estate covers about 1.6 acres with over 700 varieties of rhododendrons and azaleas; Ginny Mapes.

**VALLEY FORGE** – On Sun., May 8, the Valley Forge Chapter and the Greater Philadelphia Chapter will hold a Flower Show & Competition at Jenkins Arboretum; Steve Henning.

## Potential ARS Photo Contest Rules

1. The exhibitor must be a member of the American Rhododendron Society.
2. Entries for the Photography Contest must be submitted by December 31 and have been taken in the preceding 12 months. Judging will be in January and winning and honourable-mention photos will be published in the spring and/or summer *JARS* issues.
3. Exhibitors are limited to a maximum of two entries per category. The committee reserves the right to create additional sub-categories depending upon the entries received.
4. Entries must be digital and of a quality of at least 300 dpi at a size of 3 x 5 in (7.6 x 12.7 cm).
5. Metadata accompanying the photos must include the photographer's name, and details (e.g., location, date, species, cultivar name, etc.) of the image or plant shown.

### Judges

Judging will be done by a three to four person team, yet to be selected, which will include the *JARS* Editor.

### Photography Contest

1. The general subject matter in all pictures entered in the Photography Contest should feature plants of the genus *Rhododendron* (rhododendrons, azaleas or vireyas).
2. The following categories could be available:
  - A. Flower** - Close-up of a single truss, flower, or detailed portion of a flower.
  - B. Plant in Bloom** - Multiple trusses, sprays, or full plant in bloom.
  - C. Foliage** - Foliage of rhododendrons, azaleas or

vireyas including plants not in bloom.

- D. Scenes** - Garden scenes or landscapes featuring rhododendrons, azaleas or vireyas.
- E. Artistic Expression** - Artificial compositions or effects created using image editing software or printing techniques.  
Or
- A. Portrait of a plant in the wild.**
- B. Natural scene with plants.**
- C. Portrait of a plant in cultivation.**
- D. Rhododendron garden scene.**
- E. Macro photo of a rhododendron, azalea or vireya.**
- F. Plant in container.**  
Or
- A. Category I: Flowers** - Close up of flowers, such as a rhododendron or vireya truss or an azalea spray.

- B. Category II: Scenery** - Rhododendron, azalea or vireya plants in the landscape or in the wild.
- C. Category III: Other** - This category is for any photographs featuring rhododendrons, azaleas or vireyas that don't seem to fit into the first two categories: pictures of foliage, creative effects, people, or whatever.

### Awards

Initially at least, the award will be publication of the winning photos in *JARS*, along with bragging rights.

**Note:** As an example, photo contest winners of the 2010 RHS Rhododendron, Camellia & Magnolia Group can be seen at <http://www.rhodogroup-rhs.org>

## Rhododendron Calendar

<b>2011</b>	Azalea Society of America Convention, Evansville, Indiana, April 28–May 1.
<b>2011</b>	ARS Annual Convention, Vancouver, Washington, May 11-15. Board meeting. Heathman Lodge ( <a href="http://www.ars2011convention.com">http://www.ars2011convention.com</a> ). Board meeting.
<b>2011</b>	ARS Eastern Regional Conference, Mid-Atlantic Chapter, Oct. 21-23, Sandstone, Virginia. Board meeting.
<b>2012</b>	ARS-ASA Annual Convention, Southeastern Chapter ARS and Vaseyi Chapter ASA, Asheville, North Carolina. Joint convention with Azalea Society of America, May 4-7. Board meeting.
<b>2012</b>	ARS Western Regional Conference, Nanaimo Chapter, British Columbia, Canada. (dates and place to be announced). Board meeting.
<b>2013</b>	ARS Eastern Regional Conference, District 12, Fall (Dates and places to be announced). Board meeting.

# A Garden Survey of Powdery Mildew Disease on Deciduous Azalea Species and Cultivars

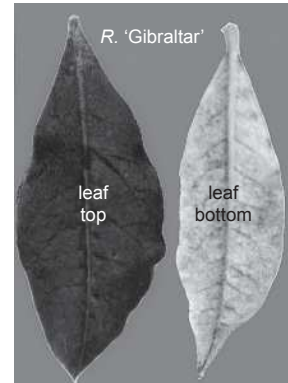


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*R.* 'Gibraltar' (listed in most catalogs as resistant), showing top and bottom leaf symptoms of powdery mildew disease.

This work was supported in part by a grant from the American Rhododendron Society Research Foundation. We are grateful for assistance from the horticulture staff at the Dawes Arboretum, The Holden Arboretum, Horticultural Research Center (UMN), Minnesota Landscape Arboretum, and Secrest Arboretum.

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## Abstract

Results from two separate evaluations of powdery mildew (PM) disease on deciduous azaleas are presented, comprising the most extensive survey to date for this group of plants. Disease ratings of 14 deciduous azalea species and 109 cultivars resulted from a garden study conducted at several arboreta in the Midwest and are reported here for the first time. In addition, PM evaluations of 41 cultivars from our previously published field trial are summarized here. With some redundancy between the two experiments, a total of 126 cultivars were scored for PM symptoms. Ten of the 11 North American species included in the evaluations proved highly resistant, whereas the non-native species *Rhododendron luteum* (Sweet) and *R. molle* ssp. *japonicum* (A. Gray) K. Kron were

susceptible. Among cultivars, 38 (30%) were classified as resistant, and 88 (70%) as susceptible. Susceptibility to powdery mildew appears to be a dominant trait, because hybrid groups containing both *R. molle* ssp. *japonicum* and N. American species in their pedigrees, such as Knap Hill and Exbury cultivars, are highly susceptible. Hybrids based on North American species crosses, such as Weston and Leach cultivars, were uniformly resistant. We address some inconsistencies in published PM disease ratings, which may be due to environmental variation, methodological differences in estimating symptoms, or possible variation among the causal organisms (fungal pathogens) in different studies.

## Introduction

Powdery mildew (PM) is one of the most serious foliar diseases of genus *Rhododendron* (Basden and Helfer 1995, Kenyon et al. 1994). The disease can lead to early leaf senescence and defoliation, which

reduce plant health and vigor, and occasionally result in plant mortality. First reported in the United States by Weiss in 1950 (Weiss 1950), the disease was soon causing significant damage in gardens and production settings (Strider 1976), and has since attracted a great deal of attention from professionals, enthusiasts, and the American Rhododendron Society, which has supported research on both azalea and rhododendron PM disease.

The taxonomy of powdery mildew fungi is complex and involves multiple species, making the identification of primary causal organisms difficult. Three fungal genera (*Microsphaera*, *Sphaerotheca*, and *Erysiphe*) have been associated with PM symptoms in the genus *Rhododendron* (Coyier 1986). Based on spore morphology, fungi belonging in genus *Microsphaera* (e.g., the species *M. azaleae*) are commonly found in symptomatic leaves collected in North America and Europe (Garibaldi et al. 2002, Ing 2000, Inman et al. 2000), but PM in Britain has been attributed to *Erysiphe* sp. (Kenyon et al. 1998). Recent taxonomic revisions subsume *Microsphaera* within genus *Erysiphe*, and *M. azaleae* is currently synonymous with *Erysiphe azaleae* (U. Braun) U. Braun & S. Takam. (Glawe 2006).





Powdery mildew is known to cross-infect broad taxonomic groups within *Rhododendron* (Beales 1997, Galle 1987), usually resulting in different symptoms. Evergreen azaleas (subgenus *Tsutsusi*) are mostly resistant to PM, although the disease has been recently reported in that group (Holcomb and Ferrin 2006). Deciduous azaleas (subgenus *Pentanthera*) have long been recognized as susceptible host plants (Farr et al. 1989, Galle 1987), and an increase in the frequency and severity of PM on evergreen rhododendrons (subgenus *Hymenanthes*) is causing concern among professionals and gardeners (Basden and Helfer 1995, Cox 1989, Oregon State Univ, Ext. 2009).

The biology and control of PM disease were recently reviewed in this journal (Helm 2002). Powdery mildew is favored by overcast or shady conditions, high humidity, and low rainfall (Coyier 1986, Helfer 1994). Leaf infection and subsequent development of disease symptoms are strongly influenced by environmental conditions and can therefore vary greatly, even on the same clone (Kenyon et al. 2002). Results from a two location, 3-year replicated field trial of 41 azaleas cultivars showed that while genotypes (cultivars) differed significantly in disease symptoms, most (81%) of the variation in disease ratings was caused by year-to-year seasonal effects and by location differences between the two sites where the evaluations were conducted (Long et al. 2010).

Numerous earlier reports have described cultivar and species differences in PM disease symptoms among deciduous azaleas (Basden and Helfer 1995, Beales 1997, Cochran and Ellett 1990, Dutky 1990, Ford 1975, Hardy 1980, and Inman et al. 2000), and in many instances the same clones have been included in different studies. While these reports are often in agreement, particularly among clones rated “resistant” or “disease free,” there are discrepancies. Cultivars rated susceptible in one report may be listed as resistant in another (see Table 2). These inconsistencies result in part from meth-

**Table 1.** Powdery mildew disease ratings for 14 deciduous azalea species evaluated in the garden survey. The species are grouped into resistant (scores < 1.8) and susceptible (scores ≥1.8) categories.

Azalea Species	Garden Survey Disease Rating <sup>a</sup>	Previous Rating <sup>b</sup>
<b>Resistant</b>		
<i>R. arborescens</i>	1.0	
<i>R. canadense</i>	1.0	
<i>R. canescens</i>	1.0	
<i>R. schlippenbachii</i>	1.0	
<i>R. vaseyi</i>	1.0	R <sup>2,3</sup>
<i>R. atlanticum</i>	1.1	
<i>R. cumberlandense</i>	1.1	S <sup>1</sup>
<i>R. viscosum</i>	1.2	R <sup>2</sup>
<i>R. calendulaceum</i>	1.3	R <sup>2</sup>
<i>R. prunifolium</i>	1.4	R <sup>2</sup>
<i>R. prinophyllum</i>	1.6	R <sup>2,3</sup>
<b>Susceptible</b>		
<i>R. periclymenoides</i>	2.0	R <sup>2</sup>
<i>R. luteum</i>	2.7	S <sup>1</sup>
<i>R. molle</i> ssp. <i>japonicum</i>	4.1	S <sup>1</sup>
<b>Mean</b>	1.9	
<b>LSD (<math>P &lt; 0.05</math>)</b>	0.8	

<sup>a</sup> See Materials and Methods for numerical disease score used to rate plants. Disease scores shown are mean values over multiple years at one or more locations. Differences ≥ 0.8 in disease scores are statistically significant ( $P < 0.05$ ).

<sup>b</sup> Disease ratings from previously published studies. Numerical superscripts refer to the following publications in the Literature Cited section: <sup>1</sup> Basden and Helfer (Krebs, 1995), <sup>2</sup> Ford (Krebs, 1975), <sup>3</sup> Cochran and Ellett (Krebs, 1990).

odological differences, such as the use of different disease rating techniques, and from the limited number of independent observations made per clone, especially when assessment was based on one plant in one location during one season (Long et al. 2010).

Our objective in the present study was to address some of these PM disease rating discrepancies and expand the number of azaleas tested for PM with robust evaluation procedures. This was done by evaluating clones at several arboreta in the Midwestern United States with redundant, curated collections—what we termed a “garden survey.” To factor in variation in symptoms, these replicate plants were evaluated, in most cases, for more than one year. The results of the garden study are presented here along with summary data from our previously published replicated field trial of azalea cultivars (Long et al. 2010), resulting in a total of

126 cultivars and 14 species. This represents the most comprehensive PM survey of deciduous azaleas to date and serves to identify resistant material for the benefit of growers, researchers, breeders, and the gardening public.

## Materials and Methods

### *Powdery Mildew Evaluations in the Garden Study*

Powdery mildew severity was assessed during late summer or early fall 2002-2004 on deciduous azaleas at the Dawes Arboretum (Newark, OH), Secrest Arboretum (Wooster, OH), and at two separate sites maintained by The Holden Arboretum - the David G. Leach Research Station (Madison, OH) and the Helen S. Layer Rhododendron Garden (Kirtland, OH). Plants at the Minnesota Landscape Arboretum (Excelsior, MN) were evaluated in late summer 2003 -2004. The Ohio arboreta had exchanged large numbers of

azaleas over the years, providing multiple locations for testing identical plants, and in many cases there was more than one accession of each clone per location. Of the 109 cultivars included in the garden study (Table 2), 81 were growing at two or more locations, and 78 of these were evaluated for two or more years. Where only one site contained the cultivar of interest (28 instances), PM disease scores were usually estimated from data on multiple clones taken over two or more years. In a few instances (*R.* 'Koster's Brilliant Red' and *R.* 'Strawberry Ice') the number of independent observations was limited to two (two clones evaluated at one site in one year, Table 2).

Because the plants were scored for PM symptoms in late summer or early fall (post-bloom), verification of identity was based on plant labels and garden locations that corresponded with accession lists at the various institutions. Azalea cultivars originated from clonal nursery stock, but the species material was non-clonal, grown from seed by nurseries in some instances and from wild-collected seed in others. For this study, the different sources of a species were pooled for analysis.

Most of the azaleas were grown in a garden setting (display beds) at the arboreta, but siting of these beds, soil conditions, irrigation, and general plant culture varied widely among locations. Plants were exposed to naturally occurring airborne PM inoculum. No identification was made of causal organism(s) present at each site, nor were there any estimates of inoculum levels. Eight randomly selected leaves per plant were visually scored for PM disease severity on the adaxial (top) and abaxial (bottom) leaf surfaces by using a 1–5 disease score scale similar to those published elsewhere (Cochran and Ellett 1990, Long et al. 2010). The disease score is based on the extent of PM symptoms on a leaf: 1 = no disease; 2 = 1–25% of leaf area diseased; 3 = 26–50% of leaf area diseased; 4 = 51–75% of leaf area diseased, and 5 = greater than 75% of leaf area diseased. In most moderately to highly susceptible

plants, white powdery regions and discolored, purplish patches on the leaf surface were associated with fungal mycelia and conidia and were used to estimate the percent leaf area affected. Plants without any obvious disease symptoms were observed with a 16X hand lens, to confirm whether they were resistant (mycelia absent) or susceptible (mycelia present).

Analysis of variance (ANOVA) of PM disease scores was performed by using the general linear model procedure in SAS (SAS Institute; Cary, NC). Abaxial (bottom) rather than adaxial (top) leaf surfaces were used as the basis for PM severity. Although ad- and abaxial disease ratings were highly correlated in this study, as they were in the azalea cultivar field trial (Long et al. 2010), we consider abaxial symptoms a more conservative estimate of disease development, less likely to yield false negatives (susceptible cultivars mistakenly scored "resistant"). Several studies have shown that PM disease symptoms are more severe on the abaxial leaf surface of deciduous azaleas (Coyier 1986, Kenyon et al. 1994, Long et al. 2010 and Strider 1976). This is due in part to precipitation washing spores off the upper leaf surface, but may also involve differences in the thickness, composition, and structure of epicuticular waxes on the two leaf surfaces which affect spore germination and infection (Carver et al. 1990).

#### *Powdery Mildew Evaluations in Field Trials*

Concurrent with the garden study, a replicated field trial with 41 deciduous azaleas was planted at The Holden Arboretum's David G. Leach Research Station (Madison, OH) and at the Minnesota Landscape Arboretum (Chanhasen, MN). The results from the field trial experiment have already been published (Long et al. 2010) and are listed in Table 2, separate from the garden study analysis. The reasons for republishing these data are 1) both the garden study and field trial were supported in part by the ARS Research Foundation 2) the combined data from both the garden study and the field

trial, as well as previous ratings by other researchers (Table 2), provide a comprehensive summary of PM disease on azalea to date and 3) disease ratings from azalea cultivars included in both the garden study and the field trial were correlated to determine whether results were consistent over time and space.

#### **Results and Discussion**

Average PM disease ratings from the garden study are presented in Table 1 (species) and Table 2 (cultivars). The ratings range continuously from values of 1.0 (fully resistant) to 5.0 (highly susceptible). For the purpose of grouping plants into "resistant" and "susceptible" categories, the LSD values (least significant difference) indicated in Tables 1 and 2 were used as cutoff points. Species with disease ratings of 1.0–1.7 were designated resistant (Table 1) as were cultivars with scores ranging from 1.0–1.9 (Table 2). Within these groups, plants range from fully resistant (no symptoms) to moderately resistant (up to 25% leaf area affected by PM). Azaleas with higher disease ratings ( $\geq 1.8$  for species and 2.0 for cultivars) were lumped together in the susceptible category even though statistically there was a significant difference between being moderately susceptible (scores in the 2–3 range) and highly susceptible (scores above 3). The categories serve primarily as a basis for discussion, with the caveat that disease scores near the cutoff points (e.g., moderately resistant vs. moderately susceptible) are not significantly different.

Ten North American azalea species and one Asian species, *R. schippenbachii* Maxim., were resistant to PM (Table 1). Most were highly resistant with no or only occasional incidences of disease over multiple years and locations. The single native species placed in the susceptible category, *R. perichlymenoides*, had a disease rating of 2.0 that was close to the 1.7 cutoff value for resistant plants, and it was much less susceptible than the two species from Central and East Asia, *Rhododendron luteum* and *R. molle* ssp. *japonicum*. For the most

**Table 2.** Powdery mildew disease ratings of 126 deciduous azalea cultivars from two separate evaluations supported by the ARS Research Foundation. The current study (Garden Survey) includes 109 cultivars. A previously published experiment (Field Trial) rated 41 cultivars for mildew symptoms. Twenty four of the field-trialed cultivars were duplicated in the garden study. The table sorts the results from the garden survey alphabetically within two groups, resistant (scores < 2.0) and susceptible (scores ≥ 2.0). Powdery mildew evaluations from other published sources (Previous Ratings) are also shown (R = resistant, MR = moderately resistant, S = susceptible). See footnotes for further details.

Resistant Cultivars	Hybrid Group <sup>a</sup>	Garden Survey Disease Rating <sup>b</sup>	Field Trial Disease Rating <sup>c</sup>	Previous Rating <sup>d</sup>
Annabella	KH/EX	1.3		R <sup>4,5</sup>
Arista	Girard	1.0		
Chamois	Leach	1.0		
Chestnut Hill	Graefe	1.0		R <sup>5</sup>
Cream Puff	Leach	1.0		
Fanny	Ghent	1.1		
Fragrant Star	Briggs		1.0	
Garden Party	Weston		1.0	
Goldflake	KH-Bovee	1.4		R <sup>3</sup> , MR <sup>5</sup>
Homebush	KH/EX	1.7	2.3	R <sup>4</sup>
Jane Abbott	Mollis -Abbott		1.6	
Jolie Madame	Boskoop	1.0	2.5	R <sup>5</sup>
Josephine Klinger	Ghent	1.0		
July Jester	Leach	1.0		
July Joy	Leach	1.0		
June Flame	Rarefind		1.0	
Late Lady	Cummins		1.1	
Lemon Drop	Weston	1.2		
Lollipop	Weston	1.0	1.1	
Magic	Weston		1.1	
Maid of Honor	Leach	1.0		
Melford Lemon	Ilam	1.2		
Millennium	Weston		1.0	
Narcissiflora	Ghent	1.8		R <sup>4</sup>
Norma	Rustica-F-P	1.2		
Northern Hi-Lights	Lights	1.7	1.8	S <sup>5</sup>
Parade	Weston	1.0	1.0	
Pink and Sweet	Weston	1.0	1.1	
Pink Fire	Leach	1.0		
Pink Peppermint	Pride	1.0		R <sup>4</sup> , MR <sup>5</sup>
Pink Plush	Leach	1.0		MR <sup>4,5</sup>
Pink Puff	Leach	1.0		MR <sup>4</sup> , R <sup>5</sup>
Popsicle	Weston		1.0	
Quentin Metsys	Ghent	1.0		
Red Pom Pom	Girard	1.7		MR <sup>5</sup>
Snowbird	Weston		1.1	
Soir de Paris	Felix & Dijkhuis	1.0		
Whitethroat	KH/EX	1.1		

Susceptible Cultivars	Hybrid Group <sup>a</sup>	Garden Survey Disease Rating <sup>b</sup>	Field Trial Disease Rating <sup>c</sup>	Previous Rating <sup>d</sup>
Antelope	Felix & Dijkhuis	3.0		R <sup>5</sup>
Arneson's Gem	Arneson		3.9	
Arneson's Ruby	Arneson		4.4	

Table 2 continued on next page.

Susceptible Cultivars	Hybrid Group <sup>a</sup>	Garden Survey Disease Rating <sup>b</sup>	Field Trial Disease Rating <sup>c</sup>	Previous Rating <sup>d</sup>
Apricot Surprise	Lights	2.0	2.4	
Balls of Fire	KH-Bovee	2.7		R <sup>3</sup> , S <sup>5</sup>
Balzac	KH/EX	2.4		R <sup>3,4</sup>
Beaulieu	KH/EX	4.4		MR <sup>5</sup>
Better Letter	Girard	3.3		
Brazil	KH/EX	2.8		R <sup>4</sup> , S <sup>5</sup>
Candy Lights	Lights	2.0	3.4	
Cannon's Double	KH/EX	4.4		S <sup>5</sup>
Cecile	KH/EX	4.4		R <sup>4</sup> , S <sup>5</sup>
Chartreuse	EX-Carlson	2.7	3.7	R <sup>3</sup> , MR <sup>5</sup>
Cheerful Giant	KH-Sorenson			
Copper Cloud	Ilam	3.0		S <sup>3</sup> , R <sup>4</sup> , MR <sup>5</sup>
Coral Queen	KH-Pride	4.8		R <sup>4</sup> , S <sup>5</sup>
Corringe	KH/EX	4.6	2.7	S <sup>5</sup>
Crimson Tide	Girard	3.1		MR <sup>5</sup>
Daviesii	Ghent	4.2		R <sup>4</sup> , MR <sup>5</sup>
Devon	KH/EX	3.8		
Exbury White	KH/EX	4.8		R <sup>3</sup> , S <sup>5</sup>
Fawley	KH/EX	3.7		
Fireball	KH/EX	4.5	3.4	R <sup>4</sup> , MR <sup>5</sup>
Fireflash	Girard		3.4	
Firefly	KH/EX	2.6		S <sup>3,5</sup>
George Reynolds	KH/EX	4.5	3.4	S <sup>3,5</sup>
Gibraltar	KH/EX	4.2	3.5	R <sup>1,2,4</sup> , S <sup>3</sup>
Gog	KH/EX	3.9		
Gold Dust	KH/EX	3.9		S <sup>3</sup>
Golden Deciduous	UNCL	4.3		S <sup>5</sup>
Golden Dream	KH/EX	4.8		
Golden Eagle	KH/EX	3.6		MR <sup>5</sup>
Golden Horn	KH/EX	3.5	2.0	S <sup>3,5</sup>
Golden Lights	Lights	2.3		
Golden Pom Pom	Girard	4.0		
Golden Sunset	KH/EX	4.2		S <sup>5</sup>
Honeysuckle	KH/EX	3.3		S <sup>3</sup>
Hotspur	KH/EX	4.5		R <sup>3</sup> , MR <sup>5</sup>
Hotspur Red	KH/EX	3.7	4.8	R <sup>3</sup> , S <sup>5</sup>
Irene Koster	Ghent			S <sup>1</sup>
John F. Kennedy	KH-Beneschoen	2.9	3.4	
Klondyke	KH/EX	3.8		S <sup>3</sup> , R <sup>4</sup>
Knap Hill Apricot	KH/EX	4.6		
Knap Hill Red	KH/EX	3.8		
Knap Hill White	KH/EX	4.4		
Koster's Brilliant Red	Mollis	3.5		
Lemon Lights	Lights	2.4	3.7	
Lilac Lights	Lights	3.4		
Mandarin Lights	Lights	2.1	2.8	
Marina	KH/EX	4.4		S <sup>3,5</sup>
Mary Holman	KH-Pride	2.8		S <sup>5</sup>
Mollala Red	KH/EX		3.0	

Table 2 continued on next page.

Susceptible Cultivars	Hybrid Group <sup>a</sup>	Garden Survey Disease Rating <sup>b</sup>	Field Trial Disease Rating <sup>c</sup>	Previous Rating <sup>d</sup>
Mount Saint Helen	Girard	3.7	3.8	S <sup>5</sup>
Nancy Buchanan	KH/EX	4.7		S <sup>3,5</sup>
Northern Lights	Lights	2.0		
Orange Jolly	Girard	3.5	4.4	
Orchid Lights	Lights	3.7	3.6	
Orient	KH/EX	2.8		S <sup>3</sup> , MR <sup>5</sup>
Pink Delight	Girard	3.5		S <sup>3,5</sup>
Pink Lights	Lights	2.2		
Pink Williams	Ilam	4.1		
Primrose	KH/EX	4.7		S <sup>5</sup>
Rosata	Felix & Dijkhuis	2.3		
Rosy Lights	Lights	4.0	3.6	
Royal Lodge	KH/EX	2.3		R <sup>3,4</sup>
Salmon Delight	Girard	3.0		
Sandra Marie	KH-Bovee	4.6		S <sup>3,5</sup>
Scarlet Pimpernel	KH/EX	3.0		
Sham's Yellow	KH-Shammar.	3.2		
Snowdrift	Mollis	4.2		S <sup>3,5</sup>
Spicy Lights	Lights	3.4		
Strawberry Ice	KH/EX	5.0	4.1	S <sup>3</sup>
Sun Chariot	KH/EX	4.4		
Sunbonnet	UNCL	4.9		
Sweet Sue	KH-Bovee	3.5		R <sup>3</sup> , S <sup>5</sup>
Tintoretto	Ilam	4.0		S <sup>5</sup>
Toucan	KH/EX	2.6		R <sup>4</sup>
Tri-Lights	Lights	2.3	2.7	
Tunis	KH/EX	3.3		
Umpqua Queen	KH-Schoneman	3.8		
Western Lights	Lights	3.0	3.6	
White Cap	Ilam	3.8		S <sup>3,5</sup>
White Lights	Lights	2.9	3.3	
Williams	UNCL	4.8		S <sup>3,5</sup>
Windsor Appleblossom	KH/EX	4.8		
Yellow Cloud	KH-Hyatt		4.6	
Yellow Giant	EX-Pride	5.0		MR <sup>5</sup>
Yellow Pom Pom	Girard		3.4	
<b>Grand Mean</b>		<b>3.0</b>		
<b>LSD <math>P &lt; 0.05</math></b>		<b>1.0</b>		

<sup>a</sup> Classified by established hybrid groups, according to the Azalea Society of America online name index ([www.azaleas.org/index.pl/azindex.html](http://www.azaleas.org/index.pl/azindex.html)).

<sup>b</sup> See Materials and Methods for numerical disease scale used to rate plants. Most disease ratings are mean values from multiple years at one or more locations – 31 cultivars were evaluated at one location only. Mean differences of 1.0 or more in disease ratings are statistically significant ( $P < 0.05$ ).

<sup>c</sup> From Long et al. (Krebs, 2010).

<sup>d</sup> Disease ratings from previously published studies. Numerical superscripts refer to the following publications in the Literature Cited section: <sup>1</sup> Basden and Helfer (Krebs, 1995), <sup>2</sup> Dutky (Krebs, 1990), <sup>3</sup> Ford (Krebs, 1975); <sup>4</sup> Hardy (Krebs, 1980), <sup>5</sup> Cochran and Ellett (Krebs, 1990).

part our results were in agreement with previous reports for these species. Of the 21 *R. molle* ssp. *japonicum* accessions evaluated, some were taxonomically questionable. They were labeled *R. molle*, but were considered to be either ssp. *japonicum* or hybrids of ssp. *japonicum*. The USDA hardiness zone 5 in which they were growing would be too cold for *R. molle* ssp. *molle* (Blume) G. Don, which is rated as zone 6b hardy (Galle 1987).

As a whole, azalea cultivars were quite susceptible to PM. The average abaxial leaf disease scores for cultivars evaluated in the garden study and the field trial were 3.0 and 2.7, respectively (Table 2), compared to a mean of 1.9 for the species. The slightly higher average for cultivars in the garden study than the field trial may reflect a higher level of PM inoculum present in established arboreta plantings versus the newly established field plantings. Disease scores of 24 cultivars included in both studies were significantly correlated ( $r = 0.8$ ,  $P < 0.01$ ), indicating that the method of multi-year, multi-site evaluations can result in consistent disease assessments at a regional level.

Overall, 38 cultivars were classified as resistant (30%) and 88 as susceptible (70%). Most of the PM susceptible genotypes appeared to have a common genetic lineage that traces back to the early use of *R. luteum* and *R. molle* by European hybridizers—either *R. molle* ssp. *japonicum* and/or ssp. *molle*, the exact composition is generally ambiguous (Galle 1987). This lineage started in the early 19th century with the Ghent hybrids, which were used to hybridize the Knap Hill azaleas, which in turn spawned the Exbury, Ilams, and other hybrid groups of azaleas. The Knap Hill/Exbury group in our report (Table 2) was the most susceptible—of 41 cultivars, only 3 (7%) were resistant, *R. ‘Annabella’* (Exbury), *R. ‘Homebush’* (Knap Hill), and *R. ‘Whitethroat’* (Knap Hill). Later hybrid groups whose pedigrees trace back to Knap Hill/Exbury cultivars or mollis azaleas (e.g., *R. × kosteranum*) are also predominantly susceptible. Examples of resis-

tance were limited to 1 of 11 (9%) Knap Hill/Exbury-derived cultivars (*R. ‘Goldflake’*), 1 of 5 (20%) Ilam hybrids (*R. ‘Melford Lemon’*), 2 of 11 (18%) Girard hybrids (*R. ‘Arista’* and *R. ‘Red Pom Pom’*), 0 of 2 Arneson cultivars, and 1 of 15 (7%) Northern Lights azaleas (*R. ‘Northern Hi-Lights’*). It should be noted, however, that several other Lights azaleas had disease ratings of 2.0–2.1, just above the cutoff value used to separate resistant and susceptible plants in this analysis—*R. ‘Candy Lights’*, *R. ‘Northern Lights’*, *R. ‘Apricot Surprise’*, and *R. ‘Mandarin Lights’*.

The six Ghent hybrids evaluated (Table 2) were more resistant as a whole—4 (66%) were resistant and their average disease score was 2.3. Although this group probably contains *R. molle*—again, either ssp. *japonicum* and/or ssp. *molle* (Galle 1987)—many cultivars in this group were derived from crosses with *R. luteum*, which was significantly less susceptible than was *R. molle* ssp. *japonicum* in our survey (Table 1). The *R. luteum* accessions in our study were highly variable in PM symptoms (data not shown) and in other reports as well (Inman et al. 2000), raising the possibility that some Ghent azalea breeding serendipitously involved *R. luteum* selections that were more resistant than average for that species.

All nine Weston and eight Leach cultivars listed in Table 2 were resistant. These breeding programs were based on interspecific crosses of North American species, particularly, *R. arborescens* (Pursh) Torrey, *R. cumberlandense* Braun, and *R. viscosum* (Linnaeus) Torrey, which were all resistant our evaluations (Table 1). These observations, combined with the finding that many susceptible cultivars involve crosses between native species and *R. molle* or *R. luteum*, suggests that PM susceptibility results primarily from the Central and East Asian species. However, because we did not screen all deciduous species in our survey, the possibility remains of other sources of susceptibility in subgenus *Pentanthera*.

Sixty-five cultivars in the garden

study and field trial had been evaluated for PM disease in one or more previous reports (Table 2), allowing comparison of results across time and space. Most of the genotypes rated resistant by our methods received similar ratings by others—exceptions included prior susceptible ratings for *R. ‘Northern Hi-Lights’* (Cochran and Ellett 1990) and *R. ‘Jolie Madam’* (Long et al. 2010), for a discrepancy rate of 10% (2 out of 19 contrasts). Disease ratings were less concordant among azaleas that we listed as susceptible, but were listed as resistant elsewhere. In 84 comparisons, 32 cultivars rated susceptible in this study were scored as resistant in prior reports, for a discrepancy rate of 38%.

Differences among reported disease ratings are due in part to a lack of common methodology. Not all researchers used a scaled assessment of PM severity (disease score), but instead reported on the incidence—presence or absence—of the disease (Basden and Helfer 1995, Ford 1975). Few reports were based on multiple independent observations (replicate plants, more than one location, different years of evaluation), although the extensive survey of deciduous azaleas at Secret Arboretum was repeated over time (Cochran and Ellett 1990, Ford 1975). Finally, there is no mention in past methodologies of which leaf surface was evaluated. This could create differences in ratings because disease scores based on abaxial surfaces are higher and produce more susceptible ratings and fewer false negatives (plants mistakenly described as resistant) than ratings based on evaluation of adaxial surfaces (Long et al. 2010). An example of this is the cultivar *R. ‘Gibraltar’*, which is reported to be resistant in scientific journals and garden catalogues, and it is if only the adaxial leaf surface is examined. Evaluation of the abaxial surface in the garden study and field trial resulted in disease scores of 4.2 and 3.5, respectively, placing it higher-than-average in susceptibility.

Differences in environment, such as growing season or site conditions, can alter interactions between host plants and their

pathogens, affecting infection and subsequent disease development. Environmental variation becomes particularly problematic if disease ratings are based only on a single observation at one location. A better approach is to conduct independent observations over several years at multiple locations and determine average symptoms. The effectiveness of this approach is borne out by the fact that the garden survey results were highly correlated with the field trial for a subset of 24 cultivars included in both evaluations.

Finally, lack of agreement in PM ratings could result from variability in causal organisms at the study sites. Many disease evaluations to date, the present study included, have not identified the fungal species associated with the PM symptoms being reported. The fact that most deciduous azalea PM resistance has thus far proven durable in reports spanning many locations and years could be due to a "narrow" resistance to a single pathogen or a "broader" resistance against multiple pathogens. Further research will be required to determine pathogen variability and the nature of host resistance to PM. For the time being, it must be assumed that the resistance reported for sites in Ohio and Minnesota could break down at other locations if different PM-causing organisms are present.

Our combined garden and field studies add 27 resistant cultivars to earlier reports, resulting in a total of 38 (Table 2). Among these are 18 hybrids with full resistance (disease ratings = 1.0). These hybrids, along with equally resistant azalea species, may prove particularly useful for detecting pathogen variability, because evidence of susceptibility in these plants is a possible indication that they are being challenged by a different, previously untested pathogen. These elite genotypes could also be used to breed more PM resistant hybrids, either by starting with resistant species or by using resistant cultivars to reconstitute extant hybrid groups, thereby improving specific group defects, such as PM susceptibility of the Knap Hill and Exbury hybrids, without compromis-

ing the desirable ornamental characteristics found within groups. Our list will also assist nursery professionals and consumers with plant selection, highlighting cultivars that need less maintenance or chemical inputs and that should exhibit greater vigor due to the presence of healthy leaves throughout the growing season. Last but not least, our study points to the value of North American deciduous azaleas in providing PM resistance, a trait that adds to the vast horticultural potential of our native species.

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# About Briggs Plant Propagators

*(From the Briggs Plant Propagators website with permission from Jeff Mason.)*

[Editors note: Briggs Nursery, now Briggs Plant Propagators, has been a big contributor to the ARS and this year as well as last, has contributed, or will be contributing, many plants to ARS chapters that have increased their individual chapter memberships by >10% (see P. 30 in *JARS* Vol. 65, Winter 2011, for last year's chapter winners). But how much do you really know about Briggs' story? Below is some information from the Olympia ARS Chapter's Jan 2011 newsletter.]

**B**riggs Plant Propagators has a long history. The nursery was formed

in 1912 by Orson Briggs as a fruit and vegetable farm serving the local Olympia, WA, area. When Orson's son Bruce returned from WW II, he began changing the business. First he began to focus on ornamental plants, and he particularly liked rhododendrons—at one time Bruce was growing over 700 varieties of rhodies! Bruce's stated goal was to see that everyone in the world had at least one rhododendron in their yard. He was constantly looking for new varieties and in the process, he crossed paths with numerous plant breeders and plant hunters. In the early 1960s, with the help of people at Washington State University, he began exploring alternative methods to propagate woody ornamental plants. He was personally responsible for

pioneering micro-propagation (cloning) of ericaceous plants. His first lab was in his kitchen and soon thereafter, a separate building was constructed to house this fledgling production process. By the 1980s the process was refined and Briggs began to sell starter plants (liners) to the nursery industry worldwide. Today, it is an internationally recognized nursery that continues to introduce a wide range of premium performance broad leaf evergreens and deciduous flowering plants, including rhododendrons, kalmias, azaleas, lilacs, and perennials. Currently, Briggs Plant Propagators grows over 1,000 plant varieties (<http://www.briggsnursery.com/Plants.html>).



## Tips for Beginners: Eradicating Wild Morning Glory

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*(From the B.C. Council of Garden Clubs "The Bulletin," Sept/Oct 2010.)*

**W**ild morning glory, or hedge false bindweed, *Calystegia sepium*, is a species of bindweed that is found throughout the world. It is a herbaceous perennial that twines around other plants. The leaves are arranged spirally, pointed at the tip and arrowhead shaped. White flowers are produced from late spring to the end of summer. After flowering the fruit develops as an almost spherical capsule containing two to four large black seeds. The seeds disperse and thrive in fields, borders, roadsides and untended gardens.

Although it is an attractive plant

with showy flowers it can overwhelm and pull down cultivated plants including shrubs and small trees because of its quick growth and clinging vines. Its aggressive self-seeding—seeds can remain viable as long as 30 years—and successful creeping roots, it is a persistent weed and is classified as a noxious weed.

The suggested method of eradicating this weed is vigilant hand weeding. Allowing it to grow feeds the root system and rhizome network, creating a vast reservoir of energy for continuing growth or regrowth. This is why cutting off the top of wild morning glory hardly slows it down.

Wild morning glory is not very tolerant of heavy shade, infertile soil nor extended drought and so tends to favour moist, rich ground in sun or semi-shade. Because it usually has a huge root and rhizome network with plenty of reserves, it can tolerate horrible conditions for a long

time before it starts to suffer. Keeping it restricted to non-optimal areas by regularly cutting off stems will eventually weaken it. Unfortunately while you may be controlling its growth, your next-door neighbour may not and their co-operation is essential to eradicating this noxious weed.

The most effective approach is exclusion of light. It will usually take less than a year to completely kill off wild morning glory if it is prevented (completely) from seeing the light of day. There are various ways to accomplish this, the most effective being to cover the ground with carpet, cardboard or layers of newspaper. Of course you can use a broadleaf herbicide and just spray the wild morning glory but as it has a habit of winding around a choice plant, it is an option not favoured.



# A Key for *Ledum* in *Rhododendron*

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From 1753 (when Linnaeus in *Species Plantarum* published the genus *Ledum* with the species *palustre* for a plant of marshes in northern Europe) to 1990, *Ledum* thrived as a genus: species endemic to North America, northern Asia, and Japan were discovered and named. In 1990, Kron and Judd published a detailed cladistic study of the tribe Rhodoreae in the Ericaceae and stated emphatically that *Ledum* and *Rhododendron* are cogenetic. Both genera had been published in the 1753 edition of *Species Plantarum*, and a choice was required for the name of the combined genus. In the interest of nomenclatural stability, Kron and Judd accepted the name *Rhododendron* and published *Rhododendron* L. subsect. *Ledum* (L.) Kron & Judd.

The placement of *Ledum* in *Rhododendron* called for the re-filing of herbarium specimens. At the U.S. National Arboretum herbarium, annotations reflecting the new generic placement were based on *The Genus Rhododendron* (Chamberlain et al. 1996). One assignment specified in that work (*L. palustre* var. *diversipilosum* Nakai = *R. hypoleucum* (Kom.) Harmaja) raised questions and led me to seek more information on *Ledum*.

The plants of subsection *Ledum* are native to damp places, peat bogs, and acidic sandy loams of the colder parts of the Northern Hemisphere. The *Ledum* species are aromatic evergreen shrubs that range in height from about 0.2 to 2 m (0.7 to 6.6 feet). Their flowers are usually white, about 1.2-1.5 cm (0.5-0.6 in) across, and form umbel-like terminal



*Ledum tomentosum* at Lütetsburg, northwestern Germany. Photo by Donald Hyatt.

clusters. The inflorescences of some *Ledum* resemble those of *R. micranthum*.

An important diagnostic feature distinguishing *Ledum* species is the vestiture of the lower surface of the leaves. Several of the older keys for *Ledum* identification leave much to be desired with respect to description of this vestiture. I found that surfaces which appear simply glaucous to the eye (and are so described in some keys) may—with 50× magnification—be seen as a layer of erect or crispate thick white structures. These did not appear to be hairs or glands in the usual sense.

Puzzled by the white structures, I turned to *Ledum* descriptions in the *Flora U.S.S.R.* (Shishkin & Bobrov 1967) and in the *Flora of Japan* (Ohwi 1984) but found little explanation. Fortunately, further inquiry led to an excellent *Ledum*-in-*Rhododendron* key (Harmaja 1991). This key, together with Harmaja's new combinations for *R. diversipilosum* and *R. subulatum* (Harmaja 1999, 2002), proved most helpful and led me to draft the changes incorporated in the Provisional Key (page 100). This key is offered as a stop-gap that may be useful until some botanist carries out a comprehensive

examination of subsection *Ledum*. But the mystery of the thick, white structures remained.

When I requested Dr. Harmaja to review the Provisional Key and inquired about the white structures, he commented favorably on the key, provided an explanation for the white structures, and discussed briefly his observations on the vestiture of *R. tolmachevii*, *R. hypoleucum*, and *R. diversipilosum* (Harmaja 2010); viz:

The glaucous wax is typical of *R. tomentosum*, and also covers the 1-celled "white" setose hairs. It is simply a wax layer that melts and gets evaporated due to warming as you watch the leaves under a dissecting microscope with an old-fashioned lamp.

I later found that *R. tolmachevii* possibly totally lacks the white hairs. *R. hypoleucum* is essentially white-hairy abaxially while *R. diversipilosum* is somewhat intermediate between these two species. These three are closely related; *R. diversipilosum* may even be an established hybrid of the two others. Anyway, hybridization probably occurs between all three (and no doubt also elsewhere in the subsection *Ledum*). To get a better view, we have to wait for a thorough revision of the East Asiatic taxa which botanists there should conduct at last!

The Provisional Key and Notes describing the changes from the 1991 Harmaja key follow on the next page.

**A Provisional Key to Species of *Rhododendron* Subsection *Ledum*  
(H. Harmaja, modified by D.H. Voss to include *R. diversipilosum* and *R. subulatum*)**

1. Long brown crisped hairs present  $\pm$  abundantly in (axes of) the present year's shoots (usually also in those of the preceding year) and on petioles ..... 3
1. Brown hairs (as above) absent from the shoots and petioles ..... 2
  2. Leaves elliptic, 1.5-3 times as long as broad, margins flat or slightly incurved, petioles ca. 1 cm long. Leaf underside greenish, with inconspicuous short whitish setose hairs, but without long brown hairs. Western N. America. .... *R. neoglandulosum* Harmaja (*L. glandulosum* Nutt.)
  2. Leaves oblong-elliptic, 3-4 times as long as broad, margins strongly revolute, petioles shorter than 1 cm. Leaf underside as in preceding species, though a few brown hairs may occasionally be present. Western N. America. .... *R.  $\times$ columbianum* (Piper) Harmaja
3. Brown hairs on leaf underside usually abundant (often densest on midrib); white or hyaline hairs on leaf underside sparse to abundant, short,  $\pm$  setose, straight or curved, extending at most slightly above the larger glands. .... 4
3. Brown hairs (very) sparse on leaf underside; white hairs on leaf underside abundant, long, somewhat crisped, extending well beyond the larger glands and partly hiding them. Leaves  $\pm$  oblong. Eastern Asia. .... *R. hypoleucum* (Kom.) Harmaja
  4. Brown hairs forming a dense  $\pm$  even covering on leaf underside, thus usually concealing the midrib; peduncle lacking brown hairs; stamens usually 5-8. Leaves moderately or narrowly elliptic, oblong, or lanceolate. Northern N. America (introduced in Europe). .... *R. groenlandicum* (Oeder) Kron & Judd
  4. Brown hairs on leaf underside actually more abundant on the midrib, which is usually visible; if as above, then leaves  $\pm$  linear; peduncle with at least a few brown hairs; stamens usually 10. .... 5
5. Leaves large, 2.5-8.5 cm long and 0.5-2.0 cm broad, oblong or lanceolate. Northeastern Asia. .... *R. tolmachevii* Harmaja (*L. macrophyllum* Tolm.)
5. Leaves smaller and narrower, up to 5 cm long and 0.1-1.0 cm broad, usually  $\pm$  linear, at times narrowly oblong or narrowly lanceolate. .... 6
  6. Plant with leaves broader than 0.3 cm ..... 7
  6. Plant with leaves 0.1-0.3 cm broad ..... 8
7. Plant with leaves somewhat more acute than in *R. hypoleucum* and *R. tolmachevii*; leaf underside clothed with extremely short white hairs and, at the same time, with coarse brown hairs or tomentum along the midrib and veins, or coarse hairs only along the midrib. Japan, Sakhalin endemic. .... *R. diversipilosum* (Nakai) Harmaja (*L. palustre* var. *diversipilosum* Nakai)
7. Plant usually higher than 30 cm,  $\pm$  erect, leaves ca. 2-5 cm long and 0.2-0.5(-1.0) cm broad; leaf underside (below the long brown hairs) usually  $\pm$  glaucous and waxy, opaque; when present, short setose hairs abundant, whitish, usually more conspicuous than either kind of gland. Europe and moderately northern Asia. .... *R. tomentosum* Harmaja (*L. palustre* L.)
  8. Plant with leaves almost acicular, (1.0-)2.0-3.5(-5.0) cm long and 0.1-0.2(-0.3) cm broad; brown hairs present on underside of leaves. Flowers mostly with faint rosy tinge. Russia to NE China, N Korea, and Japan ..... *R. subulatum* (Nakai) Harmaja
  8. Plant usually less than 40 cm, usually  $\pm$  decumbent; leaves ca. 0.6-2 cm long and ca. 0.1-0.3 cm broad; leaf underside (below the long brown hairs) greenish, somewhat shining, short setose hairs fairly sparse, inconspicuous, hyaline, less noticeable than the glands, of which the smaller ones with red (or red-brown) heads are  $\pm$  abundant. Northern N. America and northern Asia. .... *R. subarcticum* Harmaja (*L. decumbens* (Aiton) Lodd. ex Steud.)

**NOTES TO KEY**

Several changes are made to the Harmaja (1991) key to accommodate the addition of two species:

- In the second lead of couplet 5, the minimum leaf breadth was changed to 0.1 cm (Harmaja's 0.5 cm was inconsistent with the minimum of 0.2 cm shown in his description of the leaf breadth for *R. tomentosum*; 0.1 cm was required for *R. subulatum*).
- Couplet 6 was inserted and the leads of Harmaja's couplet 6 were renumbered to accommodate the introduction of *R. diversipilosum* and *R. subulatum*.
- The description of vestiture on leaf undersides in *R. diversipilosum* (first lead of couplet 7) is from Nakai (1917).
- In the second lead of couplet 7 (*R. tomentosum*), "when present" was inserted before "short setose hairs" to provide for plants without white vestiture. *Fl. U.S.S.R. XVIII:24(29)* (Shishkin & Bobrov 1967) states: "The rusty tomentum in var. dilatatum disappears with age, so that the leaves become nearly glabrous . . ." It also states (p. 25(30)): "In the true *L. palustre* var. dilatatum there is no white tomentum beneath the rusty pubescence, and it occurs only where the distribution areas of the two species [i.e., *hypoleucum* and *palustre* var. *dilatatum* DV] meet."

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## Misadventures in *Ledum* Nomenclature

In 1990 when Kron and Judd published subsection *Ledum* in *Rhododendron*, they also published the new combination *Rhododendron groenlandicum* (Oeder) Kron & Judd. In addition, they published *Rhododendron palustre* (L.) Kron & Judd; this name is, however, a later homonym of *R. palustre* Turcz. and thus illegitimate. Later in 1990, Dr. Harmaja of the Finnish Natural History Museum published six additional names in *Rhododendron* for *Ledum* species: *R. ×columbianum* (Piper) Harmaja, *R. hypoleucum* (Kom.) Harmaja, *R. neoglandulosum* Harmaja, *R. subarcticum* Harmaja, *R. tolmachevii* Harmaja, and *R. tomentosum* (Stokes) Harmaja. For the latter name, Harmaja based the epithet on Stokes' (1912) *Ledum tomentosum*, but Stokes had cited *L. palustre* of Linnaeus as a synonym—thus making the Stokes name superfluous and illegitimate. Harmaja corrected the matter in 1991 by publishing *R. tomentosum* as a new name. *L. palustre* var. *diversipilosum*, assigned to *R. hypoleucum* in *The Genus Rhododendron* (Chamberlain et al. 1996), was given species rank and named *R. diversipilosum* (Nakai) Harmaja in 1999. *R. subulatum* (Nakai) Harmaja was added in 2002. The assignment of various *Ledum* species, subspecies, and varieties to taxa in *Rhododendron* may be found in the GRIN database of the USDA Germplasm Resources Information Network at URL: [http://www.ars-grin.gov/cgi-bin/npgs/html/tax\\_search.pl](http://www.ars-grin.gov/cgi-bin/npgs/html/tax_search.pl) (query taxon name = ledum).

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# Frank Abbott's Village of Azaleas

John and Sally Perkins  
Salem, New Hampshire

Photos by the Authors



A collage showing the colorful variety of Abbott deciduous azaleas hybrids that are found in Saxton River and Grafton, Vt. None are registered.

Frank Abbott was a pioneer in the creation of hybrids using *Rhododendron prinophyllum*, *molle*, *calendulaceum*, and *arborescens*. His hybridizing efforts in Saxtons River, VT, and on his adjacent propagation fields of Grafton and Athens, VT, were a result of his love of the fragrant species *Rhododendron prinophyllum* which bloomed at the same time he would begin the fly fishing season.

In the early 2000s, the Species Study Group of the American Rhododendron Society Massachusetts Chapter had scheduled a visit to the garden of his daughter, Jane Abbott Bussey, but unfortunately, the visit had to be cancelled due to the failing health of Jane. The organizer, Betty Carlhian, had been enthusiastic because of her previous visits to this garden. There were some wonderful plants to see and Jane was anxious for her



'Jane Abbott' (*R. prinophyllum* X 'Miss Lousia Hunnewell') from Norman Pellet's private garden near Burlington, VT.



'Margaret Abbott' (*R. prinophyllum* X *calendulaceum*).

father's work to survive. At that time, we knew little or nothing about the breeding program of Frank Abbott except for what was on page 109 of Galle (1987), where there is a reference to Frank Abbott of Bellow Falls, Vermont listing two hybrids: 'Jane Abbott' (*R. prinophyllum* × 'Miss Lousia Hunnewell') and 'Margaret Abbott' (*R. prinophyllum* × *calendulaceum*).

In the summer of 2008, we received "out of the blue" an email from John Abbott, a grandson of Frank Abbott who lives in Denver, inviting us to visit a former Frank Abbott's property near Grafton, VT, and to roam the property freely any time to look at and photograph the large collection of Frank Abbott hybrids that were planted there. That summer we visited the property twice. With the owner's permission on our second trip, Fred Knippel accompanied us and took cuttings of some of the better azaleas, of which there were many, that we had marked on our first visit. Many outstanding late blooming *arborescens* were in flower on this second visit.

From an old ARS Massachusetts Chapter *Rosebay Journal* that had been written based on an 1973 article in *Vermont Life*, by Marge Runnion which we had placed on the Massachusetts Chapter website a few years earlier, we learned that Frank and Margaret Abbott had a daughter Jane and sons Frank Jr. and Richard. Frank considered 'Margaret Abbott' a very interesting plant because a fragrant pink (*prinophyllum*) crossed with a non-fragrant salmon orange (*calendulaceum*) produced a fragrant white [with a lemon yellow blotch]. In the 30,000 seedlings he grew, this was the only time this had occurred.

Clarence Towe in an email informed us that he was almost certain the *Vermont Life* article contained an image of 'Margaret Abbott'. The *Vermont Life* website offered back issues to the magazine containing this article for sale, so we purchased two and sure enough, pictures of both plants listed in Galle were included. Clarence believes that 'Margaret Abbott' is one of the finest azalea hybrids he has ever seen and encouraged us to attempt to locate it.

Yet, Frank Abbott is best known for 'Jane Abbott'. This is the azalea that Weston Nursery sold as seedlings under that name starting in the 1940s from hybrid seed supplied by Frank. Moreover, 'Jane Abbott' is the azalea that Frank Abbott gave generously to all who lived in the greater Saxtons River, VT, area. He really wanted the village of Saxtons River to be a Village of Azaleas.

In fact, two plants of what appear to be 'Jane Abbott'-like azaleas are planted in the Saxtons River Cemetery next to the grave stones of Frank Abbott and Jane Abbott. We found this by stopping by the cemetery twice on returning from the Abbott Grafton property in the spring, 2009. To get to Grafton, known for some of the best aged cheddar cheese in Vermont you have to pass Saxtons River, and to get to Saxtons River, you have to pass through Bellow Falls, which is across the Connecticut River from Walpole, NH. Walpole Creamery produces in our opinion the best ice cream in New England, so our trips from Salem, NH, to middle Vermont often take a path through there. These three Vermont locations are often associated with Frank Abbott and all are located in river valleys that contain native *prinophyllum*.

To explore Saxtons River for Abbott azaleas, we formulated "a simple plan" over a serving of Walpole ice cream that involved visiting the Saxtons River cemetery, since cemeteries in New England often contain plantings from the local area. Just driving down Main Street in Saxtons River on the way to the cemetery, we spotted a deep pink 'Jane Abbott'-like plant in flower. For whatever reason, on our first visit, we decided to walk the cemetery from the back to the front entrance. We found a half dozen or so deciduous azaleas, a few rhododendrons, and one evergreen azalea, with the two deciduous azaleas among the best. From the cemetery, on the other side of the fence, we also noticed a house that had several deciduous azaleas in the backyard that appeared to be *R. vaseyi*. We left the cemetery to inquire and

upon approaching the home, noticed an orange-pink colored 'Jane Abbott'-like azalea in the front yard. The owner showed us around her property, which contained several Frank Abbott hybrids and offered to introduce us to Dennis Abbott, the son of Frank Jr. Dennis was then unavailable but later indicated he would welcome a visit. The owner also showed us other Frank Abbott hybrids that were on other streets near her home, including a few double-flowered azaleas.

On our second visit to the Saxtons River cemetery we walked from front to back. Upon approaching the two 'Jane Abbott'-like deciduous azaleas, we noticed only then that the two grave stones associated with the azaleas were one for Frank and Margaret Abbott and another for Jane Abbott Bussey and her husband. We also stopped in to visit Dennis Abbott, who showed us his property and then offered to introduce us to the current owners of the late Jane Abbott Bussey homestead. That owner grew up only a few blocks away from Frank Abbott's home and he, like most others who lived in the area, knew that Frank grew azaleas. The couple knew that Jane Abbott had collected what Frank and Jane thought were Frank's best azaleas. When we inquired about a fragrant white with a yellow blotch, the husband stated it was then in bloom in the back. Sure enough, there it was in full bloom—we had found 'Margaret Abbott', which of course had never really been missing at all! Frank had raised and selected the seedling, naming it for his wife and giving it a place of honor in his daughter's home.

The couple then showed us the azaleas they liked best, consisting of yellows, pinks, oranges, reds, and whites. The husband mentioned that Frank Abbott once owned a hunting lodge in Athens, VT, and that there were some azaleas planted over the hill behind the main house. We decided that this day was devoted to enjoying our visit to the former Jane Abbott homestead and the Athens property would have to wait for another day.

Whether Frank used the actual clone or a seedling of 'Miss Louisa Hunnewell' to produce 'Jane Abbott' is an interesting question. First, there is the 1920 Hatfield cross 'Miss Louisa Hunnewell', described by Galle (1987) on page 88 as a vivid orange yellow 21A, 3" [7.5 cm]. This is often described in the literature as a very impressive Mollis hybrid superior to others involving the two different subspecies (Chinese and Japanese) of *R. molle*. Azaleas created crossing these two subspecies are referred to as  $\times$ *kosterianum*. However, Galle also stated that the true clone may no longer exist and seedlings were frequently substituted. There is only one clone having this name in the IRR.

Winterthur [an American country estate in Delaware's Brandywine Valley, is the former home of Henry Francis du Pont (1880-1969), an avid antiques collector and horticulturist] used to grow 'Miss Louisa Hunnewell' and Linda Eirhart, Assistant Horticulture Director, sent us digital images produced from slides taken in 1978. The digital images are good enough to see that a plant of 'Miss Louisa Hunnewell' that was growing at Winterthur was not vivid orange yellow. However, this Winterthur plant could be a different clone of the cross, labeled incorrectly.

However, the 'Miss Louisa Hunnewell' grown by Winterthur is close enough in color to possibly be the one growing in the honored location next to 'Margaret Abbott' at Jane Abbott's old homestead. Next to this Mollis hybrid in Jane Abbott's old homestead is a pink *prinophyllum* cross that could easily be Abbott's 'Jane Abbott'.

Now according to Dennis Abbott, son of Frank Abbott Jr., he would move azaleas all the time at the direction of his grandfather. Frank would direct Dennis on what azaleas to move among the three properties Frank owned and between the three homes of Frank, Frank Jr., and Jane in Saxtons River, VT. One could easily jump to the conclusion that these three plants represent 'Margaret Abbott', 'Miss Louisa Hunnewell', and 'Jane Abbott'. We

know for certain (or at least as certain as one can about these sorts of things) that the 'Margaret Abbott' is indeed 'Margaret Abbott'. Our image of 'Margaret Abbott' from the spring 2009 at Jane Abbott's old homestead is an exact match of the one taken for an article on Frank Abbott in *Vermont Life* in 1973. Moreover, Clarence Towe, who never forgets a deciduous azalea, stated our image is indeed the same 'Margaret Abbott' Frank Abbott showed Clarence when Clarence visited Saxtons River in the 1970s.

Yet unlike 'Margaret Abbott', which is a cultivar representing a single plant, the 'Jane Abbott' and 'Miss Louisa Hunnewell' being referenced by Frank are most likely each seedlings from a particular cross much the way PJM Group was in this same timeframe.

Dr. Norman Pellett of the University of Vermont sent us by email an image of 'Jane Abbott' that was given directly to him by Frank Abbott. Dr. Pellett also informed us that a friend of his is also growing a 'Jane Abbott' received directly from Frank Abbott, but the two plants have yet to be compared to see if they are identical.

Planted next to these three plants but on the side of the former Jane Abbott homestead rather than at its back is an elepidote that Dennis Abbott stated is 'The Virgin'. This is the only elepidote that Frank Abbott ever registered and according to him is the hardiest rhododendron or azalea he ever raised from seed.

Planted in Frank Abbott Jr.'s homestead is a plant Dennis stated was 'Claudine Abbott'\* named for his mother Claudine who was the wife of Frank Jr. It has deep yellow buds that open cream suffused with pink and a prominent yellow blotch. It has to be just another fragrant selection of the many hybrids of *prinophyllum* that Frank Sr. produced.

Upon sending our image of 'Margaret Abbott' to John Abbott, we received an email from Susan Abbott, granddaughter of Frank Abbott, of an image of Susan Abbott standing in the Arnold Arboretum next to 'Susan Abbott\*', the evergreen

azalea. Now 'Susan Abbott'\* was listed as a plant in their living collection until 2005, but it is no longer listed. However, several evergreen azalea crosses donated by Frank Abbott still exist in the exact same location where Susan was standing in the image she sent. There are also evergreen azaleas of the same cross donated to the Arnold Arboretum by Weston Nursery. The Arnold Arboretum used to place both big white wooden tags as well as small medal labels on plants. Susan is holding one of those white tags in the image mentioned above. Susan did not know a plant had been named for her until she saw the tag on a visit to the Arnold Arboretum.

As an aside, within 4.6 m (15 feet) of where Susan Abbott is photographed at the Arnold Arboretum are two deciduous azaleas that we have visited numerous times. The first is (*R. cumberlandense*  $\times$  *viscosum*)  $\times$  'Consul Pêcher', which is a cross by Robert Stuart who hybridized rhododendrons and azaleas in Littleton, MA, as well as in Stratham, NH. We collect Stuart crosses. The second is  $\times$  *gladwynense* which was hybridized by Mary G. Henry and is documented to be a cross of *R. prunifolium*  $\times$  *viscosum*. The  $\times$  *gladwynense* growing at Chanticleer Garden in Philadelphia, PA, has the appearance and the late bloom time one associates with a parentage of *prunifolium*  $\times$  *serrulatum*.

Now the plant at the Arnold tagged as  $\times$  *gladwynense* gives no appearances of having this parentage, appears to be sterile, and blooms in late May. Nothing indicates this plant is as labeled; however, it is one of our favorite large flowered azaleas. In the Grafton Abbott field there is a azalea that could pass for a sister seedling of the Arnold's that we nick-named "Graftonensis." So we have the opinion that the Arnold Arboretum plants are 'Margaret Abbott'-like seedlings that he donated.

In the 1960s, Ed Mezitt reproduced Frank Abbott's cross using *prinophyllum* and  $\times$  *kosterianum* and named two plants; 'Jane Abbott Pink\*', often referred to as simply 'Jane Abbott', and 'Frank Abbott'. These two plants look very

much like the two next to the graves of Frank and Jane but they are not identical. Weston Nursery also named a plant from this same cross 'Jane Abbott Peach'\* , often referred to as 'Peach Abbott'.

In the late 1980s, both 'Jane Abbott Pink'\* and 'Frank Abbott' were placed in tissue culture. However, due to a mix up, all the initial plants sold were actually 'Frank Abbott', regardless of how they were labeled. Therefore if you think you are growing both cultivars and they are both dark shocking pink rather than one being a baby pink, you actually have two 'Frank Abbott's'.

Worth mentioning here is Dr. Harold Pellett of the University of Minnesota, who was involved in the breeding of the Northern Lights series of azaleas and is the brother of Dr. Norman Pellett of the University of Vermont. 'Rosy Lights'\* and 'Pink Lights' were among the first crosses named in this series. Both of these azaleas were crosses involving *prinophyllum* and *kosterianum*. Harold and Norman are grandsons of Frank C. Pellett who authored several books on beekeeping including "Practical Queen Rearing" (2010).

Another side note is that 'Margaret Abbott', although a cross of *prinophyllum*, a diploid, with *calendulaceum*, a tetraploid, is seed fertile. Frank Abbott sent Clarence Towe open pollinated seed from 'Margaret Abbott' and Clarence grew two seedlings to blooming size, and one was similar to 'Margaret Abbott'. On a late summer trip to see the Abbott azaleas, we noticed that 'Margaret Abbott' did indeed have seed pods. To date there is no other documented F<sub>1</sub> cross of two native deciduous azalea species of differing ploidy known to be seed fertile. Most such crosses result in sterile triploids.

Moreover, in a family letter that Dennis showed us, Joe Gable wrote Frank Abbott recommending that Frank always designate the seed parent first and the pollen parent second when documenting a cross. The direction of the cross in the parentage of 'Margaret Abbott' is

*prinophyllum* (seed) × *calendulaceum* (pollen) and 'Jane Abbott' is *prinophyllum* (seed) × 'Miss Louisa Hunnewell' (pollen) as documented in Galle (1987).

Without knowing so, we may well have found and photographed 'Margaret Abbott' in the Grafton fields, on our first summer visit in 2008. In fact, if we are correct, 'Margaret Abbott' is planted within 1.5 m (five feet) of the azalea we nick-named "Graftonensis." We did not order the *Vermont Life* article containing the image of 'Margaret Abbott' until the fall of 2008. If you compare closely the images of 'Margaret Abbott' from Saxtons River and the plant in Grafton, it is evident that some of the anthers of the flowers in both images have the unusual characteristic of small segments of petaloid tissue.

We would be remiss if we did not mention four other people who have spent much time with the Abbott azaleas. Bob and Jan Carlson named 13 Frank Abbott crosses which are listed on page 111 of Galle (1987). Carlson Gardens offers the evergreen azalea 'Yankee Doodle'\* hybridized by Frank Abbott. David Heleba and Hal Bill, both of whom we have never met, are also reported to be very knowledgeable on the azalea work of Frank Abbott. There is every reason to believe their knowledge of Frank Abbott's azaleas dwarfs the information or potential misinformation contained here.

Now, lovers of our native deciduous azaleas may wonder why did Frank Abbott, Ed Mezzit, and Harold Pellett prefer *prinophyllum* crossed with *molle* over the native *prinophyllum* in their hybridizing? First, contrary to popular belief, *prinophyllum* is not always rose pink. Very light pinks and whites are not uncommon in *prinophyllum*. Second, *molle* crosses cause the flowers to not only be a deeper pink but also to be bigger, and adds a prominent blotch compared to the occasional small streak of an orange blotch found on *prinophyllum*. Third, when one grows *prinophyllum* from seed, one quickly learns *prinophyllum*

grows slower from seed that most of other native American deciduous azaleas. Adding *molle* causes them to grow faster to blooming size, with deeper pinks and bigger flowers without sacrificing the look, fragrance, or hardiness of *prinophyllum*, making for a more desirable plant, especially if you are growing them for sale.

By the way, if you are ever at the Arnold Arboretum in Boston, MA, or the Cox Arboretum in Canton, GA, you may want to visit some fine specimens of the native American hemlock, *Tsuga canadensis*, such as 'Abbott Pygmy' and 'Abbott Weeping'. Consider visiting Saxtons River, VT, to view the unusual *Tsuga canadensis* lining the streets. Even the Biltmore Estate contains azaleas donated by Frank Abbott to Chauncey Delos Beadle, which seems fitting since an azalea donated to the Arnold Arboretum by Beadle is a stones throw away from where Susan Abbott was standing when she learned her grandfather named a plant for her.

So what is the rest of the story? Who knows, but we plan a few more trips to Saxtons River, VT, and the surrounding area hoping to learn more. Whether we do, please remember whenever one of those pink *prinophyllum* × *molle* crosses is blooming in your garden by whatever name, you are living for at least that moment in Frank Abbott's "Village of Azaleas" where Norman Rockwell paintings still reflect real life and your opportunity to "live free or die" and sample some great ice cream is just on the other side of the river.

\* = not registered.

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# The O. Howard Hinsdale Garden, Spruce Reach Island, near Reedsport, Oregon

*An Update on the Restoration of Oregon Coast's Secret Rhododendron Garden*



John M. Hammond  
Starling, Bury,  
Lancashire  
England



Gordon K. Wylie  
Creswell, Oregon



ARS members and BLM staff planting group picture, November 2010. Photo by Bill Johnson, Siuslaw Chapter.



John Hammond and Gordon Wylie in east garden comparing trusses from *R. 'Bartol's Cornish Red'* grex; azalea planting across slough, house and camellias in background. Photo by Steve Samuels, BLM.



New access road to main garden nearing completion. Photo by Gordon Wylie.



Truck and trailer load of plants being delivered to garden, November 2010. Photo by Gordon Wylie.



ARS members planting replacements, November 2010. Photo by Gordon Wylie.



*Don't judge each day by the harvest you reap,  
but by the seeds you plant.*

Robert Louis Stevenson

## **I**ntrouduction

This spring it will be eight years since the authors made an exploratory visit to Spruce Reach Island to view the jungle of trees, vines, brambles and tall grasses that had grown-up to choke and over-shadow a collection of rhododendron, camellia and magnolia specimens. At the time we could only access the east side of the garden where the height of the weeds had been significantly reduced by a work-crew specially brought-in to enable us to wade through the wet undergrowth. Across the tidal Hinsdale Slough the jungle in the main garden was still shoulder high in many places and our viewing, of the few ornamentals that had managed to flower, was restricted to a survey through binoculars.

So, there were the two of us examining the scene through our rose-colored glasses, in the midst of the dereliction of what had once been a beautiful rhododendron garden, trying to convince two staff from the Bureau of Land Management (B.L.M.) that it really would be possible for this historically significant garden to be restored. Unsurprisingly, our enthusiasm was received with a certain amount of skepticism; however, seeds were sown that day that, once germinated, would lead to the formation of working relationship with the B.L.M. and, in the passage of time, resulted in establishing a formal partnership aimed at the restoration of the garden.

Starting a major garden restoration project "from scratch" is no recipe for a carefree retirement from the office, as there have been all manner of on-site activities to be co-coordinated, whilst at another level the historical research, plant identification and the provision of supporting information for downloading on to a database remains a significant workload. And as our B.L.M. partners, who have other day-to-day priorities to

handle, will also confirm, the project has taken on a life of its own. It is a real education to visit the garden today and realize what it has been possible to achieve in the six years since the restoration work commenced in earnest, but what the visit will not convey is the on-going workload behind the scenes that is an essential ingredient to drive forward and support a major project of this type.

An outline history of the garden and Hinsdale family was published in the Fall 2007 (Hammond and Wylie 2007) and Winter 2008 (Hammond and Wylie 2008a) issues of the *Journal*, followed in Spring 2008 (Hammond and Wylie 2008b) by an overview of the early garden assessments and initial restoration work carried out in the period up to the summer of 2007. Major progress has been made over the past four years on what is a complex project, as the following details will confirm. But first, some recounting from the last referenced article will help set a context for readers.

A second visit to the garden in 2005, two years after our first contact, showed the B.L.M. had followed many of our recommendations in clearing undergrowth, removal of *R. ponticum* sucker growth from grafted plants, and some minor lower limb removal from the tree canopy. That year we also learned of a major impediment to comprehensive remedial work or investment in the garden when furnished a copy of a "Historical Assessment," which had been commissioned by the B.L.M. for use in determining planning for the Spruce Reach property. The report's author concluded neither the house nor garden met any of the criteria needed for nomination to the National Register of Historic Places.

We then corresponded with the Manager of the Umpqua B.L.M. office setting forth reasons for our disagreement with that conclusion and, after the ensuing Bureau review, were very pleased to be formally advised our arguments had been accepted, resulting in a dramatically changed status for the garden to potential

eligibility for entry in the National Register of Historic Places. This very significant step forward in standing meant the property would now be managed essentially the same as if so registered, making much more staff time and funding available. A previously unrecognized gem, albeit a bit tarnished, was about to experience a greatly quickened pace toward reclaiming its former glory as a pioneer rhododendron garden.

## **Working Relationships & Partnership with the B.L.M.**

The earlier article also noted the good working relationship and informal partnership established with B.L.M. staff during the early years of this project. This was more formally recognized in a written Memorandum of Understanding (MOU) entered into between the Agency and District 4 (Oregon) members of the ARS in March of 2009. The agreement deliberately notes the American Rhododendron Society's fundamental purpose (*"The purpose of this Society is the encouragement of the culture of rhododendrons, including azaleas, and the increase of general understanding of and interest in all aspects of these plants."* ARS Bylaws, Article I, Section B) and details the role expected of each party in restoring the Hinsdale Garden.

Our role is that of a "partner" assisting in planning, maintenance and interpretation, and includes "hands on" work in the garden. Then District 4 Director Anne Gross and Director elect Bob MacIntyre participated in negotiating the MOU. The agreement was finalized and signed by both upon behalf of Oregon members, while Umpqua Field Office Manager Dennis Turowski signed for the B.L.M. An important feature of the MOU provides our members participating in work at the garden are accorded the same protection and coverage as Federal employees from tort claims, for injury compensation and personal property loss or damage.

It is well worth noting that the

B.L.M. in Oregon have had little, if any, experience in the restoration of old gardens and, in many ways, their involvement in this project has been just as much of a learning curve for its staff as it has been for the authors, who at times have needed to be both patient and supportive whilst dealing with a multi-layered government body whose decision-making process has no mechanisms to permit direct external input. Long-term friendships don't just happen; they require both sides to make an input to support them, and the maintenance of a "partnership" under "arms-length" conditions can be equally time-consuming in the formative years. This has led to the development of a level of trust that has bound the two partners together in a way that is mutually advantageous, and both parties are able to work together and deal with areas of difficulty in a constructive way.

### Seeing the Wood for the Trees

Most of the basic clearance in eliminating weeds, blackberry and other unwanted growth has been carried out by work crews contracted through the Northwest Youth Corps, with the early effort directed toward getting such growth cut down gradually to knee level, then to the garden floor and thus allowing access to the entire garden. Over the last four years this has resulted in the emergence of previously unseen groups of evergreen azaleas, smaller rhododendrons, stumps of dead plants and discovery of a few original plant labels. The clearance work is being done annually in the spring and early summer, and has had a cumulative effect both in terms of revealing more "secrets" of the garden and less undesirable re-growth. This has in turn yielded time for Youth Corps workers to tackle heavier tasks such as digging out a large area invaded by a tip rooting wisteria fallen from its support and some tree stump removal and other clearance of the island beds in the main drive in preparation for replacing plants in those areas, an important key to reclaiming the original element of greater formality

approaching the house.

In May of 2007 the authors met Steve Samuels (Cultural Resource Specialist), Jennie Sperling (Botanist) and Bob Golden (Umpqua Park Ranger), from the B.L.M. Coos Bay District Office, to augment earlier recommendations for tackling the overgrown tree canopy in a day long detailed examination of every tree in the garden. Using detailed mapping that depicted their locations and tag numbers, all trees were marked by colored ribbons with specific directions for limb removal, and a few, likely originating as volunteers, designated for outright removal. Other tree work presented a particularly difficult scenario where falling limbs had got caught-up in the branches of adjacent trees. Special attention was given to advise B.L.M. staff of the critical nature of this work and care needed in carrying it out to avoid damage to the rhododendron collection. A private contractor then took this major tree surgery forward, and the benefits of increased light reaching the first layer of plants within the garden structure began paying dividends almost immediately. A map of the garden appearing in Part II of the original article (Hammond and Wylie 2008a) may be viewed to help visualize the extent of this work.

Of note in discussing trees is the native species from which the location name is derived, Sitka Spruce (*Picea sitchensis*). Most of these occur in that portion of the garden to the east of the slough surrounding the main garden, and some truly magnificent old specimens reside there. But they had very large and often-gnarly limbs beginning only 8-10 feet (2.4-3 m) from the ground, which needed to come off to allow more light into the garden. The tree cutting crew successfully dealt with the special challenge in removing those limbs without damage to the rhododendrons immediately below. Coniferous trees imported by the Hinsdales, including several different large species of *Cedrus*, *Sequoia* and a *Cryptomeria*, were planted in the main

garden. These required only some minor shaping and little large limb removal. But large specimen deciduous trees in the main garden once again required special care in removal of some very large limbs needed to raise the canopy. Clearance of a different kind was the removal of *R. ponticum* suckers from some of the older rhododendrons as the base of each plant emerged from the undergrowth. This prolific, and sometimes considered "pest" species as it spreads by self-seeding, has not spread itself around Hinsdale Garden, and a particularly good specimen plant is found at the rear of the House.

Not to be overlooked either was the increasing interest and offers of help from Oregon ARS members stirred by these activities. Small groups of members began visiting the garden and offering suggestions on the clearing and tree work, along with offers of personal help in the many tasks ahead. The interest of these folks no doubt assisted in building confidence among B.L.M. staff for our active participation as evidenced, for example, in the provisions of the MOU described above. More examples of member participation are related in different sections of this article.

### Surveying the Plant Collections and Establishing a Plant Record Database

During a full day visit to the garden in the spring of 2005, to view the results of undergrowth clearance work and to advise on the work needed to stabilize the slow deterioration of the plant collections, the authors were able to begin to identify a small number of the plants, despite the poor flowering and "washed-out" colors of the trusses. This emphasized the need for the plants to be tagged and for the creation of a robust record of all plants and trees. Over the following year the B.L.M. staff surveyed the garden, positioned every plant and tree with G.P.S. co-ordinates, and then mapped the whole garden on a graphics database. All plants and trees were tagged and numbered with a secure stainless steel label, including all dead plants and stumps, as there was a need to

establish the location and identity of the plants that had been lost.

In November, 2005 the B.L.M. advised the authors that they had located in their archives the original boxed set of O. Howard Hinsdale's hand-written index record cards that had been recovered from Spruce Reach House when the B.L.M. acquired the property in 1994. This was a major "find" as the 4 x 5 inch (10 x 13 cm) cards had been upkept for the years 1952–1968 and covered the rhododendron collection in the garden; the only problem being that in many instances the recorded location of each plant used other plants as the point of reference. As the locations of the plants used as reference plants were unknown this presented a complex problem to be unraveled, only to be compounded by the realization that there was not a record card for some of the plants used as a point of reference! Using the data from the index record cards the authors developed an embryo database spreadsheet and its content clearly confirmed that the garden originally contained a major collection of rhododendron cultivars from the important crosses made by key hybridizers during the first half of the 20<sup>th</sup> century. The database was then used to extract an alphabetical listing of plants that were specifically recorded as being in a particular area of the garden, which supported some of the early plant identification work and led to a more detailed investigation of the plantings in that area. These activities encouraged the B.L.M. staff to develop a more comprehensive and flexible database capable of recording a wider range of parameters, including G.P.S. data and the present condition of each plant. Later, while back-checking plant locations in the spring of 2009, it suddenly became evident the index cards were written from the vantage of looking south out of the front window of the house.

Hinsdale was careful with his choice of ornamentals so as to ensure that the plantings would provide a continuous spectacle of color that started in early-

March with magnolias and camellias and lasted until late-July with the late-flowering rhododendrons. It was not practicable for the authors to regularly visit the garden during these months to identify the plantings, so it was agreed that, on visitations made by the B.L.M. staff to the garden to carry out various scheduled work, they would take a pre-determined sequence of digital images of each plant that happened to be in flower at the time. In this way a digital library of images has been gradually assembled for all plants in the garden, and additional sets of images have been added as the physical condition and flowering of the plants has improved in response to the remediation work. All images have been sequentially coded using the tag number for the plant and the codes have been added to the plant database. The constant march of new technology has been used to the full with this project and the on-going exchanges of the plant and image data files, initially via CD and more recently via DVD, have enabled major plant identification exercises to be carried out "at arms length." This work also meets the requirement to establish a robust record base to support the classification of the garden eligibility for inclusion on the National Register of Historic Places, which needs to include the historical background of the garden and plants, and archive materials, including photographs. A detailed historical background for all the rhododendron cultivars has already been compiled and the B.L.M. staff is currently integrating these details with digital images of the plants to provide a comprehensive reference source.

Towards the end of 2010 the authors turned their attention to identifying the azaleas, camellias and magnolias for which there are no records available. Most of these date from the 1950s, while the remainder are likely to be much older, and a high percentage is not in commercial propagation. So, this aspect will be a longer-term project.

### **Hard-Landscape Remediation Work**

Early in the winter of 2007 a major step in remedial work began with removal of the damaged and dangerous wooden bridge leading from the highway into the main area of the garden. Access to the main garden for the better part of two years was then limited to a small boat pulled by rope across the slough from the eastern part of the garden. In early 2009, with the need for more utilitarian access to allow starting replanting and other work growing increasingly urgent, the B.L.M. installed a better, but still temporary, entry via concrete block steps leading down the steep bank at the highway to a plank walkway across the slough. This route was only available during periods of low tide, but did enable entrance of more manpower, plants and other material for replanting work in 2009.

Meanwhile, B.L.M. staff expressed concern as to how budgeting for the replacement bridge was to be secured, but in due course the funding became available on the basis that the garden was provisionally eligible for inclusion in the Register of Historic Places. Engineering, other planning, a mandatory public comment period, and the bidding process, resulted in permanent access being finally realized in the summer of 2010. Large culverts were placed to allow continued free flow of the slough, which were in turn overlaid with a graveled and paved roadway. Entry into the garden over the new road will for the time-being remain restricted by a gate, but is a very big step ahead, much remarked upon by ARS members during the fall, 2010, planting party discussed later in this article.

With the new access, transporting plants and planting materials into the garden by truck and trailer both expedites and expands what may be imported, and workers may move more quickly in and out of the property. Also, tide levels are no longer a limiting consideration in planning every visit for whatever purpose. As Steve Samuels, our lead contact with the B.L.M. remarked, "I was so tired of

always having to consider the tides!”

After the first planting in 2009 discussed below, the B.L.M. brought in a temporary water holding tank, which was sited on an existing concrete pad next to the house and filled periodically with a fire hose. This suffices for irrigating recently planted material while exploring for a permanent supply, likely from south of the highway, to be accommodated within an open conduit installed under the new access road for such purposes.

The B.L.M. is now looking ahead to replacing the long missing rustic timber bridge across Hinsdale Slough to the eastern portion of the garden, thus reconnecting the two parts of the garden, as was the situation when the Hinsdale family was in residence. This will again be another important step in improving overall access, as the only nearby area for vehicles off the highway near the garden is a parking lot about 75-100 yards (69-91 m) to the east. Currently foot traffic from this parking area to the island portion of the garden requires walking out to the highway and thence inside a highway guardrail to the new access road. Replacing the bridge between these two areas will provide a direct and much shorter route.

A remaining major issue in hard landscape terms is the seriously deteriorated and unsafe condition of the Spruce Reach House. That condition is a key impediment to unlimited public access and is further complicated by as many as seven different bat species having taken up permanent roosting within the house. Some of these bat species are listed as “threatened,” and remediation will be required. If and when the house is removed, there is also a need to integrate the “footprint” with the garden and we hope restore/maintain some portions of the house so as to provide an impression of its historic significance as a family home. Removal also remains a sensitive community question, as residents of the greater Reedsport area unsuccessfully campaigned for the home’s preservation in the 1990s. We have met on site with

the B.L.M. landscape architect and other staff exploring these issues and the bridge between the two areas of the garden mentioned above, and in December of 2010 the B.L.M. circulated a Consultative Document in the public domain for the intended removal of the house.

### **Replanting Program & Endowment Fund Grant**

In late December, 2007, we submitted a Grant Application to the Endowment Committee of the ARS requesting funding of \$3000 for a program proposed to purchase replacement plants for those lost from the garden. Supporting documents included with the application included an assessment of the proposal by then District 4 Director Anne Gross, a detailed six page map of the garden produced by the B.L.M. indicating the location of all plants and trees and including names for those which had been identified at that time, and a copy of our article then being published (Hammond and Wylie 2007). The Endowment Committee responded favorably and recommended approval at the next ARS Board meeting, which followed at the Spring, 2008, meeting in Tulsa. Upon approval and with the money in hand, efforts to source plants and to identify more of those missing from the garden redoubled. For the difficult task of finding historically correct and mature hybrids and species, and wishing to maximize use of the Grant, we undertook an intensive survey of commercial sources. At the same time, more identities of plants missing from the garden continued to emerge as that effort proceeded in concert with the B.L.M.

The Pacific Northwest is home to a significant nursery industry; indeed, in Oregon it has for some years been the top agricultural revenue producer for the State. The popularity of rhododendrons has vast numbers of them produced each year; they are a common spring offering at most nurseries and a number of retail outlets specialize in the genus. But these numbers do not necessarily mean specific

cultivars needed for the Hinsdale Garden, particularly hybrids, are readily available. With new creations constantly emerging, the prevailing trend among producers is to propagate more recently created and named hybrids, making the older cultivars originally planted in the garden difficult if not impossible to find. Species are somewhat easier to find (excepting some named forms), but it is still a time consuming task to locate larger plants suitable for immediate placement in the garden where they must survive without the dotting attention of an on-site owner. These factors have resulted in a still continuing quest involving the authors, plant nurseries and supporting members of the ARS in Oregon and beyond.

Any replanting work in 2008 was for all practical purposes not possible because the small boat access mentioned earlier simply could not accommodate moving plants, mulch and a work party to the main garden. The search for replacement plants, however, continued through the year and by early 2009 we had located and purchased ten large hybrids at very reasonable prices. Additionally, the Siuslaw Chapter purchased a large plant at auction for donation to the garden, and a member donated two other plants.

In November 2009 these plants were delivered to the garden without charge by one of the many ARS members who have contributed to the refurbishment project. Delivery was timed to coincide with a low tide, and B.L.M. staff helped in wrestling the plants down the bank, across the footbridge and into the garden; the B.L.M. folks also put in a lot of hard work hand-trucking large quantities of mulch and gravel to the garden for planting the new additions. A few days later a hardy crew of members from SW Oregon, Siuslaw, Eugene, Willamette and Portland Chapters gathered at the garden on a rainy day to expertly settle the plants in their new home. It’s worth noting here that this was an ideal planting time as seasonal rains provided plenty of moisture over the next six months and root extension begins in

the generally benign winter temperatures at this location.

As chapters resumed their regular course of meetings in early autumn of 2009, we circulated a list of plant names and a plea for cutting material for otherwise unavailable varieties to all the Oregon chapters. The generous response resulted in cuttings for some twenty different named cultivars, and over sixty plants are now being grown on from the resulting professionally rooted cuttings. After reaching sufficient size, these will be planted into the Hinsdale Garden. A few more cuttings have been struck this year as this aspect of plant restoration continues. Surplus plants, if any, from these efforts will likely be sold to fund other future acquisitions.

Mid-November, 2010, marked a repeat of the prior year's planting party at the garden, except this time there were over thirty grant funded and donated plants on hand. Twenty District 4 and four B.L.M. staff members made short work of the task. The plants that year included ten different named clones from the Loderi cross, probably the largest such collection in a single North American garden. They were arranged in a mass planting, though over a fairly large area so as to accommodate the large size this hybrid attains, and will provide a stunning display of color and scent. Most of the remainder of the 2010 planting were species from subgenera *Rhododendron* and *Hymenantes*, the latter including large leaf varieties such as *R. falconeri*, *montroseanum*, *rex* ssp. *fictolacteum* and *sinogrande*. These species were originally included in the garden, and its mild climate should provide a favorable environment for them.

While enjoying food and visiting upon completion of this latest planting, work party members again noted the relative ease of digging the quite sandy loam resulting from thousands of yards of fill dredged from the river and placed at the location when Hinsdale undertook major additions to the garden in the early 1950s. This fill provides quick drainage needed

by rhododendrons and no doubt also originally contained many trace minerals deposited in the Umpqua River bed over many centuries of drainage from its origins in the Cascade Mountains to the east. But nutrients also leach through this soil type, and closer study of the plants' feeding needs will be another area of contribution our membership will make as we move on with restoring the garden.

The final purchases funded by the \$3000 Endowment Grant were completed in early December 2010. These last acquisitions focused on evergreen and deciduous azaleas, which are presently being held in a protected environment at an outbuilding at the eastern end of the elk viewing area across the highway. The current planning is to finish the task of locating and planting these additions at the garden in early spring of 2011. The Grant funding has encouraged several outright donations of large plants from Greer Gardens and private individuals, generating an overall total of 150–160 plants when the 60 rooted cuttings are included. Completing this first major phase of the plant replacement project will fill many gaps resulting from losses over the long years of neglect.

### **Public Awareness of the Project**

The three earlier articles published in *JARS* are posted on the B.L.M. website. Other postings to that website relating to the garden include required notices and planning documents. Given the popularity of "web surfing," Hinsdale Garden information has doubtless come to the attention of many via this medium.

Work at the garden has attracted an increasing amount of public attention in Reedsport and other nearby coastal communities, particularly during the last two to three years as improvements from clearing have become increasingly visible to travelers on the adjacent roadway, recently designated a "Scenic Highway" by the Oregon Department of Transportation (ODOT). The B.L.M. has made presentations about the project

to area Chambers of Commerce and Rotary organizations. The location is within the District presently represented by Congressman Peter DeFazio and our letter to him about the restoration resulted in a contact from ODOT about possible highway improvements near the garden. We understand Congressman DeFazio's area representative is tracking restoration progress as it goes forward. A number of newspaper reports have also been published.

The most wide reaching publicity came about through a television program broadcast on Public Broadcasting Service by its Oregon affiliate, Oregon Public Broadcasting. The affiliate produces a show titled "Oregon Field Guide" highlighting a multitude of outdoor activities and attractions from throughout the State. A segment was filmed at Hinsdale Garden in mid June of 2008 in which we participated along with several B.L.M. staff representatives. The long bloom period deliberately planned by Hinsdale in choosing plant material found plenty of rhododendrons remaining in flower for a colorful and entertaining program. This was first broadcast under the title of "Oregon's Secret Garden" in early fall 2008, was also shown in neighboring Washington and Idaho, and was later rebroadcast in Oregon. We received much favorable comment about the program from both rhododendron enthusiasts and other acquaintances.

In May, 2010, for the first time for many years, the B.L.M. held an open-day to enable members of the local community to visit the garden to see for themselves the progress that has been made with the restoration work. B.L.M. staff were on hand to handle queries, provide information and to outline the planning involved with taking the project forward. One of the aims of the project has always been to involve the local community, as this is seen as a vital step in creating a sense of "stewardship" as the garden will bring in visitors that the wider Reedsport area will benefit from. Between 100–150

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## ARS SEED EXCHANGE

The 2011 Seed Exchange will be open until April 15th and will accept catalog orders from non-ARS members after March 15th. A listing of rhododendron, azalea and companion plant seed lots currently available can be viewed at the ARS web page:

<http://www.rhododendron.org/seedexchange.htm>

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people turned out for the event, including a number from much further away, and feedback was very positive. The reports circulated quickly in the public domain and many of those who heard about the open-day only after the event indicated that they wished they had got to know sooner, which bodes well for the future.

### In Conclusion

Robert Louis Stevenson's quotation at the head of this article is particularly appropriate as we believe our endeavors with this restoration project, through eight years of "retirement from the office," will not only be the means by which another generation will inherit a revitalized historic asset, but will also provide them the opportunity to visit and enjoy a remarkable springtime garden in a most attractive scenic setting on the banks of the Lower Umpqua River. For this reason we would like to acknowledge the help and assistance we have received from the Society as a whole and especially members of District 4 who have helped advance a major undertaking that incorporates many of the aims and objectives of the ARS. Equally, this project would never have got started without the support of the B.L.M., whose staff have occasionally wondered what they have got themselves into, but as the years passed, have developed an interest in the plant collection and have come to realize they are involved in a scheme with a life of its own.

### References

- Hammond, J.M. and G. Wylie 2007. Spruce Reach Island: The Oregon Coast's secret Rhododendron Garden, Part I. *J. Amer. Rhododendron Soc.* 61: 199-205.
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# American Rhododendron Society

## Register of Plant Names and Checklist—Spring 2011 Supplement

Jay W Murray  
North American Registrar of Plant Names  
Colts Neck, New Jersey

Questions from **North Americans** concerning name registration, the availability of particular names, and requests for forms (no fee) should be directed to the Regional Registrar, **Jay W. Murray**. Forms also may be downloaded from the ARS web site: <http://www.rhododendron.org> or completed on-line for automatic emailing to J.W. Murray. **Non-North Americans** should direct questions to the International Rhododendron Registrar **Dr A.C. Leslie**.

Introduction: The following rhododendron and azalea names were approved and added to the International Rhododendron Register prior to February 1, 2011 by the Royal Horticultural Society, International Cultivar Registration Authority for the genus *Rhododendron*. The North American Registrar assisted the RHS by providing data for plants originating in North America.

References: Names conform to the rules and recommendations of the *International Code of Nomenclature for Cultivated Plants – 7<sup>th</sup> Edition* (2004). Color numbers refer to the RHS Colour Chart unless noted otherwise. Accompanying color names are taken from *A Contribution toward Standardization of Color Names in Horticulture*, R.D. Huse and K.L. Kelly, edited by D.H. Voss (ARS, 1984). Format: Parentage lists the seed parent first, followed by an “(s)” if the direction of the cross is known; this is followed by an upper case “X” and then the name of the pollen parent. If either parent is itself a cross, the individual components within that cross are separated by a lower case “x”. Parentheses are used only in describing the more complex crosses. Abbreviations are used where appropriate: (a) = azalea, (r) = rhododendron, (v) = vireya rhododendron, (z) = azaleodendron; 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; dates are enclosed in parentheses

immediately following the activity. Metric conversions of dimensions are reported in 5mm (0.2”) increments for dimensions greater than 1” (25mm).

### ATTENTION: Non-North American Members of ARS

The International Rhododendron Registrar, Dr A.C. Leslie, accepts registration applications from all areas of the world. Where there is a Regional Registrar, applications may be preprocessed locally and then forwarded to the IRR. ARS members living outside North America who register directly with the IRR,

or through other Regional Registrars may have their registrations published by the ARS if they notify the North American Regional Registrar of the plant name and the official registration date. The entry will appear in an early Supplement in the *JARS*.

### (r) ‘Copper Dust’

Elepidote rhododendron: ‘Cimarron Sun’ (s) X ‘Big Deal’ H (2001), G (2006), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 25/conical truss, broadly funnel-shaped, 2” (50mm) long x 3” (75mm) wide, with 7 wavy-edged lobes. Color deep yellowish pink (39B)

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in bud, opening inside pale yellow (20D), with dorsal lobes light yellow (20B) fading to pale yellow (20D) at edges, and with a dorsal flare of deep red (185A) spots extending upwards c1.5" (40mm) from the base; outside similar to inside without markings; stigma green. Calyx irregular, as long as c1.8" (45mm); light yellow (20B), edged pale yellow (20D), with moderate purplish red (186A) flares. Truss 6" (150mm) high x 6" (150mm) wide. Lvs held 2 years, 4.5" x 2" (115 x 50mm), elliptic, broadly acute apex, rounded base, flat margins; semi-glossy and moderate olive green (147A) above; hairless. Shrub 2.5' (0.8m) high x 3' (0.9m) wide in 10 years; intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering early May.

### (r) 'Ice Ballet'

Elepidote rhododendron: *R. yakushimanum*, Exbury form (s) X 'Mrs J.G. Millais'. H (1981), G (1986), N (2009), I, and REG (2011); Jim Barlup, Bellevue, WA. Fls 20/ball truss, saucer-shaped, 2" (50mm) long x 3.5" (90mm) wide, with 5 wavy-edged lobes. Color strong purplish red (64C) in bud, opening inside yellowish white (155D), with a densely spotted moderate yellow (162A) dorsal flare extending c1.2" (30mm) from base; outside yellowish white (155D). Truss 6.5" (165mm) high x 6.5" (165mm) wide. Lvs held 2 years, 5.8" x 2" (145 x 50mm), elliptic, broadly acute apex, rounded base, flat margins; dull and moderate olive green (147A) above; hairless. Shrub 5' (1.5m) high x 8' (2.4m) wide in 29 years; intermediate habit. Plant hardy to at least -5°F (-21°C). Flowering late May.

### (r) 'Ivory Spice'

Elepidote rhododendron: 'Winter Spice' (s) X 'Muffy'. H (2003), G (2008), N (2010), I, and REG (2011); Jim Barlup, Bellevue, WA. Fls 11/ball truss, broadly funnel-shaped, 2" (50mm) long x 3" (75mm) wide, with 5 wavy-edged lobes. Color yellowish white (155D) in bud, opening inside and out yellowish white (155D), with a large dorsal flare of deep purplish red (59B) spots extending c1.4" (35mm) from base; anthers dark red, pistil yellow. Calyx irregular, to c1.4" (35mm) long; yellowish white (155D), with deep purplish red (59B) spotting. Truss 4" (100mm) high x 5" (125mm) wide. Lvs held 2 years, 4.5" x 2" (115 x 50mm), elliptic, broadly acute apex, rounded base, downcurved margins; semi-glossy and moderate olive green (147A) above; (Text continued on page 116.)



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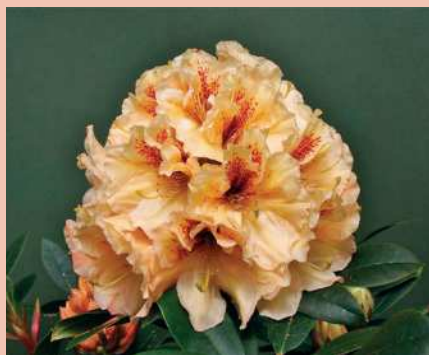
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# Register of Plant Names—Newly Registered

*Hybridized by Jim Barlup*

*Photos by Jim Barlup*



'Copper Dust'. See description on page 113.



'Ice Ballet'. See description on page 114.



'Ivory Spice'. See description on page 114.



'Lemon Charm'. See description on page 116.



'Night Music'. See description on page 116.



'Purple Embers'. See description on page 116.



'Saralynn'. See description on page 116.



'Singing Sun'. See description on page 116.



'Violet Touch'. See description on page 117.

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## Register of Plant Names

(Continued from page 114.)

hairless. Shrub 1.7' (0.5m) high x 3' (0.9m) wide in 7 years; dense habit. Plant hardy to at least 0°F (-18°C). Flowering late May.

### (r) 'Lemon Charm'

Elepidote rhododendron: 'Horizon Lakeside' (s) X 'Recital'. H (1997), G (2002), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 18/dome truss, broadly funnel-shaped, 2.4" (55mm) long x 3.5" (90mm) wide, with 7 wavy-edged lobes. Color brilliant yellow (11A) in bud, the dorsal lobes opening inside light yellow (10C) blending to pale yellow (11D) at edges, with a spotted flare of strong red (53C) extending c0.6" (15mm) on upper central lobe and with additional light, random spotting of the same color; other lobes opening pale greenish yellow (10D), fading to pale yellow (11D) at edges; outside opening light yellow (10C) blending to pale yellow (11D) at edges, the mid ribs with light yellow (10C) veining. Calyx c0.6" (15mm) long, pale greenish yellow (10D) with strong red (53C) streaks. Truss 5" (125mm) high x 6.8" (170mm) wide. Lvs held 2 years, 4.3" x 1.5" (110 x 40mm), elliptic, broadly acute apex, rounded base, flat margins; semi-glossy and moderate olive green (147A) above; hairless. Shrub 2' (0.6m) high x 2' (0.6m) wide in 5 years; intermediate habit. Plant hardy to at least 5°F (-12°C). Flowering early May.

### (r) 'Night Music'

Elepidote rhododendron: 'Johnathan Shaw' (s) X 'Black Adder'. H (2003), G (2009), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 18/ball truss, broadly funnel-shaped, 2" (50mm) long x 3.3" (85mm) wide, with 5 wavy-edged lobes. Color dark red (187A) in bud, opening inside with a moderate purplish red (59C) center, c0.5" (15mm) deep, and blending to dark red (59A) at edges, with a dark red (187A) flare on upper central dorsal lobe, starting c0.5" (15mm) from base and extending 1" (25mm); outside base moderate purplish red (59C), blending to dark red (59A) at edges, with dark red (187B) mid ribs; anthers close to white. Truss 5.5" (140mm) high x 5.5" (140mm) wide. Lvs held 2 years, 5" x 2" (125 x 50mm), elliptic, broadly acute apex, rounded base, upcurved margins; semi-glossy and moderate olive green (147A) above; hairless. Shrub 2.5' (0.8m) high x 2.5' (0.8m) wide in 6 years;

intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering late May.

### (r) 'Purple Embers'

Elepidote rhododendron: 'Midnight Mystique' (s) X 'Johnathan Shaw'. H (1999), G (2005), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 16/ball truss, saucer-shaped, 2" (50mm) long x 3.5" (90mm) wide, with 5 wavy-edged lobes. Color dark red (187A) in bud, opening inside strong purple (77B), edged deep reddish purple (77A), with a dark red (163A) dorsal flare extending c1.4" (35mm) from the base; outside deep reddish purple (77A) with dark purple (83A) mid veins. Truss 4.5" (115mm) high x 5" (125mm) wide. Lvs held 2 years, 5" x 2" (125 x 50mm), elliptic, broadly acute apex, rounded base, flat margins; dull and moderate olive green (147A) above; hairless. Shrub 3' (0.9m) high x 4' (1.2m) wide in 11 years; intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering mid May.

### (r) 'Saralynn'

Elepidote rhododendron: 'Meela' (s) X 'Christina Dee'. H (2004), G (2008), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 14/ball truss, broadly funnel-shaped, 2.4" (60mm) long x 3.5" (90mm) wide, with 5 frilly-edged lobes. Color strong red (51A) in bud, opening inside pale orange yellow (19D), with pale yellow (19C) on dorsal lobes, the outer edges changing to very pale purple (69C), and with deep purplish red (59B) spotting on dorsal lobes extending c1.8" (45mm) from base; outside pale yellow (19C) changing to very pale purple (69C) at outer edges. Truss 5" (125mm) high x 6" (150mm) wide. Lvs held 2 years, 4.5" x 2.4" (115 x 60mm), elliptic, broadly acute apex, rounded base, downcurved margins; semi-glossy and moderate olive green (147A) above; hairless. Shrub 2.5' (0.8m) high x 3' (0.9m) wide in 6 years; intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering late May.

### (r) 'Singing Sun'

Elepidote rhododendron: 'Sun Blush' (s) X 'Goldprinz'. H (2002), G (2007), N (2010), I, and REG (2011): Jim Barlup, Bellevue, WA. Fls 18/dome truss, broadly funnel-shaped, 2" (50mm) long x 3" (75mm) wide, with 5 wavy-edged lobes. Color light yellow (10C) in bud, opening inside and out pale yellow (11C), with a prominent dorsal flare of deep red

(185A) spotted rays, the central one extending c1.8" (45mm) from the base, flanked by rays extending c0.5" (15mm) long; in addition there are three rays of the same color extending c0.2" (5mm) from the base on the lower lobes. Truss 4" (100mm) high x 5" (125mm) wide. Lvs held 2 years, 5" x 2" (125 x 50mm), elliptic, broadly acute apex, rounded base, downcurved margins; glossy and moderate olive green (147A) above; hairless. Shrub 2' (0.6m) high x 3' (0.9m) wide in 8 years; intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering mid May.

**(r) 'Violet Touch'**

Elepidote rhododendron: 'Violet Mist' (s) X 'Plum Passion'. H (2001), G (2006), N (2010), I, and REG (2011): Jim Barlup, Bellevue,

WA. Fls 21/ball truss, broadly funnel-shaped, 2" (50mm) long x 2.5" (65mm) wide, with 5 frilly-edged lobes. Color deep purplish red (71A) in bud, opening inside light purple (77D) with a dark red (167A) flare starting c0.5" (15mm) from the base and extending upwards c0.8" (20mm) on the dorsal lobe, and with the tips of all lobes strong purple (77B); outside light purple (77D) with midribs and lobe tips strong purple (77B). Truss 4" (100mm) high x 4.5" (115mm) wide. Lvs held 2 years, 4.5" x 2" (115 x 50mm), elliptic, broadly acute apex, rounded base, upcurved margins; dull and moderate olive green (147A) above; hairless. Shrub 2' (0.6m) high x 3' (0.9m) wide in 9 years; intermediate habit. Plant hardy to at least 0°F (-18°C). Flowering early May.

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Glisch,,Bob  
Hart, William G.  
Keim, Brian  
Schmidt, Ernest L.  
Smith, L. L.  
van Hoey, J.R.P.  
Watson, Elsie

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(Continued from page 69.)

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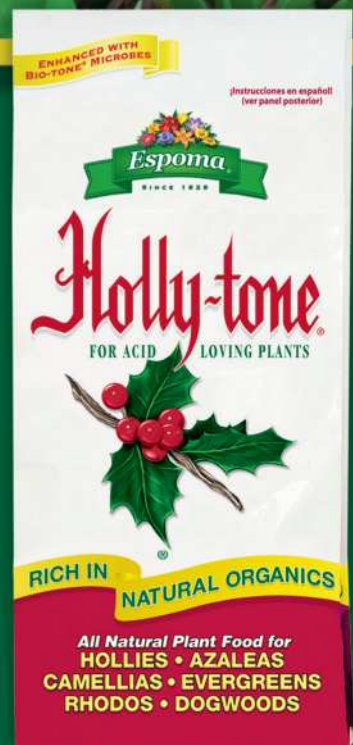
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The photograph of Crystal Springs on the front cover of the Winter 20011 issue, top left, was taken by Ernie Metcalfe, not Harold Greer as the credit on page notes.



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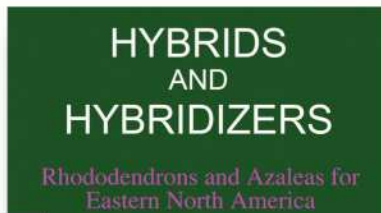
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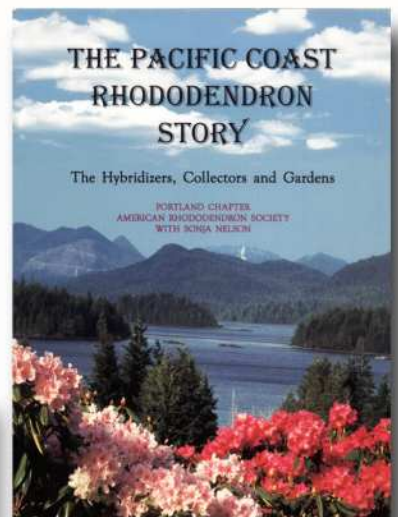
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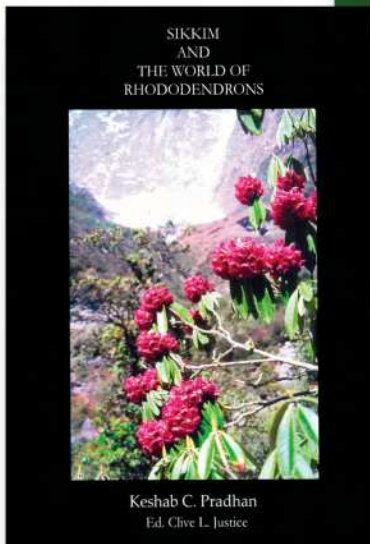
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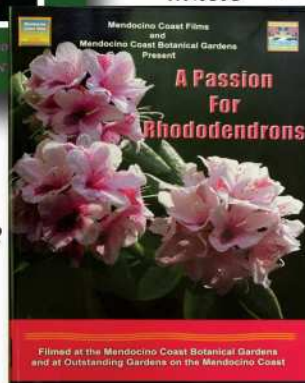
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