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American Rhododendron Society

American Rhododendron 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)

Student (include proof if over 18)	$10.00
Regular	$40.00
Commercial	$90.00
Sustaining	$75.00
Sponsoring	$150.00
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You can join the ARS through your local ARS chapter (check the website 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.**

From the President

Bruce Feller
Old Field,
New York

On the occasion of my installation as your Society President in Seattle earlier this year, the hard work of Convention planners, the cooperation of Mother Nature and a wonderful crowd of fellow members, all coalesced to provide a most memorable and pleasant experience for Marianne and me. My thanks to all of you, and particularly to members throughout the organization, who have in the past or presently occupy a position of responsibility or chair a Committee at the Chapter, District or Society level. As I said in Seattle, without your volunteer efforts there would be no ARS!

Effusive thanks also go to Don Smart as your outgoing Society President. It has been a pleasure working with him and I would especially commend his patience and even-tempered management style over the past two years in addressing any number of challenging situations. Don will continue to play a critical role in Society matters as immediate Past President, member of the Board of Directors and Executive Committee. I look forward to his advice and counsel as we move forward.

Particularly noteworthy at the Convention in Seattle was the obvious international reach of the ARS, with those in attendance spanning the globe—New Zealand to Finland. Our keynote speaker, Brian Coker, shared the exciting accomplishments of New Zealand hybridizers; while Kristian Theqvist, President of the newest ARS Chapter—Finland—entertained a smaller group of enthusiasts over dinner. Particularly obvious was the huge Canadian delegation and their enthusiasm for and support of the Society and its programs. Indeed, they represent the largest group of members outside of the United States whose hospitality and good humor it has been my pleasure to enjoy.

As I said to those in attendance at the Seattle Convention, I am both humbled and flattered by the opportunity to serve the Society as its President and I look forward to working with your Board of Directors and other members as we address the challenges and opportunities that lie ahead. Undeniably, we live in a world of rapidly changing patterns of behavior largely driven by technological innovation. Social interaction, pathways of communication and interpersonal relationships continue to evolve rapidly in response to these developments. Many of these changes hold the promise of great advantage and opportunity. Arguably, however, the associated behavioral models may not resonate with those whose life experiences span a period largely devoid of the technology broadly available today. In any event, these changes have obvious effects on the traditional structure and methods of operation of the ARS. I believe the continuity of the Society requires that the organization embrace and leverage these opportunities, where, and to the extent, appropriate. The challenge becomes a matter of finding a point of balance that addresses the needs and desires of the membership in its entirety, recognizing the broadly diverse demographics that define the group. Of course, that point of balance is a moving target. No easy job. I would ask that you keep these thoughts in mind as your Society's leadership works toward assuring the continued viability of the ARS and its overarching goals—public education about and appreciation of the genus *Rhododendron.* I hope to see many of you in Dartmouth, Nova Scotia, in October.

From the Executive Director

Laura Grant
Toronto,
Ontario,
Canada

It is mid-March as I write this, and it has been a strange winter here in the Pacific Northwest, I concur with Don's hopes that the storms in eastern North America have not caused too much damage, but I expect that some gardens did suffer significantly. Here at sea level in Parksville, BC, we have not even had a frost all winter, and we've had rhododendrons flowering since November, with no flower loss due to freezing! This has never happened before, and while there has been freezing and snow at slightly higher elevations inland, and a great deal of snow on local mountains, this is nevertheless exceptional weather for us.

However, what has made this winter even more unusual is that our rhododendrons that have flowered to date have done so many months earlier than in past years! I have intentionally not planted many early-flowering species of hybrids because of normal frosts, often in February or March when the rainy (and cloudy) period is weakening and clearer skies prevail, but those early flowering rhododendrons I do have have been amazing! *R.* 'Lee's Scarlet" fully flowered in November and early December (normally January), 'Christmas Cheer' in January/February (normally March/April), and 'Rosamundi' in February/March (normally March/April). 'Snow Lady' is also about four weeks earlier than in past years. I've talked with other island ARS members and many have made the same observations. As a consequence, many of us are now keeping phenological records (the study of periodic plant and animal life cycle events and how these are influenced by seasonal and interannual variations in climate) to document this occurrence over time to try and allow us to explain it. Perhaps a consequence of this is that island chapter truss shows in late April and early May may have many later flowering species and cultivars in them this year, in contrast to the flowering rhododendrons that have typically characterized shows in past years. That will be a nice change and this will allow us to show off plants not normally seen!

This pattern may also affect the trusses on display at the ARS conference in early May in the Seattle/Tacoma area, as the climate there is often quite similar to that on Vancouver Island. It should thus be particularly interesting, and I hope to see many of you there. For those coming, safe travels!

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Society News

In Search of Rhododendrons in Northwest Burma - One of the Few Gaps in the Rhododendron Map

Bent Ernebjerg
Vaerloese, Denmark
Photos by the author

Introduction

After a number of rhododendron expeditions to China, I was eager to see other rhododendron areas. From different sources I found out that it was possible to trek in Burma, also known as Myanmar, and I became particularly interested in its northern area where the two branches of the Irrawaddy River originate in the high mountains near the border with both India (Arunachal Pradesh) and China. The western branch of the Irrawaddy is the MaliKha River and the eastern branch is the NmaHka River, and the whole area we trekked in is part of Kachin State. That was really interesting, since no westerners had been there for a long time and the earlier classic plant hunters had mostly explored only northeast Burma. The NmaHka River's sources (the Adung, Seingkhu, Dulong/Taron and other rivers) and the NmaHka valley had been explored by Farrer, Kingdon Ward and Forrest, but the MaliKha's sources in North West Burma had not previously been explored by plant hunters. Kingdon Ward looked for the MaliKha source in 1919 but had to turn back because of fever, and to my knowledge he never returned.

I found a Burmese company that organised treks in Burmese Himalaya and which had several treks listed in northwest Burma. In 2009, I had them arrange an autumn trek to Phungan Razi at 3600 m (11,811 ft) for me and three other rhodoholics, Jesper Holck Andersen, Oddbjoern Fosse and Torstein Borg. Phungan Razi is situated on the west border of Burma of Arunachal Pradesh.

Exploration Conditions in Burmese Himalaya

All treks in northern Burma—both west and east—start at Putao, formerly Fort Hertz, which has the only airport in northern Burma. Putao lies on a big plain through which the MaliKha River and its tributaries flow and is at an altitude of only about 500 m

(1640 ft). There are some dirt roads from Putao to nearby villages, and from the road end you have to walk all the way to the mountains. You start walking on the plain and later along rivers, and it takes three to five days to reach a point where you can actually start ascending a mountain. By then you will have only gained about 200–300 meters (650–1000 ft) in altitude, and the low altitude means that you walk in very high temperatures in thick humid jungle. In these surroundings you have most of the kinds of diseases and parasites that you can think of: malaria mosquitoes, sand flies, ticks, bees, killer bees, leeches and poisonous snakes. The terrain is very difficult, since after two days walk you pass the last village and are now on hunting trails with no or badly maintained bridges. We encountered hanging bridges, log bridges and a few tow bridges, but many times we simply had to ford the rivers. Walking along a river means that you have to cross every tributary on your side of the river!

After the last village there was pristine forest and mountains without any human habitation, so we had to carry everything we needed except for water. All our supplies were carried by porters as walking on a hunter's trail means walking on river shores on stones up to big boulder size, and walking in a mountain stream, which is the shortest distance going up a mountainside, means walking up and down very steep slopes. There are no rescue possibilities at all in case of injury, as no helicopter rescue exists there and it is not possible to transport a sick person on the steep and muddy trails, so you must avoid accidents and you must not get sick! These are exactly the same conditions as the old plant hunters had almost 100 years ago, but of course we have better camping equipment today.

The Expeditions

I have so far made three expeditions into northwest Burma:

- October, 2009, to Phungan Razi Mountain on the Burmese west border close to Arunachal Pradesh. A 14-day expedition where I was joined by three other rhodoholics.
- May/June, 2011, to the MaDoi Mountains north of Putao close to the north border with Arunachal Pradesh. There are two summits there, at 4600 m (15,090 ft.) and at 4400 m (14,435 ft). I went for the lower summit but on this expedition I had to turn back, one day's march before the rhododendron area started, because of very difficult conditions and sickness. It was just one of those expeditions where everything went wrong.
- October, 2012, again to the MaDoi Mountains lower summit and this time I was successful. It was a 19 days trek in very difficult terrain, and with terrible weather. On the two MaDoi expeditions, I travelled alone with my Burmese team, as I did not dare to invite other people to this very difficult and dangerous terrain.

This article is mainly focused on my last successful expedition to the MaDoi Mountains. Both expeditions I write about are autumn expeditions, which mean no or very few flowers present. I am not an expert in taxonomy so identification of many of

Fig. 1. One of the more spectacular bridges.

Fig. 2a. A rare sight—a *R. forrestii* flower in autumn.

Fig. 2b. Broad low growing *R. eclecteum* aff.

the rhododendrons was made later based on the photos I took. Rhodo experts have helped in these identifications, not always with the same result, because it is sometimes difficult to identify a rhodo from primarily leaves. In this article I use identifications made by Steve Hootman of the Rhododendron Species Botanical Garden in Federal Way, WA.

October 2009 Expedition to Phungan Razi

On this expedition I was joined by three other rhodoholics. The trek to the Phungan Razi is the easiest trek in northwest Burma, but there are some rivers to ford and some badly maintained bridges (Fig. 1). After two days walking and passing through a 1400 m (4593 ft) pass in inhabited land with home stays in villages, we started ascending a ridge and followed that ridge to the mountain summit at 3650 m (11,975 ft). We then went west to the Indian border and camped two nights at a dry lake. From there we ascended a ridge on the border to 3700 m (12,138 ft) where we had a nice view into Arunachal Pradesh.

Rhododendron findings on this trek were *R. kasoense* (although this is an autumn flowering species, we only saw one plant, with nice small yellow flowers), *R. edgeworthii, R. tephropeplum, R. arizelum, R. pochophorum* var. *pochophorum, R. forrestii* (a porter found one single *forrestii* flower, Fig. 2a), *R. eclecteum* aff. (low and broad growth, Fig. 2b), *R. sanguineum, R. charitopes, R. luteiflorum, R. mekongense, R. trichocladum* and *R. callimorphum* var. *myiagrum*.

We started with the last monsoon rain, and had dry weather for the last 3/4 of the expedition. The Phungan Razi area is open above 3600 meters (11,800 ft tree line) and is relatively dry. On the ridge there were broad-leaved trees and it too was rather dry, except at a low altitude.

2012 Expedition to MaDoi Mountains

Travelling to Putao

I left Copenhagen, Denmark, on Sept 27 and flew to Yangon (former Rangoon) via Singapore. On arrival the next morning, my web visa was quickly changed to a passport one and my taxi driver was waiting for me outside the airport, so I was at my hotel 1½ hours after landing—not bad at all!

The next morning I left for Putao and met my guide in Putao airport. The guide told me that I could not stay this time at the nice hotel where I used to stay because of military intervention. Foreigners in town could then only stay at the military hotel, so instead we stayed in a village outside of town. After lunch in Putao we drove in a four-wheel drive vehicle to another village about one hour's drive north of Putao, where we stayed in a local house along with the cook and some of the porters.

Trekking to the Mountains

The next morning more porters arrived, and we drove north in a tuk-tuk until we could not drive any further. Here we started our trek on the Putao Plain. We walked until late afternoon and stayed in a village at the Lisu vicar's house. The inhabitants in Burmese Himalaya belong to either the Lisu or Rawang ethnic minorities, both of which are Christian. The next morning we continued on the plain walking mostly through very wet grassland to the last village before the mountains, where we had lunch in a local Rawang house. When we left, it had started raining and we went through cultivated land to a quite big river that we had to cross. The rain increased, and by the time we reached the cable bridge, it was torrential. The tow bridge was a steel wire with rattan rings. I was sitting under my poncho while my team got a rope across the river, so they could pull me and our gear across. On the other side we continued in the pouring rain through wet grassland to a cattle station, which was the very last house before the jungle and the mountains. This house is normally empty, but the cattleman happened to be there to attend his cattle so we were able to get warm and dry around his fire. The heavy rain continued through the night and during the next morning, so we waited there until late afternoon, when the rain stopped.

The next morning, we went in light rain along the west side of the MaliKha River. The water level in the river and streams were high because of the heavy rain. Two Lisu hunters we met in the forest told us that the bridge over a nearby tributary that my team had built in advance had been washed away. Fortunately though, they had felled a big tree 1.6 km (one mile) upstream to cross themselves, so they had solved the crossing

Fig. 3. River too deep to ford? Just fell a big tree with your machete!

problem for us (Fig. 3). However, by late afternoon the rain got heavy again and so we camped in the forest. The next morning we continued north and after reaching the Malikha and MaDoi river confluence, we followed the MaDoi River. We again had heavy rain and camped after dark on the MaDoi's riverbank, after a long and strenuous day.

Up the Ridge

The following day we fortunately had nice weather and even a bit of sunshine. We crossed the MaDoi River on another rope bridge, this time on a three-rattan liana rope (Fig. 4). On the east side, three more porters were waiting with rice bags which had been transported ahead, and at last we could start ascending a ridge. We had to ascend 1000 meters (3280 ft), and we started

Fig. 4. Rawangs make everything with rattan.

Fig. 5. My team—my guide missing as he took the photo.

walking in a roaring stream that came down the mountainside, which we followed until it gradually disappeared, and then we ascended on a steep path. We camped in the forest at 1800 m (5905 ft) and enjoyed our first dry day (Fig. 5). We followed the ridge between the MaDoi and the Pa rivers almost straight north. The ridge was covered with broadleaved trees and bamboo, but only one species at a time, which changed with altitude. As a matter of fact, you could use the bamboo species present as an altitude indicator. The next day we continued in nice weather on the ridge, first descending 200 m (650 ft) and then up again, but by the afternoon, the rain had started again, and so we camped on the ridge in pouring rain at 2300 m (7550 ft). This camp was where I had had to turn around in 2011, so the next day was when the adventure of exploring new areas would really begin.

The Rhodo Area

Soon after we left camp we passed an area with autumn flowering orchids, a pleione and four other orchid species. I also spotted some big leaved rhododendrons down on the steep mountainside, but they were out of reach. After lunch we hit the first rhodo by the trail, a beautiful *R. edgeworthii* growing in thick moss on a tree trunk. A bit higher up where the ridge was only one meter (three feet) wide and open, there were

R. martinianum, some even with autumn flowers (Fig. 6). We camped at 2800 m (9186 ft) surrounded by Maddenia species *R. edgeworthii* and *R. maddenia* ssp. *crassum*. From the campsite, there was a beautiful view of the MaDoi valley.

Fig. 6. *R. martinianum.*

The forest on the ridge was now dark and sinister: tree trunks, branches, stones and cliffs were all covered with a thick layer of dark hanging wet moss, and a lot of orchids and other epiphytic plants were growing in the trees. The MaDoi Mountain is the wettest mountain I have ever seen, and quite different from Phungan Razi (Fig. 7). The next morning, we continued up the ridge with some very steep and slippery ups and downs on the way. After one dry day, we had heavy rain again, but we soon saw the first *R. arizelum* and as we gained altitude, we were walking in an arizelum forest with big trunks. There were also beautiful indumented Neriiflora species: *R. beanianum* with its beautiful dark brown indumentum and hairs and probably also *R. piercei.* Along the trail I also found

Fig. 7. Rhodo habitat on the ridge at 2800 m (9186 ft).

one plant of *R. meddianum* var. *atrokermesinum*. By mid-afternoon we had reached a more level area, where we camped at 3400 m (11,155 ft) in an arizelum forest. I was soaked through from the inside, so I was glad I still had one litre of Underberg (a strong German bitter spirit) to keep me warm while my team set up camp. Up here there was no water, but with the heavy rain it was easy to collect water with our plastic shields. The heavy rain continued through the night.

We had now eaten a lot of our rice, so the next morning three porters were sent back to the MaDoi River to build a bridge, catch some fish and to have them cooked for us when we came back. The rest of us continued north in heavy rain in a more open landscape with a treeless mountainside east of us. As we gained more altitude, a small (30 cm (one foot) or less) bamboo covered the open spaces. In an area with big moss covered boulders, there was a small *Casiope* [heather] species growing. There were many areas with rhododendron, and I saw *R. citriniflorum, R. forrestii* ssp. *forrestii*, and still more *R. beanianum*. There were also small leaved rhodos: *R. megeratum, R. tricocladum* and *R. saluenense* ssp. *saluenense*. There would have been beautiful views in clear weather, but the heavy rain made it impossible to see more than about 100 meters (330 ft). We reached our next camp at 3500 m (11,483 ft) around 2 PM and had lunch. Later, I explored around our camp and found more *R. tricocladum* and *R. citriniflorum*. Going up the ridge I had noticed that there were only a few flower buds on the rhododendrons, and even up here in the more open areas it was the same, I guess because of little sunshine.

The porters were afraid that the heavy rain would cool the mountain down and turn the rain into snow but fortunately the temperature stayed at 9° C (48° F). My guide told me that the trail to the next camp was extremely difficult and that it would be a very long day to reach the camp with my hiking rate, leaving no time to look for rhodos. I thus decided to stay at the current camp and the next day only go as far as I could and then turn back, also because I had now run out of time and it was necessary to start to go back down the mountain. The heavy rain again continued through the night and I will never forget the loud sound of heavy rain on a plastic shield.

The next morning we continued north on the trail, and not far from the camp I found *R. campylocarpum* ssp. *caloxanthum,* and later I again found *R. megeratum, R. tricocladum* and *R. saluenense* ssp. *saluenense* (Fig. 8). We were walking mostly in low bamboo on a mountainside, but after a couple of hours' walk we came to a rocky area. This was a landscape I had never seen before: big bare boulders lying as if they had fallen from the sky, with sharp edges and no sign of natural erosion at all. It was extremely difficult to move around in this habitat, and dangerous too. There were small rhodos hidden between the rocks, but you would only find them if you by chance stumbled across them. A porter who I had taught to spot rhodos found a small *R. anthopogon,* and that was the only rhodo we found after walking about two hours in this bare landscape. At 3800 m (12,467 ft), we decided to turn around, also in part

Fig. 8. Rhodo habitat at the treeline at 3600 m (12,467 ft).

Fig. 9. Rhodo habitat in open forest at 3400 m (11,155 ft).

Expedition Facts

Access to North Burma is controlled by the military and you must have a permit and pay a fee of $US18 per day. To go in the mountains you must have a trekking permit. On the 2012 expedition, my team consisted of a guide, a cook/porter and seven porters. A bridge had been built, safer rings for the tow bridges had been made and food had been carried to the mountain before my arrival. The trek was 19 days and the duration from Copenhagen was Sept 27 to Oct 23. The cost of the expedition inclusive of fees, tips and flight ticket from Yangon but exclusive of the flight to Yangon and hotels, food, etc., in Yangon, was $US 7000.

because the light rain we had had in the morning had turned now torrential. We found a little shelter under a rock and had lunch before returning, but now the landscape had changed again. There was water everywhere! When we came back to the bamboo area the trail had turned to a stream with ankle deep water, and the mountain side had white strips of tumbling water rushing downwards. Back in camp, I was thoroughly soaked and quite exhausted. My guide told me that from where we had turned back up to the next camp and further on to the mountain summit (4450 m, 14,600 ft), it was the same rocky landscape all the way, so I had no reason to regret that I did not have time to go for the summit.

Going Back

The next morning we started going back, again in the usual heavy rain (Fig. 9). After a while we used a trail different from the one that we used going up, so I found some new interesting rhodos. The best find was a little beautiful rhodo with orbicular (not auriculate) leaves and thick, creamy-brown indumentum. It could be either a special form of *R. coelicum* with orbicular leaves or a new species. I only saw two small plants, one of them just 10 cm (4 in) high. I also found *R. stewartianum* and *R. catacosmum* which I had not seen going up. We passed our campsite in the ;arizelum forest and started descending the ridge down to 3100 m (10.170 ft). Going down, I found *R. stewartianum, R. dichroanthum* and *R. campylocarpum* ssp. *caloxanthum*. Just above the camp there was a very special rhododendron. It was growing epiphytically on a tree trunk, and had green shining leaves and very beautiful bluish buds. It might have been a rhododendron of the subsections *Glauca* or *Boothia*, or perhaps even a new species.

That evening, there was a nice surprise at supper—we had wild game! The porters had set up bird traps when we went up, and the catch was a quail and a big pheasant-like bird. It was a very welcome change from our usual dinner of soup and rice. The next morning it was dry and later the sun even came out. We continued down the ridge and in an open area, there were both *R. tephropeplum* and *R. martinianum,* both with poor autumn flowers. It is a good idea to return on the same path as you may see different things going down from what was seen going up. Lower down I again saw *R. megeratum* and *R. maddenia* ssp. *crassum*. I also found another Maddenia species with ovate and a bit auriculate leaves with hairs on the leaf edge—leaves 7–10 cm (2.7–3.9 in) long and 3–4 cm (1.2–1.6 in) broad. It had rather small seed capsules 4x6 mm (0.15x0.23 in). Both Kenneth Cox and Steve Hootman have concluded that this is a new species. Exciting! It will be very interesting to see its flowers in the future. I also found *R. sidereum* and an Irrorata, probably *R. tanastylum*. We also saw a camellia with small white flowers—probably *Camellia sinensis.* We arrived at "turn around camp 2011" at 4 PM, having said goodbye to the rhododendrons.

We had walked long distances for two days, so the next day I needed a shorter walk, so we made an early stop at lunch time, and had time to enjoy the sun and get

wet clothes dried. During mid-afternoon, two Tibetan hunters passed our camp and stopped for a chat, a cup of tea and some snacks. They carried homemade guns, as the military does not allow local people to have firearms, so they could not buy one. They had walked all the way from our ridge start that morning and were going to continue on to the MaDoi River. I wish I had their strength! They gave us some game for dinner, a pheasant and a piece of Red Goral [*Naemorhedus baileyi*, a species of even-toed ungulate], so once again we had a nice dinner.

Back to Civilization

The next morning we again had sunshine and we walked back to the MaDoi River, this time a long descent in the mountain stream. The three porters at the river had fresh fish for us for lunch and a lot of smoked fish to carry with us. They had also built a bamboo bridge over the river, so we saved time and energy not having to cross via the rope bridge (Fig. 10). We continued along the river and camped on the MaDoi riverbank. The next morning we continued south along the MaDoi River (Fig. 11) and later along the MaliKha River, where we camped after a long and hot day— more fresh and smoked fish for dinner, which was delicious!

The next day was the last day in the jungle, and it was hot and humid. At the tributary where we had crossed on a felled tree upstream, my team rebuilt the destroyed bridge, so we saved 3.2 km (two miles) of walking. We then crossed the last big river, me by tow bridge and the porters by ford, arriving at the last village after dark. I suffered from sand abrasion, because I had got a little sand in my socks when I dressed on the sandy river beach at the camp. You only do that once! It was nice to stay at a local farmer's house, and we got fresh sweet grapefruit for dessert. My guide told me that the grapefruit tree had been brought to Kachin many years earlier by American missionaries from California. The next morning it was cloudy, which was nice as we were going to walk on grassland, which can be extremely hot in sunshine. The grassland had dried up, so when we reached a bigger village after a couple of hours, I was able to hire a man to drive me on a motorbike. Good for me as by then I had a fever and was exhausted after the long trek. I thus arrived early at Sandam village, where I rested in the village headman's house until my team arrived and could show me where we were to stay. After many days eating all meals sitting on the ground, it was so nice to sit and eat in a chair at a table!

Fig. 10. Porters fording a river.

The next morning I went the last stretch

by road to the next village, again by motorbike. We stayed at the same house as when we had started 19 days ago. My guide went to Putao to buy supplies for our goodbye party with the porters, and we all had a jolly party with good food and beer. I can tell you that I was ready for that beer, and it tasted like heaven even though it wasn't cold. Early the next morning, we went to Putao by car, where I had a shave and a haircut before leaving for the airport to fly back to Yangon. In the airport, my guide was told that the whole Putao area had just been closed to foreigners (I have recently heard that it was reopened again in March, 2013), and that I was to be the only westerner in Burmese Himalaya that autumn. It was very sad to see that while the situation in Burma as a whole had improved, the situation in Putao had deteriorated because of ongoing fighting between the Burmese army and the Kachin Liberation Army, which is fighting for independence around the Kachin capital Myitkyina.


Fig. 11. The author on the MaDoi River shore.

Conclusion

North West Burma has a great number of rhododendron species, and I am sure that there are more new species out there to be found. The MaDoi mountain area has very tough climatic conditions; it's wet and cold, so you can have snow even in midsummer at 4000 m (13,125 ft). However, this creates very special habitats for rhododendrons. To go in the mountains with the local Rawang people is an experience of a lifetime. They can make almost everything they need with what nature offers: shelters, "beds," bridges, rope, etc. They can make a fire in heavy rain, as the inside of dead bamboo is always dry, and their survival knowledge is amazing. If you ask about a particular plant, they will tell you in order: is it poisonous or not; can it be used as medicine and if so, how; can you eat parts of it; and what else can you use it for? An example: in leech-infested areas, there grows a begonia species, and the Rawang know that the juice from the leaves of this begonia will kill a leech on your body in 30 seconds!

As the political situation in Burma improves, it should be easier to go to north Burma in the future, but actually going into the mountains will still be very challenging.

Bent Ernebjerg is a member of the Danish ARS Chapter and a keen explorer.

Shades of Brilliance: Holden Arboretum's New Rhododendron Garden and Tree Allée

Cait Anastis
Kirtland, Ohio

Each spring, visitors to the Holden Arboretum flock to the Helen S. Layer Rhododendron Garden, drawn there by the brilliant display of rhododendrons in bloom. Now Holden has added new depth to that experience with the opening of the new Rhododendron Discovery Garden and the R. Henry Norweb Jr. Tree Allée on May 18, 2013.

The 4.5 acre (1.8 ha) Rhododendron Discovery Garden is allowing visitors to learn more about this group of beautiful plants as they stroll down winding paths past beds planted by Holden's team of horticulturists. Moving through the garden, visitors will have the opportunity to learn more about the *Ericaceae* (heath) family, which includes among others rho-dodendrons, azaleas, mountain laurels and blueberries; the hybridizers from Northeast Ohio who developed new rhododendron hybrids; and how to successfully integrate rhododendrons and their relatives into home gardens.

This is the first new garden Holden has opened since the Arlene and Arthur S. Holden Jr. Butterfly Garden, which was built in stages starting in the mid-1990s and was completed in 2002. In addition to this garden, Holden also has constructed a second new landscape feature, the Norweb Tree Allée, which leads from the Display Garden to the Rhododendron Discovery Garden. Its wide walkway will be lined with eleven *Corylus fargesii* (paperbark hazel), eleven *Quercus bicolor* 'American Dream' (swamp white oak) and a dozen *Ulmus americana* 'Princeton' (American elm), which is resistant to Dutch elm disease. In addition to these three canopy trees, there are also disease resistant flowering dogwood, *Cornus florida* 'Appalachian Spring' and a serviceberry, either *Amelanchier laevis* or *A. grandiflora,* planted along the walkway.

Holden's use of different species of trees along the allée aligns with its commitment to diversity, said Clem Hamilton, Holden's president and CEO:
"It will be every bit as formal as any traditional tree allée in being quite linear, but our twist on the traditional design is the diversity of trees. We believe that makes both design sense and ecological sense and reflects Holden's commitment to bringing both an ecological and a horticultural perspective to all our landscapes. It's a very purposeful thing and it's very exciting, as having a landscape exclusively of one tree [species] communicates the wrong thing about how we should manage our urban environment."

The allée provides an esthetic point of reference for visitors to find their way on

Holden's complicated site and because of its formal linear nature, stands in marked contrast with all other landscapes at Holden. It will extend from the future new visitor center to some of Holden's best collections and gardens, including areas that now are unjustly perceived as remote, such as the Layer Rhododendron Garden and our conifer collection. It also will be the avenue to the canopy walk that we will create in the next two years.

The new rhododendron garden and tree allée are departures from Holden tradition in a number of ways. In the past, gardens at Holden such as the Myrtle S. Holden Wildflower Garden or the Holden Butterfly Garden were dominated by herbaceous plant species to add extra seasons of bloom for visitors, and they were designed and constructed using in-house labor. After they were complete, the staff then looked at what "stories" could be told using the garden as a backdrop.

In 2010, following the completion of a 2009 Strategic Plan, Holden created a storybook of messages to be incorporated into the educational interpretation in the gardens that the institution wanted to share with the public. These messages align with the four strategic areas of focus adopted by Holden's board as part of the strategic planning process—growing trees and communities, conserving native forests, engaging children with plants, and place and purpose. The new Rhododendron Discovery Garden is the first to be created at the arboretum where educational interpretation served as a guide for the garden's design. It is also the first new garden added to the Holden landscape under the "New Leaf" fundraising campaign.

While the New Leaf campaign outlines a number of planned additions to the Holden landscape, including a canopy walk, home display gardens, a sensory garden and a children's exploration area, the Rhododendron Discovery Garden was identified as a good choice to start, according to Roger Gettig, Director of Horticulture and Conservation.

"These other gardens (in the New Leaf plan) will be taking the place of something that is already there, and with the sensory garden or the home display garden, you'd have to remove something to allow it to be put in. With the rhododendron garden, we took essentially a blank spot and put something new in."

The new rhododendron garden is one of the most prominent elements of Phase One of Holden's core-area master plan, which has been supported by private donations. In what is the largest capital campaign in the history of Holden, 125 donors have contributed about 82 percent of the $7.85 million needed to fund those projects, which included just over $2 million to fund construction of both the Rhododendron Discovery Garden and the Norweb Tree Allée. It should be noted that the Great Lakes Chapter of the ARS contributed $25,000, meeting a "challenge grant" of $12,500 matching funds from the Kent H. Smith Charitable Trust, for a total donation of $37,500 to the Holden Arboretum's new Rhododendron Discovery Garden.

Private support has been key to the success of Holden's plans for the new gardens

and for the future success of other Phase One projects. The new Rhododendron Discovery Garden is now one of the most important gardens of its kind in the county, and people wanted to be a part of it. The projects that make up Phase One have been the inspiration for a new slogan for Holden—"New. Every Day."—and each time visitors return to stroll along the Norweb Tree Allée and visit the Rhododendron Discovery Garden, they will see something different as the plants mature. It's going to be an evolving experience. It's going to change as the trees grow. The goal of the allée when it's all planted with perennials and bulbs is to draw people to the new garden. As it evolves into a shady tree-lined walk that will be comforting and cool, it will become a totally different experience from when it was first planted.

Cait Anastis is the editor of Leaves Magazine*, the publication of the Holden Arboretum in Kirtland, OH. This arboretum will be on one of the garden tours at the 2014 ARS spring convention in Cleveland, OH.*

Rhododendron dalhousieae (aka *R. dalhousiae*)

Donald H. Voss
Vienna, Virginia

After his eventful trip of plant hunting in the Sikkim-Himalayan region in 1848, Joseph Dalton Hooker (abbreviated in botanical works as Hook. f.; f.= *filius*, the son) named an outstanding rhododendron after Lady Dalhousie, wife of the Governor-General of India. Hooker spelled the name of the new species as *R. dalhousiae,* a spelling in general use to this day. Unfortunately for those who dislike the creation of awkward spellings in Latin botanical names, the International Code of Nomenclature calls for appending to the name of a person the genitive ending appropriate for his or her sex. The Code also provides that deviation from the rules regarding endings for personal names are errors to be corrected. The International Plant Names Index and the Flora of China (with Dr. David Chamberlain participating in preparation of the entries for *Rhododendron*) have accordingly adopted the spelling *R. dalhousieae*.

A more serious matter is the error involving the varieties of *R. dalhousieae* in

the discussion of "Maddenia Rhododendrons on the West Coast" by McCullough (2013). On page 5 appears "5. *R. dalhousiae* var. *dalhousiae* (Davidian's (1989) *R. rhabdotum*)…" In my copy of Davidian's volume (dated 1982), Davidian correctly assigns the synonymy of *R. rhabdotum* to "*R. dalhousiae* var. *rhabdotum*." Over the years there have been different judgments as to the appropriate rank for *rhabdotum*. The relevant publications are (using the corrected spelling):

•*R. dalhousieae* Hook. f. *Rhododendrons of Sikkim-Himalaya,* 2nd ed., tt. 1-2. Published after 15 March 1849.

•*R. rhabdotum* Balf. f. & R.E. Cooper. 1917. *Notes from the Royal Botanic Garden Edinburgh* 10:141.

•*R. dalhousieae* var. *rhabdotum* (Balf. f. & Cooper) Cullen. 1978. *Notes from the Royal Botanic Garden Edinburgh* 36:107. Also see Cullen (1980).

•*R. dalhousieae* var. *dalhousieae*. 1978. An "autonym," created automatically the first time a subdivision of the species that does not include the type of the species is named.

In naming *R. dalhousieae*, Hooker described the corolla as white with an occasional tinge of rose. Balfour and Cooper (1917) described the corolla of *R. rhabdotum* as milky white with five longitudinal red stripes. Although they cited additional differences from *R dalhousieae*, Balfour and Cooper stated that *R. rhabdotum* is "without a doubt a microform of the type of *Rh. Dalhousiae,* Hook. f." Aside from the red stripes, Cullen (1978) determined that the differences were not sufficient to warrant recognition as separate species and published *R. dalhousieae* var. *rhabdotum*—triggering creation of the autonym *R. dalhousieae* var. *dalhousieae* for the remainder of the combined species.

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Don Voss is a member of the Potomac Valley Chapter.

Sex and the Single Plant: a Summary

Margo Steinman
Tacoma, Washington

(Modified from the Tacoma ARS News, January 2013.)

Sex (or the less exciting "sexual reproduction") leads to the production of seeds for the spread of plants and more importantly, provides a way for assortment and rearrangement of genetic traits. Along with producing new color combinations and plant structures, this may also improve the survival of the seedlings.

Chromosomes carry the genetic material in cells. N = the number of sets of chromosomes; **diploid** describes cells with two sets of chromosomes (2n), and **haploid** (n) = one set of chromosomes. In animals and many plants, there are two sets of chromosomes (2n) in somatic [body] cells, and gametes (sex cells) contain half the number of chromosomes, n. During **meiosis**, chromosome pairs separate leading to gametes with many different combinations of n chromosomes. In **fertilization**, the merging of chromosomes of eggs and pollen produces cells with the original 2n chromosome number in a great variety of combinations.

Plants differ from animals in that many of them can be **polyploid**, i.e., have "many" sets of chromosomes from 3n to as many as 8n or even 10n). In rhododendrons, the basic number of chromosomes (n) is 13 and so diploid plants will have 26 chromosomes. **Triploid** (3n) = 39 chromosomes, **tetraploid** (4n) = 52 chromosomes, and so on. Typically tetraploid and other polyploid plants tend to be larger and sturdier. The gametes of polyploid plants with even numbers of chromosomes are stable and contain half the somatic cell number of chromosomes. Triploid division rarely works out because of the odd set number and so typically little or no viable seed is formed from these plants.

Sex in plants requires **pollination—**pollen from the anthers reaching and attaching to the stigma, followed by **fertilization—**the pollen tube grows down the style (the column between the stigma and the ovary) to the ovary leading to the union of the male and female gametes. However, pollination does not always result in fertilization. For example, there could be a mismatch in the growth lengths of the pollen tube and the length of the style.

Pollination can occur within a flower or between flowers of the same plant (**self-fertilization**) or between different plants (**cross-fertilization**). This usually requires pollinators—such as bees, butterflies, birds and mammals—to transport the pollen, but some plants rely on random winds to disperse pollen.

Plants have developed many different mechanisms to attract pollinators "from the mundane to the bizarre" including features of flower shape, colors and scents, plus dif-

ferent rewards and traps. Drawn to the flowers by bright colors, patterns and scents, the pollinators spread pollen from flower to flower and are usually rewarded with food—nectar for hummingbirds and butterflies, and pollen for bees.

In some other plants, pollinators may be tricked or trapped to help facilitate seed production. Some orchid flowers resemble female bees and wasps, luring males that pollinate the flowers when the insects try to mate with them. Of course, insects cannot mate with flowers, so the frustrated males try many flowers, transferring pollen to each, before they give up. Flowers such as Stapelias smell like rotten meat and lure flies which lay their eggs in them. In the process pollen is collected and transferred by the flies (but the larvae hatching from the eggs will starve, since there is no meat! However, this is not a practical method for fly control!). Bucket orchids trap insects in their modified lips, and in their struggles to escape, the insects also collect and transfer pollen.

Pollinators are not always necessary to produce seeds. **Cleistogomy** is a trait of some plants in which small, insignificant, non-opening flowers are produced that self-pollinate, producing lots of seed. This trait is found in peanuts, beans, peas and grasses, but also in flowers such as pansies, violets and orchids. Most of these plants also have larger showy flowers that are often infertile. In harsh environments, the production of cleistogamous flowers tends to increase. The main advantage of cleistogamy is that it does not require the more extensive plant resources and energy required to produce showy flower parts, nectar or large amounts of pollen, but it can also result in lack of genetic diversity.

Another surprise—some plants can produce seed without the presence of a male parent! This process is called **apomixis** and occurs when there is no nuclear division in the meiosis I. The daughter cells that subsequently form have the 2n number of chromosomes without fertilization occurring. Unlike other seedlings, these will have the same genetic make-up as their parent.

Cross-pollination usually introduces more heterogeneity. The disadvantage of the various means of "selfing" is that new genetic material is not introduced, undesirable recessive traits may be manifested and that potential new traits needed for better survival may not arise.

A final example of a bizarre adaptation (but not connected with sex) is the "toilet plant." A pitcher plant has leaves that form containers (pitchers) that hold rainwater, and one species, *Nepenthes lowii* from Borneo, produces nectar in the inner lids of its large pitchers. Tree shrews "sit on the pots" and as they drink the nectar their feces fall into the openings of the traps, providing nitrogen and nutrients for the plants.

Plants are ingenious, both in their sexual (or lack of) practices and their quests for nutrients!

Margo Steinman is a member of the Tacoma ARS Chapter.

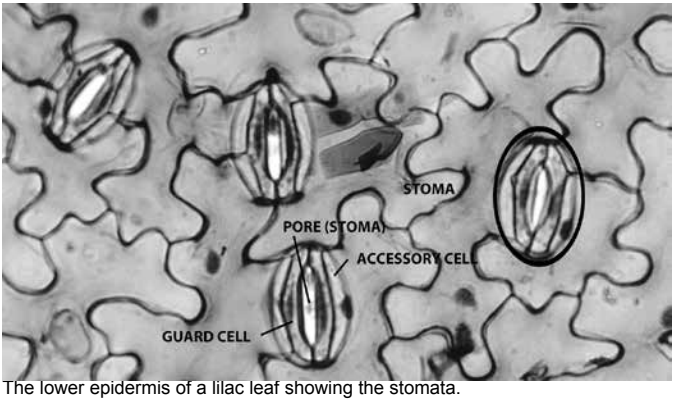
The Word: Stoma

Bruce Palmer
Cutten, California

The word for this issue of JARS is **STOMA** (Greek, *stoma*, mouth), plural is **STOMATA** (occasionally called a stomate, plural stomates). Stomata are the structures on vascular plant leaves and sometimes young stems that terrestrial plants use to regulate the passage of water, carbon dioxide and oxygen into and out of their surfaces. I mentioned this in the Vol 65, summer, 2011 issue of *JARS*, but some additional details might be useful.

The leaves of such plants as *Rhododendron* have thousands of stomata, typically many more on the underside than the upper surface. The accompanying illustration from a commercial slide shows the stained lower epidermis of a lilac leaf. I tried to get a satisfactory epidermal peel from an Kurume azalea leaf, and while I did, it didn't turn out as clearly as this one. The most obvious feature in the photo is the jigsaw puzzle-like construction of the epidermis. This configuration causes the epidermal cells to interlock tightly, giving a very strong surface structure. The epidermal cells of most broad-leaved plants look like this, including those on rhododendron leaves. Scattered at random among the epidermal cells are the stomata. The term stoma is usually applied to the pore in the center as well as the surrounding cells. Directly surrounding the pore are two cells shaped like sausages. These are the guard cells. Outside the guard cells are about four subsidiary cells, often called accessory cells. Together these structures control how much water, carbon dioxide and oxygen get into and out of the leaf through the pore by determining the size of the stoma (pore) opening. The two guard cells in a stoma change shape to open and close the pore. They do so by gaining or losing water. Because each guard cell has constricting bands circling it but not along its length, as the cell takes in water it lengthens but does not expand sideways. The end of each cell is trapped so it can't move lengthwise, so the cell bends instead. Both guard cells do this at once and the result is that the pore opens. When the atmosphere dries, water leaves the guard cells, the cells shrink and the pore between them closes. The exact mechanisms controlling these actions have been worked out in some detail but are still not completely understood. For our purposes in this short article, we can say that one of the primary actors is potassium, stored in the accessory cells surrounding the guard cells. That's one of the reasons potassium is one of the three main nutrients in fertilizers. The potassium is moved into or out of the guard cells based on photosynthetic requirements and atmospheric conditions. High potassium levels in guard cells cause water to enter the guard cells by osmosis, opening the pores. Lower potassium levels cause water to leave the guard cells, closing the pores. Different plants have different timing systems for operating

the stomata. Most plants have open stomata in the daytime, when photosynthesis is active. Some desert plant groups such as cacti have a different system. In order to conserve water, they open their stomata at night and store carbon dioxide to be used in daylight the next day.



The lower epidermis of a lilac leaf showing the stomata.

There is one major problem for leaves having openings such as stomata. Pathogens (Greek*: pathos*, disease, suffering or calamity and *genes,* born) can get inside the leaves through the pores. At the recent ARS convention in SeaTac, Washington, Dr. Marianne Elliott from Washington State University gave us an update on *Phytopthora ramorum*, the sudden oak death pathogen. She showed a great scanning electron micrograph of *P. ramorum* entering a stoma. That photo triggered me to write this article. Many plant pathogens can get into leaves that way. Plants have chemical defenses to close the stomata when pathogens are present, but many pathogens in turn have counter-chemical secretions that open the stomata. It's the same old story as the history of our weapons of war—advantages are often relatively short-lived. There is some evidence that the scales on lepidote rhododendrons, because they usually overlap stomata, protect the leaves from invaders and possibly from drying out. Looking around our garden, I notice that there may be a slightly lower incidence of mildew symptoms on lepidote leaves. This observation is not to be construed as empirical evidence, but it could support the idea that scales serve a protective function.

Most of our rhododendrons may not be in bloom during the summer season, but their leaves are busy producing the products that will be used to make the beautiful flowers next spring. The stomata are controlling how much carbon dioxide and water get in and how much oxygen and water get out for the all-important process of photosynthesis. We can't see the stomata without a microscope, but they are there, by the thousands on each leaf; we wouldn't have food and our garden pleasures without them.

Bruce Palmer is a member of the Eureka ARS Chapter. He was a teacher of biology at Maui Community College in the University of Hawaii system for 25 years.

The Garden Blues: Thoughts on Color

Don Hyatt
McLean, Virginia

(Modified from the Potomac Valley Chapter newsletter, Oct 2009.)

I love blue in the garden but finding plants with blue flowers is not always easy, especially with rhododendrons. There are some wonderful alpine rhododendrons like *R. impeditum* that I would like to grow. It has tiny leaves and dark, purplish blue flowers but the plants rarely last six months before the summer heat does them in. The plant sold as *R. impeditum* in our local garden centers is usually *R. fastigiatum* instead. Of course, that makes no difference since they both die just the same.

In cooler climates like our Pacific Northwest and British Isles, the larger growing *R. augustinii* gets my vote for the best blue. Joe Gable raised *R. augustinii* seed many times and actually had one that survives in Stewartstown, PA. Gable's hardy form may not be as intense a blue as other named varieties, but it is at least a building block for those who want to breed for better blues rhodos.

A hardy blue lepidote was one of Augie Kehr's hybridizing goals. He decided that he should first cross *R. augustinii* with 'Epoch', a tetraploid form of *R. carolinianum*. It would give heat tolerance and then he could back cross it with other blues to intensify the color. His hybrid has lovely, icy blue-white flowers…a great plant in its own right.

Other blue lepidotes that seem to grow for us include the darker purple-blue 'Crater Lake' and an unnamed softer blue selection from George Ring that is a hybrid of *R. carolinianum* × 'Crater Lake.' The hybrids 'Ramapo' and 'Purple Gem' have been disappointments for me and I must have tried 'Blue Diamond' twenty times with no success. They just don't seem to take our heat.

I have killed the Haag's 'Blue Ridge' several times as well, but I will try the plant again. It has such great color and I want to use it in breeding. I have Delp's (tetraploid *R. carolinianum* × *R. fastigiatum*), which seems to do well. I bought 'Rosalie' at Rarefind Nursery and my 'Blaney's Blue' is doing fine. 'Rhine's Luna' is supposed to do well in our area and is a light blue.

In the larger leaf rhododendrons, there really isn't a good blue, certainly nothing that compares to the smaller leaf lepidotes. 'Blue Ensign' has always been a favorite in my garden with its ruffled trusses of lavender blue accented by a strong blotch. 'Blue Peter' has more blue in the lavender than 'Blue Ensign' but it never made as nice a plant for me. 'A. Bedford' is a good lavender-blue with large trusses, but it is tall and has a more open habit. The Girard hybrid 'Peter Alan' is a strong blue-purple that has done

well in our area. I think it was one of Ed Reiley's favorites.

Since good blue rhododendrons are difficult to find and often harder to grow, we can always look for companion plants with blue flowers to use in the landscape. Of course, one of the most striking blue flowered plants and also one of the most difficult to grow is the Himalayan Blue Poppy, *Mecanopsis betonicifolia*. It is challenging, even on the West Coast. When it blooms, the tall stems topped by brilliant peacock blue flowers will be the focal point in any garden, not only for the spectacular beauty of the blossoms, but also for the pride of the gardener who was able to raise it.

In my garden, my favorite blue flowered companion plant is the Wild Blue Phlox, *Phlox divaricata*. It grows about 8 to 10 inches high and combines well with everything. The lavender-blue flowers start opening in early April and they continue until almost June. It is not always easy to grow, though, since the foliage can get mildew in summer and the plants seem to be the preferred food for bunnies, deer, and slugs. It reseeds in my lawn, so before I cut the grass, I pick out seedlings and move them to the garden border where they will provide that wonderful blue color in spring.

Another good blue for the spring garden is the Wood Hyacinth, *Hyacinthoides hispanica* (*Scilla campanulata*) 'Excelsior'. The bulb produces 10 to 12-inch (25-30 cm) spikes of blue flowers that are much more delicate than the stiff blossoms of the standard Dutch Hyacinths. Those always remind me of "corn dogs," or wads of cotton candy stuck in the ground. Wood Hyacinths multiply quickly, developing into large clumps that can be divided in just a few years. My deer munch the expanding foliage in early spring, but it is not their favorite.

The Virginia Blue Bells, *Mertensia virginica*, seem to be deer resistant and they are great plants for blue color. Like the Wood Hyacinths, their foliage ripens off early in the season so the area can be replanted with summer annuals by June.

Another deer proof plant is the Lungwort, or *Pulmonaria*. It is closely related to Virginia Blue Bells, and has pink buds that open to blue flowers but it has persistent foliage that is very attractive. Many of the varieties have dark green leaves spotted with silvery white, but one I got from Plant Delights during our Plant trip last year was the variety 'Samouri'. It has been superb! The foliage is long and narrow, and rather being spotted it is solid silvery white with a green edge. The plant has formed a lovely clump spreading nearly 18 inches (46 cm) across and has not been bothered by deer or slugs. At the end of the summer the plant is still spectacular and would make a great replacement for hosta where deer are problematic.

I have so admired the brilliant blue groundcover *Lithodora diffusa* that I see everywhere on the West Coast. Yes, I have tried it many times but it suffers in our summer heat and also tends to bark split due to our fluctuating winter temperatures. As an alternative, people in our area can grow the dwarf creeping *Veronica peduncularis* 'Georgia Blue.' It is was discovered in the Russian Republic of Georgia in 1979 and introduced to the nursery trade about a decade ago. The plant grows only 6 to 8 inches

(15-20 cm) tall, is not invasive, and covers itself with small, deep blue flowers in early spring. It seems to be both heat and cold tolerant with an amazing hardiness range from Zones 4–9! Nothing seems to eat the plant so far, which is a real plus in my garden. It does require a half-day of full sun to bloom well, and will need water in times of drought, but an added benefit is that during the winter months, the tidy green leaves turn to a deep burgundy color.

Another eye catcher I have admired in rock gardens on the West Coast is the stemless or trumpet gentian, *Gentiana acaulis*. It has tidy rosettes of evergreen leaves and strikingly large blossoms of intense blue, a color that is almost impossible to catch accurately in a photograph. Since it is a native of cool Alpine regions of Southern Europe, that plant is not happy in my area. I can grow some other gentians, though, such as the fall blooming bottled gentian of the Southern Appalachians, *Gentiana saponaria*. However, I must remember to spray repellant on that plant since the deer will nip off its flower buds just as they are getting ready to bloom.

Another great plant I got at Big Bloomers several years ago was *Brunnera macrophylla* 'Jack Frost'. It is a patented selection of Siberian Bugloss and has small blue flowers in mid spring, similar to a forget-me-not. The real attraction is its silvery, heart-shaped foliage that is veined with deep green. It is a wonderful perennial in shade and contrasts well with ferns all summer long.

There are two excellent blue *Anemone* species that I highly recommend. The first one, *Anemone blanda,* is a carefree bulb that should be planted in the fall. It comes in various colors including blue white, pink, and rose but I prefer the blue and the white forms in my garden. The bulbs will form larger clumps in time but it does not seem to spread except for an occasional stray seedling.

The other species, *Anemone nemorosa*, has creeping rhizomes so it is a groundcover and can form large beds under rhododendrons and azaleas. The single flowered form I have is a light lavender blue and looks similar to *A. blanda*. There is a charming white selection with a tufted center selection called 'Vestal' that is superb. I saw that plant for the first time in Oregon at the Cecil Smith Garden where it had spread underneath a large bed of *R. degronianum* var. *yakushimanum* plants. The white flowers of the anemones were perfect companions with the white flowered yaks and looked like a carpet of stars under the rhododendrons.

Interestingly, those rhizomes do not seem to be eaten by voles and although they spread into a thick mat, they don't seem to compete with other plants. Perhaps that is because they do all their growth in very early spring when most other plants are dormant but go dormant themselves in the summer when other things are growing.

Some other favorite spring flowers I use in my garden for blue include various *Iris* species like *I. cristata* and *I. techtorum*. I also like other blues including pansies, violas, columbine, and clematis.

For summertime blues, I do use ageratum generously since it is deer resistant. I

picked up another great little plant at Big Bloomers called the Blue Star Daisy, *Kalimeris incisa*. It has made a wonderful mound about a foot across and has bloomed all season long. I also like *Stokesia* 'Peachie's Peak.' It has that great blue color but doesn't fall over as easily as other Stokes Asters.

In late summer, my big display is the Blue Lobelia, *Lobelia siphilitica*, a native perennial wildflower. It comes up from the base each year but also reseeds everywhere. It looks like a blue form of our native Cardinal Flower (*L. cardinalis*) but begins to bloom a week or so later. Keep them separate since the Blue Lobelia is more robust and will crowd out the red Cardinal Flower in time.

Don Hyatt is a member of the Potomac Valley Chapter and a frequent contributor to the Journal.

Winners of ARS Newsletter Contest and Editors Recognized

Fourteen chapters sent newsletters to compete in the 2012 ARS Newsletter Contest! The long-term goal was to establish a standard that newsletter editors could use to produce a useful means of chapter communication. A team of three judged the entries, and agreed on the winners. Unfortunately, the correct newsletter editors were not all identified in the Spring *JARS* issue.

The following entries came out on top and epitomize what is desirable to achieve a great "regular monthly" newsletter: North Island (*The Rhodoteller*); Mt. Arrowsmith (*The Rhodovine*), and Potomac Valley.

It may not be possible to have all the following ideal topic items listed in every month's newsletter, listed in order of importance: meeting information, technical information, monthly horti-culture (what to do that month), special programs or workshops, truss or plant spotlighting, membership and chapter specifics, ARS promotion. A newsletter does not need to be lengthy but should be more than pretty. It needs to provide members everything they need to know about what is going on in your chapter.

Thanks to the following chapter newsletter editors, correctly listed here, for sending entries to the contest: Donald W. Hyatt (Potomac Valley); Linda Derkach (Mount Arrowsmith); Noni Godfrey (North Island); Ken Gohring (Azalea); Don Smart (Cascade); Frances Burns (Eugene); June Walsh (Eureka); Jane Adams (Hawai'i); Anthony Greco (Midwest); Dick Jones (Noyo); Tom Hoffman (Portland); Marilyn Haynes (Southeastern); Tom Schuetz (Susquehanna Valley); Dick Lundin (Willamette). You all did a great job!

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The Search For Gold – A Lifetime of Organic Artistry

Emily Weissman
Seattle, Washington

Photos by the author

[**Editors note:** This article on Frank Fujioka stems from a trial project the ARS did last summer with a summer intern, who was anonymously funded. The project's intent was to provide "oral histories" of prominent member hybridizers, growers, and nursery owners while we still have these folks with us. We started in the Washington state area near Seattle simply because that's where this intern was living.]

To craft something "better" has always been man's aim. Horticulturalists have throughout time taken this to heart in their attempts to combine beauty and form by sculpting nature to create the previously impossible. Around 1968, rhododendron hybridizers were faced with a challenge to not simply combine species but to give life to something that had never before existed in nature—a gold-flowering rhododendron.

"There was a breakthrough in yellows…" says Frank Fujioka to me as we sit in the warm light of his kitchen, sun setting on the beautiful view of Puget Sound out his bay windows. "…Everyone had to work for yellows, and we didn't think much about what the plant looks like. Some…were really sprawled, ugly things, but if you had yellow, wow! That was what was really important."

Fujioka continued on to explain that the closer a rhododendron was to deep, pure daffodil yellow, the better. Many hybridizers simply combined white flowers with cream ones in hopes of drawing out the elusive shade, a system which Fujioka himself employed in his beginning days. "You get tired of getting poor results!" he confided in me, "so you think, 'there must be a better way!'" Thus, a more scientific approach was discussed. "You achieve your goals faster, I think, if you studied the genetics. You can't just combine this with that and hope for a miracle. Sometimes you get pink!"

Frank Fujioka

When asked if he recorded all of his genetic crossing data by hand, Fujioka laughed. "No… just the names of the parents," he told me, flipping through page after page

of meticulously typed and hand written records in a binder. "You first consider that 'this parent used this species' and then you follow through many genera-tions, studying it." "That became the fun part," he quipped with a revealing grin. The binder Fujioka shared with me listed hundreds of "nicknames" for crosses that he had created and were still in the testing stage. These nicknames were not to become the final registered titles of plants, but instead held a personal flair, ranging from the names of Hawaiian islands to family members. "Waikiki" and "Clarice" served only to keep complicated multi-generational hybrids straight. When I questioned Fujioka as to what percent of his experiments had become registered hybrids, his answer was an astonishing "not many." I listened, impressed, as he explained to me his demanding process for testing all of his hybrids before submitting them to the registry. "[I] feel that if there is going to be a plant floating around… then the homeowner who buys that plant should be able to succeed [in growing it]…If this spring I come out with a plant I really like, I'll …grow them out in the field. There it is exposed to full sun and minimal care, and I'll evaluate how well they do. I'll also dig them up to see what kind of root structure they have because that's the key to a good plant." This time-consuming method was not just for Fujioka's benefit however, as he also implied that it was in the best interest of the rhododendron society. If a new grower attempts "to grow [a rhodie] and it dies…pretty soon you're saying 'oh, rhodos are no good.' So it's not good for our [overall] reputation."

One-year old cuttings of selected seedlings for further testing. These plants will be planted into the field in the fall.

Beyond the complicated genetic tracings, growing new varieties of rhododendrons is no easy task, and certainly not one for those interested in instant gratification. "It's a long process," said Fujioka about hybridizing. Often he spends up to six years growing a plant that is simply one more step in the direction of his end goal. More often than not however, he has a strategic plan. "Sometimes you're thinking three generations ahead," he tells me. This was certainly the case in his work towards the ground-breaking discovery of a gold rhododendron. For Fujioka, resounding success came after many years in

Cuttings growing in flats which are placed on heating bed.

the form of a stunning bloom called 'Seaview Sunset' whose beautiful coloring seems to "glow" in certain lightings. The popularity of this hybrid, registered in 1988, has increased exponentially, and has become a favorite in the Pacific Northwest and beyond.

But Fujioka shared with me that he hadn't always been so scientific in his approach. As a child his only gardening experience had been pulling out his mother's carrot plants and shoving back any that were too small, in the fruitless hope they might continue growing. Later as a high school psychologist in Edmonds, Washington, he found his interest in gardening blossomed from practicality after purchasing his first home. "It was a small little old house, but it just didn't have anything. Just green grass, that's all it was." So off he went to the nearest nursery, and asked for some plants to fill the empty space. What caught his eye, of course, were the laden blooms of brightly colored rhododendrons. Disappointed by the fact that there were no red rhodies in particular for sale, Fujioka asked the nurseryman for recommendations and went off on a quest. He described in detail his impressions after entering one specific nursery. "I went in there and (this was in the spring) it was like magic. There were acres and acres of these big plants full of flowers…and then the old man came out." This "old man" he would later discover to be Halfdan Lem, one of the premiere pioneer rhododendron hybridizers in the Northwest, and later a true friend. Back in his kitchen, Fujioka's smile widened as he told of asking Lem for 'The Honourable Jean Marie de Montague', the most generic red rhododendron, and being refused. "He said to me…'I have finer things.'"

Halfdan Lem was only the first of many inspirational and lasting friendships Fujioka made through his love of horticulture, many of which took root through his association with the American Rhododendron Society. Fujioka shared with me that although he had originally joined the Society to learn (there was a dearth of accurate rhododendron information at the time), he instantly found that that "plant people" were some of the nicest you'd meet. I could barely keep from crying from laughter as he animatedly described an experience that illustrated a community as unique and wonderful as the plants they propagated… "One of the most fascinating things to me was how uninhibited everyone was in terms of enjoying what we were enjoying. I wish I had a camera

at that time! There were three hefty guys, kind of fat, you know, and there were two of them talking, and a third one appears…with a rose! He said, 'Look at this! Smell this!' So here are three hefty guys sniffing a rose. That's the kind of people I like, just comfortable with themselves. That made a big impression on me. I thought, 'Okay, that's it.' These are the kind of people I want to hang around with."

Some species Frank likes because of their foliage: *R. pachysanthum, R. strigillosum* on left and *R. clementinae in foreground.*

Although Fujioka's race to hybridize a gold rhododendron is now long over, the excitement of producing an original creation is still very much alive. This excitement is what he longs to share with the next generation. "I keep looking for young people to recruit so we can pass on our information, but there aren't many…I think they're too busy doing other things. So horticulture in general is suffering because we're not able to get young people interested in horticulture. Maybe they'll get tired of whatever they prefer doing and decide that working with dirt is more fun, more fulfilling." Fujioka suggests that what we must tap into is the part of ourselves that loves to create. He tells me of the artistry of gardening and relates it to classic painters and sculptors. While strolling slowly through his garden later, he points out the importance of the variation in colour of greenery in a garden layout, relating it to the artistic movement of monochromatism [complete color blindness in which all colors appear as shades of gray]. "We have within us this innate creativity, but many of us were never allowed or encouraged to explore it…so I try to look for that in young people and if I sense that they have that, then I go from there…You know, you don't need a magic wand!"

Despite being a true artist, friend to many, innovator, and one of the most influential hybridizers of his time, Frank Fujioka has a surprising answer when I ask him what he would most like to be remembered for. "That I was a nice guy. You know, to me, that's the bottom line."

Emily Weissman has a BA in Communications from the University of Washington and just recently received her Master's in Communications Management from the University of Southern California. Emily is the daughter of Bob and Diane Weissman; Bob is the ARS webmaster and chair of the Digital Publications and Electronic Media Committee.

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The Emu Valley Rhododendron Garden

Maurice Kupsch
Burnie, Tasmania,
Australia

Photos by Heather Walmsley

The Emu Valley Rhododendron Garden in Burnie, Tasmania, Australia, is one of that country's main rhododendron gardens. It contains over 22,000 rhododendrons and other select plants set among 11 ha (27.2 acres), designed as a series of "country gardens" with species from the habitats in each country from which the wild rhododendrons originate. It is a woodland delight, a kaleidoscope of colour in spring and again in autumn, and has many different and varied experiences in a

The covered bridge in the Japanese section of the garden.

The garden in the spring.

relatively small garden. It is also somewhat unique in that is has been created, managed and is now owned by volunteers.

If asked to give a brief summary of how we came to be, it would have to be the story of PEOPLE. From a small band in the beginning, it has snowballed over the years to a multitude of enthusiastic people that have in the past and are continuing to do extraordinary things with a generosity and interest that has been overwhelming.

In 1977, members of the newly formed Rhododendron Society in northwest Tasmania, started looking around for a block of land suitable to start a new garden. Fortunately, at the time, a recently retired farmer and member just happened to have an area of land that the local council deemed unsuitable for subdivision. The 11 ha was offered to the Society on a lease for 99 years at a peppercorn rent [A "peppercorn" in legal parlance is a metaphor for a very small payment, a nominal consideration, used to satisfy the requirements for the creation of a legal contract].

The chosen site formed an amphitheatre facing east and looking down towards the Emu River. The area had been logged in the late 1960s and the new growth of eucalypts, acacias, under-story plants and blackberries had completely taken over. The steepness of the land meant that it was never farmed. Walking into this untamed valley, the society members were undaunted by the enormity of the task in front of them and were able to

The garden under development.

visualize the potential of this becoming a garden. The more they explored the site, the more the vision expanded itself and ideas started to flow. They found a reasonably flat area at the base of the escarpment with many natural, free flowing springs that could lead to lakes being formed and the undulating topography was visioned as showcasing displays of rhododendrons.

The area's benign climate and reliable rainfall allowed rhododendrons from the Himalayas to New Guinea (vireyas) to grow in the open, including many that are endangered in the wild. The object of building this garden was both to display species and hybrid rhododendrons in a woodland setting and to create a gene pool of available material for scientific research and hybridizing.

In 1981, Australian Rhododendron Society National Council members were invited to inspect the site and to plant the first rhododendron, the elepidote 'Golden Dream', for that is just what it was—a dream that one day this potential garden would become a reality.

So the work began. Local farmer members got enthused and helped with tractors to clear the arable areas. In the heavily timbered areas, members of the local cricket club felled trees and took away the firewood to be given to needy families. Planning continued and as the area became cleared, it was decided to plant hybrids in the centre section with species planted around the perimeter in the same way that they

R. macabeanum X *R. magnificum,* and the bridge across the main lake.

grow geographically in the Northern Hemisphere. Each of the "country areas" was planted with rhododendrons, conifers, deciduous trees and other garden-worthy plants endemic to them, thereby making a series of mini-botanical gardens. This has proved to be a winning combination for pleasing visitors.

The first major construction was a large lake to collect the water from two free flowing springs, one each side of an area of solid ground. This solid ground was used to construct the lake wall. Early plantings became focused around this first water feature with a bank of fairly mature hardy hybrids planted on the eastern side of the lake and hybrid deciduous azaleas lending colour and perfume on the western side amongst existing tree ferns, some of which being over five meters in height.

Building service roads was the next major construction. This further opened up areas towards our boundary lines and enabled us to combat the wildlife—namely wallabies, rabbits, hares, possums and wombats. They had become a problem amongst our new plants, and so with the help of a group of unemployed people, the whole garden was fenced.

Pathways were established following contour lines, for easy walking, and extending to the foot of the escarpment to the west. Along these pathways more planting took place with a large collection of big leaf rhododendron hybrids nestled beside the tree ferns.

We have been blessed with our members many of whom have had so much to contribute. For example, one such member came to a meeting and said "I don't know much about rhododendrons but as a retired cabinet maker/builder I may be able to help." He and our other volunteer carpenters have built most of our buildings—another took one look at our rock walls and said "I think I can do that"—he is still with us and still building those walls.

Maurie with *R.* 'Burnie Supreme'*

Thursdays became working-bee days—where members were happy to work in the nursery, in the garden planting, weeding or opening up new areas. Lunchtime on Thursday becomes a bit of a social event when all come in from the far corners of the garden and you got to catch up with one another. Great camaraderie and many decisions have been made at these gatherings.

In 1988—Australia's bicentennial year—we were fortunate to receive funding from the Federal and State governments which enabled us to build the ground floor of our main building, situated above and overlooking the main lake. On the completion of these works we were officially opened by the Tasmanian Governor of the day. The opening prompted a further influx of people wishing to join in and become members and a very valuable addition they became—each having differing talents to contribute to expand our enterprise.

Apart from workers in the garden we have had a remarkable number of people to work with us collecting entrance fees and many other ways for making money to help in our development. One such lady, a pillar in our local area, had a tremendous talent for collecting money for us in the various raffles we held. On her death, we found she had left us a considerable amount of money sufficient to build tearooms on our slab in her honour.

The garden became too valuable to be left unattended and it was decided to find a caretaker. This caretaker would need a home and it so happened that a hundred kilometers (62 miles) or so away, a mining company were relocating some of the company housing. Approaches were made to the management and one of these houses was procu-

red. Our enterprising infrastructure members first built the footings on the chosen site to place this building then proceeded to the mine township site and with chain saws split the house in two—had it loaded on to two trucks and delivered to Emu Valley—all for the "usual price."

The Japanese tea house.

Our first caretaker was an electrician, and at this time we were building our nursery complex, and his help was greatly appreciated. One of the main pathways led down through the area where we had decided to plant our vireya collection down to the lake. On the other side was a level area near where we planted our very first rhododendron— here we had decided to build our main gazebo. A local service club became involved at this time building the foundations for this gazebo. Our carpenters built the structure and the roof was eucalypt shingles. These came from a patch of trees on a member's property nearby. Off we all went complete with a picnic lunch. We enlisted the help of an elderly shingle splitter who demonstrated how it was done—most of our members became involved—ladies included! At the end of the day we had sufficient shingles split to cover the roof.

To access this gazebo on foot we needed a bridge across one end of the main lake. Once a design was settled upon we looked for sponsorship. Our President asked his daughter, who just happened to be working for a large company in Japan, if they would agree to help sponsor the bridge. They agreed and their sponsorship enabled us to purchase the steel for the structure. A member who worked for an engineering firm asked his boss if he would he sponsor building the bridge—his answer was "I will give you two men and a week, and after that I will start charging." Needless to say, at the end of the week the bridge was completed, loaded onto a logging truck and delivered to the garden. The chap who owned the logging truck knew of a truck-mounted flying fox [a cable logging devise], so that was set up near the main gazebo and cables laid out up to a tree beyond where the bridge was. The front edge of the bridge was connected to the flying fox; the other end had a set of wheels mounted and then down through the trees it went to land perfectly on the foundations. Our carpenters then moved in and fastened the deck, and another piece of infrastructure was in place.

It was around this time, however, that a problem arose with our lease. Our landlord's rates kept going up and his insurance company was not happy with members wandering the garden without adequate insurance. Finance was tight but we made a momentous decision to purchase the property outright and a wise member stated we ought to take out debentures. This was duly done and the garden was paid for and all debentures were repaid over the next few years, with some electing to donate instead of being reimbursed. WOW—we, the members, now OWNED the garden!

Planting continued at a great pace. A generous donation from the National Rhododendron Ladies Committee and other donations from among our members meant we could purchase a large number of plants.

More areas were cleared and another walking track around the side of the hill was created. This track was to continue around the garden and bisected most of the "countries" where their species would grow.

A few of our members had already been growing species rhododendrons and some of these were to start the collections for Japan, North America, Yunnan, Northern India and Burma. Conifers and deciduous trees also started to appear.

The last large lake was built in "Japan"—now known as "the Sea of Japan"—complete with two small islands and stepping-stones across one end.

We then realized that we needed buildings to add to the Japanese Garden to make it look more authentic. Over the spillway from this lake a covered bridge was constructed using illustrations and descriptions of existing bridges in Japan. This was a nightmare for our builders but they rose to the occasion and the result was outstanding. It's very much used and admired, with countless photos taken because of the picturesque nature of the structure—a very worthy adjunct to the area. A sweep of lawn connects this bridge to a Japanese style teahouse on the other end of the lake. Across the stepping stones and then on to the pathway round the edge of the lake through a marvelous collection of *Acer palmatum* of every shape and size giving visual delight in early spring and stunning colour in autumn—the reflections in the lake adding to the delightful feast for the senses.

Further along the path around the lake we come to the many varieties of flowering cherries—nothing to rival the flowering cherries in Japan of course, but putting on a better display each year as they mature.

In 2001, the year of our Centenary of Federation, we were extremely lucky to have been chosen as the site for an outdoor concert over two nights, featuring the renowned pianist, David Helfgott. A week of preparation saw the construction of a stage built out over the lake, tiered seating set out around our amphitheatre site and marquees, giant poles housing enormous speakers, lighting effects of different colours shining upward through the trees, and fog machines creating atmosphere amongst the tree ferns. The outcome was sheer magic! People who attended still talk about this event—certainly one of the highlights of our thirty-year history.

Let us fast forward to 2005. A federal election was looming which led to the opportunity to fulfill a long held ideal of finally building a convention centre. A clever couple from amongst our most valuable asset—our members—wrote submissions, and the result was a magnificent building built on the original slab, giving us views of not only the garden but borrowed scenery from beyond the Emu River to the farmland behind the lookout at Round Hill. The building was architecturally designed to represent a tree, with the large expanse of green roof you look down on when entering the garden representing a leafy canopy and the curved timber beams supporting the roof representing the branches. The large area of roof has the added bonus of providing collection of ample rainwater, which is stored under the initial concrete slab in the form of two seven-thousand gallons (31.8 m^3) tanks, and has always been sufficient for our needs, and makes a lovely cup of tea!

This building has greatly added to the ambience of the garden and an international conference was held in it in October 2006. It is used for wedding receptions and many other functions throughout the year.

The many provinces of "China" are about to be enhanced with new plantings of species and by the construction of a Chinese pavilion in "Hubei." The plans have been approved and we have four pallets of authentic Chinese tiles for this pavilion and for another of about the same size in "Sichuan." After these buildings are built, a high point in "Nepal" beckons—a delightful area that overlooks the whole garden and for which a suitable building design is being investigated.

From the humble beginnings of one rhododendron and eleven hectares (27 acres) of wilderness, the garden has matured to the extent that the early plantings are now large bushes and we have in excess of 450 species in 16 "countries," plus a large collection of vireyas all growing and flowering well.

How wonderful if we could organize a gathering of all the people who have gone before to come back and see what they helped us to achieve. As I said before, it is the people who have made it happen—just the right people, with the right skills at the right time.

Long may it continue to be a living tribute to our pioneers, current workforce and members yet to come —a tourist asset for both Burnie and Tasmania.

* = not registered

Maurice Kupsch is a life member and unpaid Honorary Curator of the Emu Valley Rhododendron Garden and a life member of the Australian Rhododendron Society.

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Nova Scotia's Public and Botanical Gardens

Sheila Stevenson
Fergusons Cove,
Nova Scotia,
Canada

Gardens to Visit while in Nova Scotia
for the ARS Regional Conference
Oct. 4–6, 2013

Background

Nova Scotia, on the Atlantic coast of Canada, is a peninsula with an area of 55,284 square kilometres (21,300 sq mi) that includes Cape Breton and some 3,800 coastal islands. It is connected to the mainland by the 24 km-wide Isthmus of Chignecto, sharing a border with New Brunswick. As of 2011, the population was 921,727.

The provincial capital is in Halifax, established in 1749 by Britain in the fight with France for possession of this part of the New World. By 1755, the answer came clear that it would be Nova Scotia and no longer Acadie. Today half the population lives in the metropolitan area, known as the HRM.

There is no history of great wealth in the province, generally speaking. Nova Scotians primarily farmed, fished, worked in the woods, and mined. As early as the 1880s, Nova Scotians out-migrated to earn a living. Until the food system went global in the latter half of the 20th century, Nova Scotians' gardening activities were largely food-centered. The development and growth of ornamental horticulture and a garden culture is relatively recent. Now the number and quality of gardens open to the public, as well as a number of interesting small-scale private gardens across the province, complement our varied landscapes to make Nova Scotia a worthwhile travel destination for the plant and garden lover.

What follows are descriptions of publicly-accessible gardens and parks, adapted by Sheila Stevenson from information found on websites.

The Halifax Public Gardens, Halifax

The venerable Halifax Public Garden, launched on Common land by the newly-formed Nova Scotia Horticultural Society in 1836, initially had a food-plant focus. Joe Howe, a Society member as well as the publisher of a Halifax newspaper, *The Novascotian*, stated his thoughts on what the Society might accomplish:

> The first object we presume will be to procure a suitable piece of ground for a

Halifax Public Gardens. Photo by Arthur Carter.

> garden which if judiciously managed may assist to promote a taste for this most interesting and most innocent and healthy pursuit, by being made attractive as a promenade. Hither may be imported and naturalized the best and hardiest varieties of vegetables, shrubs, fruit and ornamental trees, with flowers and herbaceous plants, for the supply of the Halifax market, the County gardener and orchardist. With this perhaps may be connected in time a Seeds shop and agricultural warehouse. We wish it every success…

An adjacent second series of gardens was established by the City of Halifax in 1867, and in 1874 the gardens were unified into the present 16 acres [6.5 ha] which now feature trees and shrubs planted as separate specimens, with exotic and semi-tropical ornamental species adding colour and texture. Richard Power, the Garden's superintendent from 1872–1915, over-saw the introduction of a bandstand, fountains, statues and cast iron gates—features of the High Victorian Pleasure Garden and all honouring a milestone in Queen Victoria's reign, a contemporary military event, or an important local personage. One of the finest surviving examples of Victorian gardens in North America, the Halifax Public Gardens was recognized as a Canadian National Historic Site in 1984.

Dalhousie Agricultural Campus Gardens, College Road, Bible Hill

There are several gardens on this campus, formerly the NS Agricultural College, outside the Town of Truro in the the village of Bible Hill. Truro, just beyond the tip of Cobequid Bay, the eastern-most inlet of the Bay of Fundy, is known as the "Hub of Nova Scotia" because of its geographical position in the centre of Nova Scotia, one hour from Halifax by car and 40 minutes from the Halifax International Airport. The highest tides in the world occur in Cobequid Bay, some recorded at over 52 feet (15.8 m).

The Alumni Garden was originally a research site to carry out species evaluation trials. Plants were brought to Truro to test their performance and winter hardiness under Truro conditions. The mature trees and shrubs, including survivors of a 1975 shipment of 150 Kentville Research Station rhododendron and azalea cultivars, seedling selections, and species from Don Craig, are the remains of those early collections. In time, the Alumni Association encouraged its development as a garden. Over the years, the garden layout has changed as Landscape Horticulture students implement projects designed by the teaching staff.

To assist with increasing demand for garden development as a teaching tool and how it could all be managed, the Friends of the Gardens was created in 1999, and

Dalhousie Agricultural Campus, Truro. Rock Garden. Photo by Sterling Levy.

Bernard Jackson was brought in as coordinator of the group. The Friends is a dedicated group of approximately 25 volunteer gardeners who help maintain the specialist plants on the campus, including the Herb Garden and the Native Plant Garden, and raise funds for new garden initiatives.

The Rock Garden is a gift from the Friends and masterminded by Bernard Jackson, who retired to Truro after spending 22 years developing the Oxen Pond Botanical Garden in St. John's, Newfoundland and Labrador. It covers just over one-half acre of land, is situated on a south facing slope, and consists of a rock face, two dry streams, a gravel scree bed, and a damp area, providing a wide variety of habitats for plants. The garden contains 450 tons of local red granite and features a collection of dwarf conifers and alpine and saxatile plants, offering Environmental Horticulture students experience with these plants and how to create effective habitats in which to grow them.

The Harriet Irving Botanical Gardens, Acadia University, 32 University Avenue, Wolfville

Since September 2002, the Harriet Irving Botanical Gardens have provided a stimulating and interesting six acre (2.4 ha) environment for the study and viewing of Acadian Forest Region flora. Characterized by the presence of red spruce, yellow birch, balsam fir, and sugar maple, other associated tree species include red pine, eastern white pine, eastern hemlock, and beech. These trees live an average of 150 years with shade tolerant old growth living as long as 400 years. Typical herbaceous plants of the Acadian Forest are showy lady's slipper and the round-leaved orchid. Common species include bunchberry, mayflower, and low bush blueberry. The main collection is laid out in nine Acadian Forest habitats.

The Walled Garden is a transition garden marrying the picturesque land-scape style employed to create the nine habitats with the formal Georgian style architecture of the KC Irving Environmental Science Centre building designed by architect, Robert Stern. At first glance the garden looks like a typical English garden; however, all plants are native Acadian Forest Region species. The garden is bordered to the east and north by the building and by 10-foot (3 m) brick walls on the west and south. This enclosure creates a micro climate that flowers approximately two weeks earlier than the adjacent garden habitats.

The Medicinal and Food Garden is a collection of plants which the Aboriginal peoples and the early European settlers historically used. This is the only garden which exhibits non indigenous plants. Many of these plants escaped early farmstead cultivation, became naturalized and can still be seen growing all throughout the region. The garden is enclosed within a hedge of eastern white cedar and is laid out as a formal grid with a central path running north south. The path is lined on either side with two rows of linden trees. These are under planted with the native high-bush blueberry and the native low-bush or wild blueberry.

Pine Grove Park, Liverpool. Highway # 8 towards Milton, via exit 19 from Highway 103

This significant stand of white pine beside the Mersey River, belonging now to the Municipality of Queens, has long been considered a local beauty spot. Acquired by Bowater Mersey Paper Company in 1942 as part of a large block, it was turned over to the Lions' Club in the late '60s to create a camp ground and recreational park. It transitioned to a community park in the early 1980s under Bowater's leadership and features several trails and picnic grounds.

In response to a query to the Rhododendron Society from Bowater's secretary to the board, Christopher Clarke, the late Captain Dick Steele signed on to the community park project. He laid out the Woodland Trail through the woods to Roy's Clear on the river and on to the picnic grounds in 1987. The late Diana Steele assisted him in planting a number of *Rhododendron maximum* and 'Scintillation' in the woods, and along the path upriver they planted a group of "Forcats", the results of *R. fortuneii* × *R. catawbiense* crosses that Capt. Steele had made. "The magnificent forest floor", so described at the time by Rhodie Society member Joe Harvey, includes lady's slippers, partridge berry, and *lonicera canadensis*.

Cook's Walk is lined with azaleas sent by Alleyne Cooke, superintendent of Vancouver's Stanley Park: *R. schlippenbachii* and *R. molle* ssp. *japonicum* on one side, with Alleyne's Stanley Park hybrids on the other. These, plus a sizeable planting of 'PJM', make a great spring show. Another massing of 'PJM' and 'Ramapo' at the other end of the park offer a "come-hither" blaze of colour to people driving on the opposite side of the river. More recently, Christopher Clarke and Jill Colvill planted an area with magnolias and crabapples, to complement an existing lot of old apple trees.

The Historic Gardens, Annapolis Royal

In the late 1970s, the Historic Gardens were planned to promote the town and celebrate its heritage. Annapolis Royal is the first permanent European settlement in North America. Established in 1605 as Port Royal and the capital of Acadie, it became Annapolis Royal and the capital of British Nova Scotia in 1710. Opened in 1981, historically-themed areas in the Gardens showcase gardening methods, designs, and materials from various periods.

- The Pine Forest represents the huge eastern forests that once covered a vast area and were inhabited by the Mi'kmaw for 4000 years prior to European settlement.
- A potager based on Acadian diary notes and an orchard and willow hedge grown from 17th century heritage cultivars are adjacent to an archeologically-authenticated replica of a pre-deportation Acadian dwelling.
- The herbs, flowers, and heritage apple trees in the Governor's Garden are presented in 18th-century fashion.
- The Victorian Garden contains over 3,000 vibrantly coloured annuals. The selection

Annapolis Royal Historic Gardens. Photo by Trish Fry.

Annapolis Royal Historic Gardens. Photo by Trish Fry.

Indian Harbour Garden. Photo by Ken Shannik.

of exotic and heritage plants, set in elegant symmetry, reflect Victorian tastes and the wealth of Annapolis Royal during the Age of Sail.

- The Innovative Garden demonstrates modern horticultural methods to visitors interested in designs for a compact and sustainable vegetable garden in an urban or suburban setting.

These gardens are linked by paths through other display areas featuring plant collections, garden art, water features, and natural areas. Within its relatively intimate confines, the Gardens contain an array of horticultural diversity, with carefully designed transitions between the rock garden, the hydrangea and day lily collections, the azaleas and rhododendrons, the perennial bed, the heather collection, the evergreen collection, and ornamental grasses as well as spring and winter collections, all adjacent to the cultural landscape of the Acadian dykelands.

Tangled Garden. 11827 Hwy 1 Grand Pré, NS

This is a garden of delight as well as a working herb and fruit patch in the Annapolis Valley, and the basis for Bev McClare's jellies, liqueurs, and dried plant arrangements. The name "tangled garden" is expressive of its blend of plants, picket fences, pergolas, sculptures, and ponds. Stroll through the garden, walk the approximately 80-foot (24

m) diameter wildflower labyrinth, a classical seven-circuit with paths of clover and walls of flowers, pause by the pond to reflect, and look out at the spectacular view of the Minas Basin and Blomidon. Tidy or tangled, the garden is open daily from 10 am–6 pm from April to December.

Fortress of Louisbourg, Louisbourg, Cape Breton.
The colonial French fortress was abandoned in 1760 and restored by Parks Canada after 1961. Buildings, yards, gardens, and streets are recreated as they were during the 1740s. The area prospered at that time because of cod fisheries. Despite the cold climate and poor soil, herbs and vegetables—including mint, parsley, sage, thyme, cabbage, turnip, carrots, beans, and peas—were attractively cultivated in potagers.

Kentville Research Station, 32 Main Street Kentville.
Flowering shrub research officially began at the Kentville research centre in 1958 under plant breeder, the late Donald L. Craig. The collection developed by Craig and the late George Swain includes more than a dozen varieties of rhododendrons and azaleas that have flower colours ranging from brilliant oranges and reds to softer pinks and whites. The Kentville varieties (which include 'Minas Maid', 'Minas Grand Pre', 'Bellefontaine', 'Evangeline', and 'Gabriel') won 16 major awards and 200 ribbons at national and regional flower shows. Also at the Station are varieties from around the world that were tested by the ornamental team for their suitability in a northern climate. Although the Centre is no longer involved in ornamental research, the collection is a colourful reminder of a nearly 40-year floral focus. Most of the plants are in beds adjacent to the Blair House.

View of the Oregon coast as seen from the Best Western Agate Beach Hotel, Newport, Oregon. Photo by Harold Greer.

Maria and Mike Stewart
Sandy, Oregon

Come join us on the beautiful Oregon Coast for the upcoming Western Regional Conference to be held in Newport, Oregon, September 27, 28, 29, 2013. Experience the vivid sunsets, pristine beaches, whitewashed lighthouses, and the unmatched hospitality of the District 4 Chapters of the American Rhododendron Society.

The newly remodeled Best Western Agate Beach Hotel will welcome you to stay in rooms that cost even less than the 2007 rates. We will have the hotel to ourselves, and remember, there is no sales tax in Oregon. The Agate Beach management knows us well and always goes out of its way to offer us the best in accommodations and food. After all, this is where it all began for Western Regionals back in 1981.

The Newport Conference is justly famous for its long standing tradition of offering the attendees one of the most complete selection of program subjects, renowned speak-

ers, and unmatched selection of plants for sale. We are so pleased and honored to have as our Saturday banquet speaker, George Woodard from Long Island, New York. George is the Superintendant of the one-hundred-acre Howard Phipps Estate, and is considered one of the finest hybridizers of rhododendrons in the country. You will be amazed by his creations and inspired by his vast knowledge in many other areas of horticulture. He will also speak during the seminar portion of the Conference. Don't miss this opportunity to see and hear an outstanding presentation by George Woodard.

The garden of Connie Hansen, Lincoln City, Oregon. Photo by Harold Greer.

Yaquina Bay, Newport, Oregon. Photo by Harold Greer.

The international flavor of the conference will be revealed through the presentations given by Andrey Karpov from Russia, John Hammond from Great Britain, George Woodard from New York, Dave Eckerdt, representing gardens from "Down Under," and Harold Greer from Greer Gardens in Eugene, Oregon. Each of these speakers will show you the diversity of beautiful gardens from their respective areas of the world. This Friday banquet presentation will be one to be remembered as we travel around the world visiting these beautiful sites.

The seminar portion of the Conference will feature some twenty different speakers on subjects that range from hybridizing, to collecting and identification of species rhododendrons, to propagation, to control of insect pests, to garden design, photography, and to mole control. Yes, mole control! Here's one we haven't done in the past. Have fun learning the ins and outs of mole habits, and how to best deal with a common

problem. Other seminars will offer expert information about genera that work well as companion plants with rhododendrons. And remember that Sunday morning we will begin by serving you a delightful breakfast followed by seminars and the traditional Hybridizers Forum, where you can learn about the very latest developments in hybrid rhododendrons. We will finish the conference by once again joining together as a group to hear Harold Greer do the finale. This program will summarize our theme of "Around the World with Friends and Rhododendrons." You won't what to miss this exciting program. This is truly the opportunity to take it all in when it comes to programs.

Rhododendron macrophyllum. Photo by Harold Greer.

The plant sale will carry on its tradition of offering species rhododendrons, the latest and best hybrids, and great and rare companion plants. Plants will be supplied from Log Cabin Nursery, Dover Nursery, Thompson's Nursery, The Rhododendron Species Botanical Garden, as well as other collectors. Come get plants from the very best sources all at one location. Phytosanitary Certificates will be provided for our Canadian guests.

Additional popular activities of the conference include the photo contest, silent auction, door prizes, foliage display, and the "badge matching game." Be watching in the registration materials for directions on entering pictures in photo contest. Fun, Fun, Fun!

Three separate private gardens will be offered as self-guided tours. Detailed information and location maps will be included in the registration materials. Other attractions in the Newport community include the Oregon Coast Aquarium, The Maritime Museum, the historic Newport harbor with its fabulous restaurants, and the Mark Hatfield Marine Science Center. Activities that appeal to the adventuresome include salmon fishing, crabbing, and whale watching. You can book a tour boat that allows you to approach these magnificent whales "up close and personal" out in the sea.

We are looking forward to seeing you on the Oregon Coast, where friends have been gathering for 32 years to learn from each other, and where new and lasting friendships are made. It all happens, September 27, 28, 29, 2013.

Awards

Pioneer Achievement Award: Jay and Robert Murray

For 27 years, Jay and Robert Murray have functioned as liaison with the Royal Horticultural Society processing over 3,000 applications for cultivar registration. However, their contributions go far beyond the registration process, as their efforts extended to helping hybridizers in the development of new plants, in taxonomic studies, and in the creation of a method of systematizing associated data in a digital database when digitization was in its infancy. Their stewardship of this core Society function has earned the Murrays the ARS Gold Medal, RHS Loder Cup, and the approbation of the many Society members they have so well served in this capacity. Recognizing the breadth, scope and fundamental value of this legacy, Jay and Robert are true pioneers in this domain. Presented this 4th day of May 2013.

Michael Mills, right, receives the Pioneer Achievement Award for Jay and Robert Murray from ARS President Don Smart at the ARS Convention in Federal Way, WA, in May. The Murrays will be presented with the award at a later date. Photo by Glen Jamieson.

Silver Medal Award: Garth Wedemire

You have faithfully served the Chapters of District 1 and represented the interests of the American Rhododendron Society to a standard of excellence for more than 35 years.

By using your many talents, you have been a soothing teacher, an aesthetic photographer, a masterful propagator, and a rational philosopher. You have been able to convey your ideas with a quiet and peaceful humility.

Your webmaster abilities, photographic expertise, and your grace of lecturing have been invaluable to the Chapters in District 1. Our members feel both grateful and fortunate to have been the benefactors of your multifaceted talent.

For your many contributions and your outstanding service, the American Rhododendron Society is pleased to award the Silver Medal to Garth Wedemire. May 4, 2013, Washington.

Garth Wedemire, center, receives the Silver Medal Award from ARS President Don Smart at the ARS Convention in Federal Way, WA. District 1 Director Mary Parker is on the right. Photo by Glen Jamieson.

Awards

MIDDLE ATLANTIC CHAPTER
Bronze Medal: Celia Porter Dollarhide
The Middle Atlantic Chapter of the Ameri-can Rhododendron Society presents to Celia Porter Dollarhide this Bronze Medal Award. We first met you accompanying your father, General Robert W. Porter, Jr., to our meetings; then you followed in his footsteps with distinguished service on our Chapter's Board of Directors, assisting with the 2006 ARS-ASA Convention Flower Show in Maryland, advising the Chapter Finance Committee, and developing a relationship for our Chapter's support of the National Arboretum through FONA. While maintaining the Middle River Farm rhododendron garden established by your father and opening it for our garden tours, you also served as Chapter Vice President and President, working on the committee that organized and conducted some of our most memorable meetings, tours and speakers, including the ARS Eastern Regional in 2011. Then, as Past President, you have continued to provide valuable services. Presented posthumously, December 15, 2012

At the ARS Convention in Federal Way, WA, Executive Director Laura Grant presents gifts of a diamond shaped leaded crystal with a congratulatory message on it and a Canadian Silver $20 to outgoing President Don Smart for his work as president. Photo by Glen Jamieson.

WILLAMETTE CHAPTER
Bronze Medal: Don and Sid Wermlinger
The Willamette Chapter Of the American Rhododendron Society is pleased to present its highest award the Bronze medal to Don and Sid Wermlinger, in recognition of their contribution to our Chapter the past years having been dedicated Program Chairmen, researching and tracking down new and interesting programs, and for their many years of regularly attending of meetings and yearly providing refreshments. Also for their help at the Smith Garden open garden and work days.

Thank You to Donors

A big "Thank You" goes out to all those members who so generously responded to the appeal for donations.

The list of individual donors for 2012, appearing on pages 90 and 91 of the spring 2013 Journal, did not include all of those making donations late in 2012. Those donations will be acknowledged in the spring 2014 Journal.

Individual Donations

Regarding "Individual ARS Donations in 2012" appearing on pages 90 and 91 of the Spring 2013 *JARS,* the list of individual donors may not include all of those making donations late in 2012. Those donations will be acknowledged in the Spring 2014 *JARS*.

Research Foundation Update

The Research Foundation of the American Rhododendron Society (ARS) announces changes in its Board of Trustees.

At its meeting on May 2, 2013, in Seattle, Washington, the Board of Directors of the ARS approved the appointment of Harold Greer, Past President of ARS, as a Trustee for a term ending May 2015 and the reappointment of H.C. (Bud) Gehnrich and Harold Sweetman as Trustees for new three year terms.

With these appointments the Board of Trustees will be constituted as follows:

1. Karel F. Bernady, Chairman, for term ending May 2014
2. Mike Stewart, for term ending May 2014
3. Jean Beaudry, Treasurer of the Research Foundation, for term ending May 2015
4. Harold Greer, for term ending May 2015
5. Harold Sweetman, Chairman of the Research Committee, for term ending May 2016
6. H.C. (Bud) Gehnrich, for term ending May 2016
7. Bruce Feller, President of ARS, *ex officio*, for term ending 2015

We welcome to the Board our new and returning members. The Trustees thank Don Smart for his service on behalf of the Research Foundation and welcome Bruce Feller to the Board.

Karel F. Bernady, Chairman

Letter to the Executive Director

Executive Director:

My husband and I run a small nursery in Austria. Four years ago, we discovered that we unknowingly brought in the Black Vine Weevil to our nursery through purchased plants.

It was a total horror to us and we were at a loss as to what we should do. It was only through the comprehensive series of articles written by Dr Richard S. Cowles published on the internet by the American Rhododendron Society that helped us tackle this problem. We undertook all the available measures that were recommended and are glad to say that the problem is under control.

I would like to convey our heartfelt thanks to your organisation for the series of articles and also to Dr Cowles for his dedication and commitment to helping nurseries like us. If the weevils had taken over our nursery, it would have been a deathblow to our business.

Yours sincerely
Juliana J Kahr,
Fehring, Austria , Europe

Minutes for the May 2, 2013, Board and May 4, 2013, Annual Meetings

Our next meeting will be in Dartmouth, Nova Scotia, Canada in early October. It should be beautiful there at that time of year. Status reports for that meeting are due on **September 1, 2013**. The reports will be compiled, reviewed by the Executive team, and distributed around **September 15**.

These minutes have been simplified as a result of a motion during the meeting. Your feedback on this trial format and on ways that we can continue to improve the quality and function of our Board meetings is always welcome. If you are unable to retrieve meeting notes or prework, please contact me and I will be happy to send you what I have electronically.

(Abbreviations: FPT = Future Potential Topic; POB = Policies of the Board)

The regular board meeting began at 8:36 a.m. on May 2, 2013.

Meeting minutes. No changes were put forth and there was a MOTION to certify the last meeting minutes, which was seconded, and received unanimous approval.
Editorial Committee and Editor POB clarification. Incoming President **Bruce Feller** asked committee member **Gordon Wylie** to set the stage for a discussion regarding unclear definitions in Policies of the Board (POB) sections 9.4 Editorial Committee (Edcom) and 8.3.2 Editor tasks. **Don Smart**, the sitting President, asked the Edcom to look at the wording in both sections and work with **Fred Whitney** (Bylaws & Policy Committee lead). A MOTION was made to this, seconded, and withdrawn. The topic was tabled at this time.

Meeting minute simplification. Bruce Feller brought up the discussion of changing the format of the meeting minutes so that they would be shortened and more concise. There was a MOTION made and seconded to adopt a simplified meeting minute format as interpreted and applied by the sitting secretary on a trial basis. Results: Unanimous.

Potential name change recognizing the international nature of the ARS. Bruce Feller suggested that we might want to consider this. This topic has been discussed several times in the past. Via a modified MOTION, the Board created an *ad hoc* committee to research this idea further: **Mary Parker** (chair). Results: *Ad hoc* committee creation approved by the majority.

Donation drive results. Bill Mangels highlighted the results of the very successful donation request last year, and provided a comparative multi-year table showing end of year fund balances that clearly illustrated the general fund balance problem and the need to make budgetary adjustments (increasing income or reducing costs). There was a discussion regarding how funds are invested, what happens in a negative balance situation, how much of an impact the recent economic downturns have made, and the desire for more information regarding the endowment fund process. Bill currently manages the life, endowment, and general fund reserves. (FPT).

Records requirements. Secretary **Kath Collier** suggested that we need to consider adding some clarification to the POB regarding how ARS records are managed and maintained. This clarification is needed to meet non-profit tax regulations. It was subsequently agreed (outside of the meeting) that **Laura Grant** would send this information to the District Directors and Chapters.

Mailing costs. Laura Grant indicated that it now costs $12 to mail a single issue of the ARS journal to Germany. **Ann Mangels** noted that postage outside of the U.S. is typically higher than inside and asked who was making up for those higher rates. Laura described ideas for soliciting some additional donations to increase our general income. She asked that any address changes be sent to her office as soon as possible. District Directors should also update address and point of contact information on the website as soon as possible. **Bob Weissman** reminded members that the online membership database is an ideal way to check for errors.

Educational brochures. Laura also mentioned that she is working on a potential grant for printing some brochures through **Bruce Palmer.** There were concerns regarding printing costs. It was suggested that the brochures be available via the OARS website and that we might consider redesigning them so that they were printer-friendly. It was also suggested that the brochures include a QR code (a Quick Response is the little square image that phones and computers can read) that could link to the ARS website for plant information, online membership forms, etc.

The pamphlets have served as an important component of our educational activities. The importance of an active Educational Committee was echoed by several members. It was also mentioned that the committee needed to help coordinate the development of educational materials both paper and electronic. **Bob Weissman** volunteered to make the existing brochures available through our website. Some Chapters have created their own brochures. (FPT)

The two new educational CD's created by **Don Hyatt** (digital photography and together with **Don Voss** on plant registration) will be made available through the Program Library.

Journal feedback. There were several ideas shared about the Journal regarding contents, printing costs, and how the web and Journal might complement each other. It may be possible to get more color in the Journal. Some content suggestions have been sent to the Edcom for their comment. It was suggested that another article regarding costs be included in the Journal. It was also suggested that we need an article on how to work with pot-bound plants (perhaps tapping into **Hank Shannon's** online article) and how this affects care.

Fund raising feedback. One Director asked if the ARS had ever reached out to corporations. Laura indicated no, that we usually only solicit from members.

Membership feedback. There was a discussion regarding the difference between renewals versus non-participatory memberships (i.e., those that do not attend chapter meetings). Reminders for membership renewals can be included several times in local newsletters and the journal. There was also a suggestion that an automatic email be

sent back to the Chapter when a member electronically renews. It is fairly easy to find out membership changes by visiting the OARS website. (FPT)

Budget and Finance. **Dave Collier** provided a summary of the proposed fiscal year budget. The information was based on 3,300 members which is just slightly more than year end. We no longer have any reserves in the operating budget and are still operating at a slight deficit. He reviewed income forecasts, potential areas of increase, where the numbers came from, and increasing the contributions from the Endowment fund from 3.5 to 4 percent to specifically fund Endowment Grants. Dave reviewed expenses, unexpected expenditures, processes for managing overruns and potential options for reducing costs. A MOTION was made and seconded to accept the budget as submitted. Result: Unanimous. Note: Several members complemented Dave on the new budget format, efforts to balance the budget, and how much the process had improved. (FPT)

There was also a discussion on life membership and how a lump sum had been returned to Chapters for the 108-109 life members who joined prior to 1984. For life members after that time, Chapters receive $10 per year for each life member. There was a question on the number of names that can appear on a life membership. There was also a discussion regarding increasing the amount that the Chapters might receive from a life membership. No change at this time. A Journal article describing how the life fund works was suggested.

Endowment Fund. Three endowment grants totaling $6,500 were proposed. Result: The three grants were approved by a majority. The group discussed endowment grant funding. There was a MOTION to roll back the total amount requested for the three grants by 25% to fall within the amount budgeted ($5,000) for endowment grants, and to increase the donation from the Endowment Fund to the full four percent (as allowed by POB) to cover grant costs. The MOTION was seconded and approved unanimously. It was suggested that an annual set aside for these grants be considered. It was also suggested that there be a more in depth report on the endowment budget and use (perhaps included in the Journal). (FPT)

Membership.

Fee Changes. Potential changes to membership fees is a task that the Budget Committee is required to consider and provide recommendations to the Board at least one year in advance of any increases. The committee had recommended that a full regular membership category be made available at a lower cost. The only difference would be that the Journal would be delivered in electronic form only. It was suggested that this alternative would be preferable to increasing membership fees, particularly if international members were to take advantage of it. There was a lively discussion on the benefits of this proposal. FPT.

New Chair. Shirley Rock welcomed the new Membership Committee chair, **Cathy Bird.**

confirm membership (such as showing a student body card); age: “individuals under 25 years of age.”

Gift clarification. **Laura Grant** reviewed her assignment to follow-up with sponsoring and sustaining members with a gift. There was a MOTION to remove the sentence requiring a gift and to send a thank you letter that would provide instructions regarding how much of the membership fee is tax deductible. Result: unanimous.

Multiple year renewals. This was suggested but based on the experiences in other societies, it was not recommended.

Affiliate Membership category. Topic tabled at this time. This proposal is related to providing a copy of the Journal in an electronic form to other Rhododendron Society members for a nominal fee. There was some confusion regarding the difference between an Affiliate and an electronic membership. (FPT)

Research Foundation.

Trustees: MOTION to approve as proposed. Second. Unanimous.

Proposed Research Projects: MOTION to approve as proposed was seconded and unanimously approved.

Joint ARS/ASA Meeting: Don Hyatt is seeking approval for ARS/ASA meeting to be held in mid-April in 2016. MOTION to approve was seconded and unanimously approved.

Online eMedia. Bob Weissman reviewed the number of folks who had reviewed the Journal online and the desire to increase readership. Additional work is ongoing and additional enhancements may be forthcoming.

Nominations committee: New treasurer! **Samuel Burd**. A MOTION to accept **Samuel Burd** as the new Treasurer effective May 2015 was seconded, and received unanimous approval.

***Ad Hoc* Committee reports:**

Eboard meeting. Don Smart recommended that this idea be tabled until 2014 and then re-evaluated by a new *ad hoc* committee. The recommendation was followed by a MOTION to hold a face-to-face meeting in Everett, Washington; seconded and unanimously approved. FPT.

Online store research. Not a lot of feedback from group. There is a lot of expertise in the ARS related to building and maintaining an online store. **Dave Banks** and **Steve Henning** graciously agreed to take over the lead on the online store research project. **Kath Collier** mentioned that fellow ARS member **Brenda Ziegler** has been providing branded items (clothing, bags, hats, etc.) for the Portland Chapter for years, sometimes at great discounts, and highly recommended her services. (FPT)

New unnamed *ad hoc* committee to collect photos and history of people in the ARS was tabled until the fall meeting. (FPT)

Events: There were several reminders on events. The ARS calendar appears in each issue of the Journal. There is continued discussion of some type of rhododendron tour in Europe in 2014. Watch for an article in the Journal.

Other Reminders:
--Purge the word "profit" – the ARS does not have any profit.
--**Ann Gross** offered to send anyone a copy of the Guidelines for conducting ARS District business developed by District 4.
--Motions can only be made by Officers and District Directors. Committee members may not make or second a motion, or vote.
--Be sure to read the prework and be prepared for the meeting. Not being prepared makes it difficult to make decisions and keep the meeting on time.

Ideas for improving the meeting

- •A little closer; need a smaller room; liked the space
- •Sequence discussion like prework
- •Resolve start time conflicts
- •Liked the card system and prework
- •Need coffee!
- •Read prework

Meeting concluded at 5:26 pm

May 4, 2013, Annual Meeting Minutes

The Canadian contingent was prominently represented at the Annual Meeting. Their interest in and suport of Society initiatives were reflected in their robust participation at the event.

Awards given are listed on page 152-153.

Pioneer Achievement Award: Jay and Robert Murray (previous ARS Registrars), accepted for them by **Michael Mills** (ARS Registrar).

Silver medal: Garth Wedemire

Board Nominations:

Eastern Vice President, **Ann Mangels**; Secretary, **Kath Collier**; Treasurer (one-year term), **Bill Mangels**; MOTION made to accept the nominations, seconded; unanimously approved. Welcome incoming president **Bruce Feller**. Note: The one-year Treasurer term will facilitate a transition period for new Treasurer, **Samuel Bird** (May 2014)

Roll call from the various Chapters and Districts.

Recognition of prior presidents pre-sent at this meeting: **Herb Spady, Gordon Wylie, Harold Greer, Bud Gehnrich, Mike Stewart,** and **Fred Whitney.**

Conventions and Events – See your journal for dates and details!

Superb program on "***The Sweet Smell of Success – Rhododendron Hybrids of New Zealand***" by **Brian Coker**, registrar for the New Zealand Rhododendron Association.

A more in depth version of these notes and the prework is available upon request.

Respectfully submitted
Kath Collier

In Memoriam

Celia Porter Dollarhide

The Soroptimist International of Wash-ington, D.C. has generously donated $1000 to the American Rhododendron Society's endowment fund to be used for grants in Celia Porter Dollarhide's memory. As Mrs. Roberta Duffy wrote, "As was true with your organization and ours, Celia exemplified the true meaning of service, sincerely, with passion and commitment."

Our MAC Past President Celia Porter Dollarhide died on December 6, 2012, at her home in Alexandria, Virginia, after a lengthy bout with cancer. In 2001, Celia retired from a 34-year career at the Veteran's Administration where she was Director of Education Services. She received several awards for her dedicated service and commitment to all veterans.

Celia was the daughter of long time MAC member and board member General Robert Porter, Jr., who had brought her into the chapter. She followed in his footsteps with distinguished service on our Chapter's Board of Directors, assisting with the 2006 ARS-ASA Convention Flower Show in Maryland, advising the Chapter Finance Committee, and developing a relationship for our Chapter's support of the National Arboretum through FONA. She served as Chapter Vice President and then as Chapter President, working on the committee that organized and conducted some of our most memorable meetings, tours and speakers, including the ARS Eastern Regional Meeting in 2011. Celia's "retreat" was Middle River Farm where her father established a very fine rhododendron collection of Dexter and Consellini hybrids. She is interred with her mother and father at Middle River Farm. For these and other exceptional contributions, MAC President Lloyd Willis presented the Bronze Medal, the MAC Chapter's highest honor, posthumously to her sister Susan Porter Walker on December 15, 2012, at her memorial service.

Vance and Barbara McDonald

Members of the Seattle and Pilchuck Chapters of the ARS were saddened to learn of the passing of Barbara and Vance McDonald. Saddened, too, are members of Pukeiti, the beautiful rhododendron garden in New Zealand where Barbara was a member in perpetuity.

Barbara became aware of rho-dodendrons and their culture in the 1960s when attending a very active study group of the Arboretum Foundation. Early on she realized that her Seattle garden was too small for growing many tree-like rhododendrons so she developed a special interest in the dwarf varieties, both species and hybrids. Vance became her "first assistant." He did not select plants or attend meetings at first, but dug flowerbeds, designed the watering system, lifted the heavier loads. For that, not only did he merit Barbara's gratitude, but in time, developed a keen interest in SRS meetings and the cookies served before and after the programs. Later he found the ARS Conventions were entertaining and the rhododendron enthusiasts fun as well as knowledgeable. The McDonalds were diverse in personality, Barbara appearing more reserved and soft-spoken, while Vance was more outgoing and a collector of jokes which he shared with others. Together they contributed considerable "behind the scenes" chores, hosting at garden tours or meetings, setting up and tearing down the annual rhododendron shows, sharing plant material and seeds, encouraging beginners

and always making friends among members and visitors.

Barbara purchased a young deciduous azalea seedling from nurseryman, Jim Caperci, and was elated to see it bloom with a burst of bright orange, many-flowered trusses. She registered it as 'Tamashanter'. It has received blue ribbons and will be a reminder of the McDonalds for those who see it in Seattle gardens.

After many years of living and gardening in West Seattle, the McDonalds built a house and moved themselves and many of their plants to a small community near Marysville, WA. They began creating a new small garden on a more difficult slope. Though they had built their home in an area near Puget Sound, it is also an area called the "convergence zone." It was an unhappy surprise to lose some of the carefully tended rhododendrons that had lived and grown so profusely in Seattle.

At this point Vance had retired. He was now spending some time putting together an elaborate toy railroad in their basement but still served as "first assistant." New friends sharing the same interests and gardening goals were found at the meetings of the ARS Pilchuck Chapter.

After fifty years or so of growing rhododendrons and companion plants, life became fragile. Simply put, Vance seemed to have never met a person he didn't like. For Barbara, one phrase says it all, "she was a lady".

It is pleasing to know that the McDonald garden will live on for another generation tended by their daughter, Bonnie, and son-in-law Roy.

Gwen Bell

Ernie Metcalfe

The Tualatin Valley Chapter lost a wonderful member, Ernie Metcalfe of Beaverton, Oregon, on May 26, 2013. He will be so missed. He was very active also with the Portland Chapter of the American Rhododendron Society. He took part in the many flower shows, helping wherever needed. Always smiling, encouraging new members, helping youngsters make crosses—he leaves a legacy with his love of rhododendrons.

Ernie served in the U.S. Air Force during World War II, working as an aircraft sheet-metal repairman in the South Pacific. After his military service he drove a petroleum tanker for AB Transportation of Beaverton, where he later worked as a mechanic for the business.

He was a fire fighter and served 40 years with the Beaverton Fire Department. He was also a photographer. His photos and life are featured in a recent book, *Tualatin Valley Fire & Rescue.*

Ginny Mapes

Jean Eleanor (Brown) Smith

March 14, 2013, dawned a beautiful, sunny day. It ended gray and somber as Jean passed away with her family at her side—"tired and wanting to take a nap." Jean now joins the love of her life on earth, Britt, who preceded her to heaven in 2007.

Jean was born in Sherwood, North Dakota, on April 1, 1919, and passed away in Renton, Washington. She and Britt were life-long members of the Tacoma and Seattle ARS chapters.

Her lifetime was one of great joy and excited adventures. She willingly journeyed to the Kingdom of Sikkim in 1971, thus opening that area to exploration of *Rhododendron* habitat which had been closed since the much earlier journeys of Hooker. Britt and Jean "blazed the trail for the protection and conservation of rhodes as Sikkim's rich

natural heritage" (in the words of Keshab Pradhan). Jean was an emissary for the genus to the Chogyal and Gyalmo (king and queen) of Sikkim and maintained contact with the Gyalmo in New York following their deposing and the absorption of Sikkim as a state of India.

Jean willingly entered into Britt's pursuit of *R. occidentale* (native West Coast azalea) in the southern Oregon/northern California regions. Jean and Doris Mossman would spend their time sketching and painting in these areas as Britt and Frank labored to find the variety of plants that has formed the base populations of this native species for subsequent explorers to build upon.

Jean was gracious in her entertaining in support of individuals/groups who were "into rhododendrons" from around the world—particularly, the UK, Sikkim and New Zealand. She and Britt travelled the four corners of the globe and Jean had the wonderful experience of chaperoning the Seattle Sea Fair Royalty on foreign goodwill tours.

Jean was a devoted mother to W. Britt (Karen), Gary (Pamela) and Adrienne, a grandmother to four grandsons and a great-grandmother to three darling girls.

We "fell short" of being able to celebrate her 94th birthday and I am owed/owe her a root beer float on our next meeting. How we miss her smile, thoughtfulness, affection and cheerful presence, but know she and Britt are together again.

Fred Whitney, Tacoma ARS Chapter

Rhododendron Calendar

2013 ARS Western Regional Conference, Newport, OR. Sept. 27–29.
2013 ARS Eastern Regional Conference, RSC Atlantic Region. Oct. 4-6, Dartmouth, NS Canada. Board meeting.
2013 Australian Rhododendron Society Convention, South Australian Branch, Adelaide, Australia, Oct. 18–20
2014 International Vireya Seminar, Island of Hawaii, HI, Feb. 21–22.
2014 ARS Annual Convention, Cleveland, OH, May 16–18. Board Meeting.
2014 ARS Western Regional Conference, District 2, Everett, WA. Sept. 26–28.
2014 New Zealand Rhododendron Association International Conference, Dunedin, NZ, Oct. 20–25.
2015 ARS Annual Convention, 70th Anniversary, Sidney, British Columbia, Canada. May 6-10.

Luck

Dennis MacMullan
Hamburg, Pennsylvania

Photos by the author

To paraphrase William Shakespeare "Beware the Ides of May," because that is when we begin to execute the elepidote hybridizing acts that we have been planning for some time. I use the word "beware" because the seasoned hybridizer knows that when the actual process is set in motion he commits himself to the care and monitoring of 30 or more seedlings from each cross he makes for a period of up to four to five years—until first bloom—when he will see the results.

If you do not set a goal, or goals, for each cross you plan, the results will probably not be rewarding. Goals such as color(s), plant and truss size and in Northeast America cold and heat tolerances are among those that should be considered. I have been hybridizing for over 40 years. One would think that over that period I would have learned to avoid most hybridizing pitfalls. I have developed a list of "dos and don't" that I call my "Rules of the Road." They are helpful but consider the following story.

In 2006, I made a cross that didn't follow my usual ideas of sensibility. I chose to cross two plants that I consider beautiful, hardy and colorful. I had high hopes to produce seedlings with the best qualities of each parent. My own hybrid 'Speckled Honey'* {[('Janet Blair' × 'Autumn Gold')] × 'Autumn Gold'} was to be the seed parent. 'Leach's Capistrano' {[('Hindustan' × *R. catawbiense)* × (*R. fortunei* ssp. *discolor* × Fabia Group)] × [('Russell Harmon'* × 'Goldworth Orange') × 'Golden Gala']} was the pollen parent, in spite of its reputation for being a cranky grower in many areas. The goal was a peach/yellow with interesting speckles. Also, I expected hardiness to -15º F (-26º C). Both parents had been heat-resistant for me. Fertilization was successful and I had about 30 seedlings when I finally potted them and transferred them outdoors. I took care of these little rascals as if they were my own children—protected them as they developed in size and sturdy root systems. As the years passed, I lost some but that is a part of the process. Finally, in 2012, four of the seedings bloomed. One of them is pictured here, and the other three were similar. But where are the speckles? There were supposed to be speckles…lots of speckles!!

The reason? I broke one of my own Rules—# 1 "avoid making crosses with plants that have a complex parentage!" The extremely wide variance in possible progeny

'Speckled Honey'.

'Capistrano'.

'Speckled Honey' × 'Capistrano'.

characteristics are passed on to the progeny. To expect a simple result from such a complex crossing is highly unlikely, and the odds are against it. I was just lucky in that I came up with a few very nice plants at all, as I could just as easily spent all that time and effort in order to produce junk!

Speaking of luck, in February 2012, the Home Box Office (HBO) featured a TV series of that same name—"Luck." It is brilliantly acted by an ensemble cast and was produced by David Milch, who also authored the award-winning series "Deadwood" a few years ago. Basically, "Luck" explores the "money" side of the horse racing business.

The sport has a tabloid published daily during the racing season called "The Racing Form." The casual bettor usually places his wagers for personal reasons—a horse is wearing his lucky number, or he likes the horse's name, or he recognizes the jockey's name, or he just likes the odds. He is not usually interested in the contents of "The Racing Form." In contrast, the serious bettor—the true aficionado, considers the information presented as manna from horse-racing heaven. I can expect some readers are now saying "what the heck is he talking about here, and what has this got to do with rhodys?" Please bear with me—there is a point being made!

An issue of "The Racing Form" is printed for each of the major race tracks (e.g., Belmont, Pimlico, Santa Anita, etc.). It lists general information for each race such as the distance to be run, expected track conditions (e.g., fast or muddy), age limitations if any, type of race (claiming, handicap, etc.) and the size of the prize purse. The particulars shown are the name and post-position of each horse, name of the trainer and jockey, when the horse last ran and how he finished, his parents'names and the opening odds against his winning. There is more data, but I am sure you get the idea.

The ARS also has a compendium of information available on all registered rhodo hybrids. It is logically called "The Registry." It has been superbly maintained for years by the unflappable Jay Murray who has recently retired, with this task now being done by Michael Mills. Over the years I have pestered her with questions of all sorts to help me in my efforts to produce better plants. If she didn't have the answers in her computer, she often pointed me in the right direction. She has been a treasure of relevant information, and she will be missed!

Obviously these two distinct sources of information are very different, but they are the same on two very important points. Neither will guarantee you a winner but properly utilized, each will offer you a much better chance of success. Information is the element that helps us make intelligent decisions with clarity and confidence. Utilizing it should also be relevant when hybridizing!

And that friends, is what it is all about! When planning a cross, research the plants you are planning to use. If you deny yourself the use of available information, you are left with only one resource— luck!

PS: Now if I cross those two seedlings…oh no, not again!

• = not registered.

District 1 Fall 2012 Propagation Workshop Report

Bill McMillan
Victoria, BC,
Canada

Photos by Susan Lightburn

Editor's note: For many years, the Victoria Chapter has had a Propagation Group that has been very productive in both producing plants for their plant sale and in introducing new members to plant propagation. In 2012, they organised a weekend workshop open to all District 1 ARS members, both to advance propagation in other chapters and as a district social event. While I was unfortunately unable to attend personally, the event was very informative and well attended, and so I asked Bill to summarise it in the hope that other districts may consider doing something similar. Different chapters often have unique expertise among their members, and it can benefit other chapters and even districts when this expertise can be shared. The organisation of such district workshops is an idea that could perhaps benefit all districts!

Introduction

There have been a series of helpful articles on propagation in the Journal of the American Rhododendron Society (*JARS*) recently that offer practical advice about germinating seeds, grafting and rooting cuttings. These articles and requests to repeat a chapter workshop we ran a couple of years ago, prompted us to offer an updated one-day version of our propagation workshop on October 13, 2012, open to all interested District 1 ARS members

Some 40 participants from Vancouver Island and the lower BC mainland came to the ARS District 1 Propagation Group workshop in Victoria, BC. Most of the chapters in District 1 were represented. The workshop was arranged by Ken and Madeleine Webb with help from many members of the Victoria Rhododendron Society Propagation Group. Talks took up the morning with a break for lunch and continued into early afternoon. Afterward, there was opportunity for hands-on seed planting then the taking of cuttings from the Webb's garden for propagation.

After an introduction by Ken, topics covered in the workshop were propagation by seed (Dean Goard), producing new hybrids (Lloyd Gilmore), Jim Barlup's hybrids (Lois Blackmore), grafting (Ken Gibson), propagation procedures at the Rhododendron Species Foundation (Dennis Bottemiller, Rhododendron Species Foundation), and pruning (Bill McMillan). All photos in this report are by Susan Lightburn.


Dean Goard and Carrie George planting seeds.

The workshop was held outside on the Webb's spacious deck. Although the weather was not great, a large tarp and heaters provided good protection and comfortable conditions. A delicious lunch was prepared by Madeleine, Maria Kemmler and Sandy Campbell.

Propagating from Seeds

Dean Goard discussed growing rho-dodendrons from seed. Seeds are a fun way to propagate partly because of the uncertainty factor. Genetic variability causes a wide range of "siblings" from a controlled cross, especially if the parent plants are hybrids. Seed pods that get fertilized swell and are picked when they are relatively mature. They are ready to be collected when they begin to change colour. The pods are put in a container and set out to dry further and mature. Once they start to split, seeds can be extracted by tapping on the pods, then sieving to remove fines and debris. Many of us use a planting medium of 1:1 peat and perlite. The medium is kept moist and covered to maintain humidity. I use covered, self-watering trays that simplify the process but that is not necessary. Once seeds germinate and reach the stage where true leaves develop, they are thinned and transplanted into a growing-on medium. Dean uses a mixture of compost, modified peat and grit. I use Sunshine #4 (from Sun Gro Horticulture; Canadian Sphagnum peat moss, coarse perlite, starter nutrient charge (with Gypsum) and dolomitic limestone) or equivalent with more perlite added. Ken and Madeleine make a mix of mulch, soil and sand. Whatever you use, it must be well draining. Dean grows these seedlings outside but ensures that there is no direct sunlight on them. As they get larger, selected seedlings are moved into four-inch (10 cm) pots and eventually into larger containers. Seed to bloom time can be as low as five years but as much as several decades for large leaf varieties.

Hybridizing

Most hybridizers have specific goals when they select the parent plants they use. Lloyd Gilmore was inspired by the efforts of J.G. Lofthouse. One parent plant Lloyd uses extensively is Lofthouse's *R.* 'Jeda', which has frilly, orange, spotted flowers with a large calyx. For example, 'Jeda' crossed with 'Paprika Spiced' produced attractive offspring with spotted, hose-in-hose flowers. Lloyd grows seedlings under fluorescent light with one cool and one warm (daylight) bulb. After a year he puts the seedlings outside in full sun. He fertilizes with quarter strength 20/20/20 during the growing season and gets amazing results. He has successfully treated chlorosis with a top dressing of milorganite (a biosolids fertilizer produced by the Milwaukee Metropolitan Sewerage District), which contains about 4% iron, virtually no salts so it will not burn plants, and is 85% organic matter.

Lois Blackmore, a great admirer of Jim Barlup's hybrids, described a number of his plants. Jim, an ARS Gold Medal winner in 2004 for his outstanding work in hybridizing and for sharing his knowledge, pollen and seed, has tried to improve yellows and oranges (Crane 2011), among other things. Some of his recent registered plants are 'Amber Gold', 'Amber Waves', 'Lemon Prelude', 'Frosted Lemon', and 'Early Winters', a white with freckles. Photos of these and many others are on the flickr website (http://www.flickr.com/photos/90651310@N06/) and also on the www.hirsutum.info website.

One source for seeds of new hybrids is the ARS Seed Exchange, and the Rhododendron Species Foundation has both seeds and pollen of species.

Why not try making your own hybrids? It is relatively easy to do and it's fun to see what results! To start, set a goal, like a superior, hardy red. Choose your parent plants, perhaps 'Rubicon' and 'Crimson Pippin'. Decide which will be the pollen source, collect it when it is ready and place it on the stigma of the mother plant when it is sticky and receptive. Early on, before the flower opens, isolate the stigma of the mother plant. Joe Harvey puts an aluminium foil cone over fertilised flowers to prevent later unwanted pollination. If there is difficulty getting pollen or finding a receptive stigma, a recent idea is to chop up the anthers of the "father" plant to release pollen, then mix the pollen-laden pulp with honey to help stick it on the stigma of the "mother" plant (Addison 2013). I don't know if this will work but it sounds like it has promise. If the pollination is successful, the plant will develop seeds and when they mature, you are ready plant them and become the proud parent of new rhododendron hybrids! Label the pollinated truss so you don't accidentally deadhead it as I did one year. Depending on the gene pool, siblings will vary widely in character, but you may get some really great plants.

Grafts

Herb Spady (2012) listed five reasons to graft cuttings: a poor root system on the source plant, the source plant is damaged or in decline, you have no facility for cuttings,

only one cutting is available or the plant is difficult to root. In Europe, grafts are used extensively, and 'Cunningham's White' is the typical root stock used. Scions of the desired rhododendron are grafted onto 'Cunningham's White' cuttings, which are then rooted. 'Cunningham's White' roots easily and seldom sends out suckers. Herb describes methods of grafting, securing the scion and what to do while the graft is healing in his article.


Ken Gibson lecturing on grafting.

Ken Gibson showed us one method. He used a single cut across both the scion and understock at an angle. He used a sharp knife and a small plane to make sure the scion and under stock fit together snugly. The cambium layers must be in direct contact for healing to take place and air spaces must be avoided. Further, the join must not dry out. Ken uses grafting rubber to join them together; Herb also uses the rubber but also coats it with beeswax. You must provide a high humidity environment during the healing process, which may take several months. The grafted plant can be outside but avoid having it in direct sunlight. A bread bag over the pot with bamboo sticks to hold it away from the plant works well.

Cuttings

Taking cuttings

The most likely cuttings to root will be from this year's growth after it has hardened but before it lignifies (becomes brown). Dennis Bottemiller (2012) described the variables involved in rooting cuttings. These were presented in more detail and I will only summarize them here. Some key basics are cleanliness, record keeping and really sharp tools.

The ideal time to take cuttings varies because weather and growing conditions change significantly from year to year and in different locations. The "snap test" helps you to decide whether the time is right. To test, bend a selected stem between your thumb and forefinger. If it snaps, the tissue is ideal for rooting. However, the break must be clean. If the stem merely bends, it's not quite ready.

As an example, one year almost all the cuttings taken from 'Mrs Josephine Firth'* at Finnerty Gardens at the University of Victoria in Victoria, BC, in mid-November rooted; none of the cuttings taken at the same time the following year rooted. If in doubt, take the cutting—nothing will root if you do not give it a try.

Ken Gibson with his cuttings.

Dennis Bottemiller lecturing on seasonal issues.

Thinner and longer—about two-inch (5 cm) cuttings seem to root more consistently. Lepidotes generally root easily and are a good place to try your first cuttings. Some elepidotes, especially big leaf varieties, can be very difficult. Do not give up as long as the leaves are still green. Some have rooted after two years!

Reinhold Gorgosilich (2011) recom-mended watering plants well two days before the cuttings are taken, or if they are dry, submerging cuttings in water for 18-24 hours before preparing them. He avoids flower buds if possible or removes them if not, and always removes terminal buds from lepidotes. Dennis recommends using non-

Ken Webb (right) leading the cutting group.

Madeline Webb with her potted cuttings.

Caroline Marquardt planting cuttings.

Mary Parker preparing her cuttings.

terminal or lateral shoots and avoiding those exposed to a lot of sun. For cuttings with indumentum, rub it off before wounding the stem, if there is tomentum (hair on the surface of the leaves), rub or wash it off during preparation also to prevent algae growth.

Preparing a cutting is done in three steps. First all but three leaves are removed and the remaining ones cut in half to reduce water loss. Second, the lower half-inch (1 cm) of the scion is wounded to the cambium and dipped into rooting hormone, and third, the scion is inserted into the propagation medium. Stimroot® #3 powder, with 0.8% Indole-3-butyric acid, is a popular choice but gels are also available. Generally no fertilizer is used until after the cuttings are rooted.

Rooting cuttings

Although many types of propagation boxes can be used to root cuttings, three factors are key: bottom heat, a high humidity and air circulation. The more sophisticated boxes have misters whereas many of us control moisture by hand watering. The propagating media must be moist but not too wet or the cuttings will rot. Cleanliness is critical—thorough cleaning and new medium each year are a must. We mostly use a peat-perlite mix but coir instead of peat, sharp sand or another media, or even perlite alone can be successful. For really small, short cuttings, Dennis uses rock wool, which is available in hydroponics stores. The medium must retain moisture and incorporate air. Bottom heat in the 20-21° C (68-70° F) range is recommended. This is easier to control if you have a separate thermostat control for the heating coil and a thermometer in or on the

medium to monitor it. An enclosed top is needed to maintain high humidity. At its simplest, the propagator can be a pot on a heating pad with a plastic bread bag over it to maintain humidity. You can even put the pot on top of a refrigerator, where it is warm. The cuttings need a light source but should be kept out of direct sunlight; most of us use fluorescent tube lights. Marc Colombel (2012) designed an inexpensive set-up with water as "central heating" using aquarium heaters. It is an intriguing new approach and has worked well for him.

Ken Webb noted that in Germany, some propagators crank the heat up to 32° C (90° F) for two weeks, turn the heat off for two weeks, and then repeat to encourage abundant rooting. The theory is that heat causes root formation and cold periods favour root growth.

Pruning

Types of pruning

There are three main categories of pruning: leaf bud pruning, woody pruning and deadheading. Most rhododendrons make new leaves in one sudden burst, immediately after flowering. In the fall, if growing conditions are good, a second much smaller flush of leaves may be produced. Leaves of this second flush may be twisted and chloritic. In contrast, evergreen azaleas make leaves over a period of about a month after blooming and so can be lightly sheared immediately after blooming. Subgenus *Hymenanthes,* elepidotes (without scales on their leaves, the most common larger leafed garden rhododendrons) generally do not break out into leaf as freely from older wood that has been cut back. In contrast, subgenus *Rhododendron* plants—lepidotes (with scales on their leaves)—usually break freely from pruned old wood. Remember, plants have an inherent shape in nature. Plan your pruning to improve that shape, not to produce topiary.

Left to their own devices, elepidotes often become open and leggy. Once established, "legginess" can be difficult to correct. Several factors contribute to legginess, but the best way to avoid it is by careful shaping in the early years. For elepidotes, shaping is best done by removing terminal leaf buds in the spring. This is generally impractical in azaleas and small leaved rhododendrons (lepidotes) because terminal buds are small and very numerous. For them, there are more appropriate procedures, such as by shearing the plant to the desired shape.

During the summer, terminal leaf buds develop at the end of each new shoot. In very young plants, all terminal buds are leaf buds, but in healthy mature plants most will be flower buds. Flower buds can usually be readily distinguished because they are three to four times larger. The differentiation of leaf and flower buds generally is evident by fall. Beneath each terminal bud is a whorl of leaves, each with a small axillary leaf bud. If the terminal bud is a flower bud, then, leave it alone. However if there is a single leaf bud (a common situation in young plants or in unhealthy older ones), then as a rule only one shoot will be produced. If this is repeated from year to year, the plant

becomes leggy and tends to bloom poorly. Bud pruning often activates the underlying dormant buds to produce two or more shoots and a bushier plant. An article in an earlier ARS Journal suggested that you can even wait until new leaf growth starts, then cut the new leaves in half to activate the dormant buds and produce more shoots.

Woody pruning of elepidotes

As mentioned above, elepidotes often do not break readily from old wood, or do so unpredictably. Modest annual trimming (immediately after blooming) of all plants helps to control their sizes and shapes. Prune floppy branches back to sturdy lower shoots and take out crossing wood. Remove perhaps 5% to 10% of the superstructure each year. This helps to prevent the superstructure from outgrowing the roots. Do this woody pruning before deadheading.

Long neglected plants, that have got out of hand or which have been heavily damaged by snow or a falling branch, often benefit by being cut down to the ground (coppiced). Most but not all will quickly regenerate and you can shape the plant as it grows back. Dennis McKiver (2013) commented that one plant he cut back severely did not bloom again until it grew back to its original size.

For plants that are not quite out of hand, but nevertheless are too leggy and need shaping, selective strong pruning of old wood can be tried early in the spring. Begin by pruning a few branches one year, a few more the following year, and so on. This procedure, sometimes does not work as well as the brutal coppicing. Some elepidote rhododendrons that are selectively pruned do not break as readily from old wood as those that have been cut to the ground but others respond well. Try it and see—if it does not work, coppicing remains an alternative.

Woody Pruning and Deadheading of Lepidotes

Lepidotes have smaller and more numerous flowers and leaves than elepidotes, so deadheading of entire plants can be very time consuming. However, they break much more freely from old wood than elepidotes. As a consequence, after blooming, small lepidote varieties can be lightly sheared with hedge clippers, followed by deadheading of the few spent flowers that the shears have missed. The dreary task of deadheading of larger lepidote varieties can be much reduced by modest pruning of last year's wood—cutting back the longer of last year's shoots by perhaps 20%. This removes the spent blooms and much reduces the task of deadheading. After pruning, the rest of the bush can be deadheaded. Ted Irving of the Victoria Rhododendron Society noted that such modest pruning of healthy plants does not significantly reduce blooming the following year. Remove crossing wood. Do all this immediately after blooming, before new leaves appear.

Pruning Azaleas

Deciduous azaleas break freely from old wood and so can be pruned in much the same way as lepidotes—cut back last year's wood (and so remove many spent blooms) after blooming but before new leaves develop. You may also wish to prune back stems that did not bear flowers last year. Deciduous azaleas sometimes throw long irregular shoots which are charming in the woodland setting and which you may wish to retain. If however you wish to contain growth in a more formal setting, then prune them down. They will break freely in a few weeks.

Evergreen azalea flowers are far too numerous to deadhead. Instead shear the entire plant lightly after blooming. After shearing, pick over the plant to remove spent blooms missed by the shears. By shearing, some early leaves will be lost, but later leaves will soon clothe the bush and the plant will not be weakened. Over several years, you can shape the bush to your taste. Evergreen azaleas, together with small lepidotes, can be the easiest of all rhododendrons to prune.

Hands-on Practice Session

After the presentations and a lively discussion, participants practiced planting seeds, then selecting cuttings from the Webb's garden. Many placed the cuttings in the Webb's propagator, hopefully, to root. Of course each participant was invited to take a plant from the large collection of rooted cuttings that Ken and Madeleine already have amassed.

After the workshop, many of us dined on Chinese food before the mainlanders headed for the ferry and the rest of us for home. The enthusiasm of the participants was great and made the effort of putting on the workshop really worthwhile.

*= not registered.

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Bill McMillan is a member of the Victoria ARS Chapter.

An Amateur's Research on the Use of LED Lights in Rhododendron Propagation

Mikkel Jørgensen
Hvidovre, Denmark

(Modified from the RhodoNyt *2012 (4), the magazine of the Danish ARS Chapter; written in Danish and translated by the author.)*

My interest in this subject started when I heard on the radio that researchers in Aarhus, Denmark, had grown vegetables without the use of natural lightning, using only LED (light emitting diode) light. LED lights are now commonly used in many ways in daily life, and this is interesting because energy consumption by LED lights is much less than with other forms of artificial light. Their lifetime is also longer, reportedly up to 50,000 hours, significantly longer than fluorescent tubes. Finally, their purchase price is now at a reasonable level, allowing a reduction of more than half the expense for artificial lighting!

Plant metabolism, i.e., photosynthesis, is subject to the following elements:

1) water, and nutrients which are added as fertilizer;

2) carbon dioxide from the air, such as is produced from of our breath, confirming the importance of the need to talk to our little darlings; and

3) light, from either the sun or if necessary, artificial light from incandescent, fluorescent or LED lights.

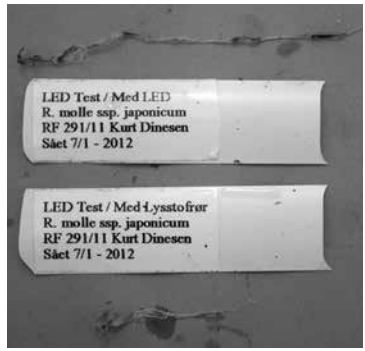
If these elements are provided in the right combination, glucose is formed, the energy source for plant growth. As a bonus for us, plants release oxygen as well!

When rhodo growers in northern Europe start plants during the fall and winter in our our prickle or germination boxes, we typically utilise artificial light, as there simply is not enough sunlight to sustain optimal photosynthesis then. I must hasten to say that propagation can be done without the use of artificial light but for optimal growth, extra light is required. Gert Forum Petersen, a former member of the Danish chapter and an

Fig. 1: A seven-watt light bulb.

Fig 2: *R. molle* ssp. *japonicum* growth comparison five months after seed sowing. LED trial to the right, fluorescent tube trial to the left.

Fig. 3: *R. forestii* ssp. *forestii* growth comparison five months after seed sowing. LED trial to the left, fluorescent tube trial to the right.



Fig, 4: *R. molle* ssp. *japonicum* root growth comparison five months after seed sowing. Top plant under LED, lower plant under fluorescent tubes.

ARS Silver Medal Awardee, considered the use of artificial light using fluorescent lamps in the *RhodoNyt* and, among other things, about the frequencies of light that plants use for photosynthesis. Daylight consists of a spectrum of different wavelengths, from short wavelength violet-blue to long wavelength red. Not all light wavelengths are essential for plant growth, as this is influenced by the types of pigments present in plant leaves. The red and blue parts of the spectrum are especially important. Light wavelengths are measured in nanometers (nm) and red light (620-720 nm) triggers hormones in plants that increase flowering and budding, but plants cannot grow with red light alone. Red light stimulates flowering and foliage growth, but too much red light will cause a plant to become spindly.

Blue light (400-450 nm) regulates the rate of a plant's growth and many plant responses, including stomata opening and phototropism. A plant's moisture loss is

primarily influenced by stomata and blue light controls stomata behavior (openings on or beneath the surface of the leaves that control the rate of gas and water exchange), and thus the amount of water a plant retains or expels. Phototropism is the definition of a plant's response to light; the stems grow up toward the light and the roots grow down, away from the light. Blue light thus helps determine the compactness plants, although it should be emphasized that optimum light conditions varies with plant species.

Fig. 5: A 0.5 m^2 homemade lamp fixture of 30 watts (see text for components).

The lamps we have successfully used to date also give light in wavelengths that plants do not need. LED lights allows us to select and assemble the light wavelength ranges that are most important for plant growth. General research (http://www.easygrowled.com/Info.aspx, http://www.bbbled.com/news/41.html, http://www.newenergyresearch.net/growing_plants_with_leds.php) suggests that the ideal average balance for most plant growth is 92% red and 8% blue LEDs. However, the optimal wavelength distribution for rhododendrons is not available and probably varies from species to species. This is where I, as a curious amateur, began to test and try out various LED combinations. First I bought a pair of seven watt LED fixtures containing seven light sources of one watt each: four red (620 nm) and three blue (460 nm). This light was applied to one of two identical plantings of rhododendron seeds, with the second batch being illuminated by an 18 watt fluorescent tube (warm white 830; digit "8" is the Colour Rendering, and "30" is the colour temperature = 3000 K). Lamp height above the medium was adjusted to make a 2800 lumen brightness for both plantings. The trial was in progress, and the results after five months are reported here!

[**Editor's note:** Of the two primary types of high-intensity discharge (HID) lamps, metal halides have a more balanced spectrum, while sodiums emit more light energy in the yellow/orange/red region of the spectrum. Sodiums last longer and are somewhat more efficient when measured in "lumens per watt." However, controversy has arisen over the use of lumens as a measure for plant lighting efficiency. This is because the lumen (the flow of light equal to the amount of flow from a uniform point source of one candle) takes into account the human eye's sensitivity curve. Because plants respond to both visible and invisible light, other units of measurement such as micromoles (**µ**mol/m^2/s) or par value (photosynthetically active radiation) might be more accurate units of measurement when referring to greenhouse crops. http://www.hydrofarm.com/resources/articles/sodium_or_metalhalide.php. The author recognises this, and stated "the par value (PAR) is more accurate. The best would be to measure the different wavelengths individually. Unfortunately the devices to do this are far to expensive for me—$US 3200."]

My initial observations suggested that germination with LED lights was faster and better. However, given the seedling's reddish leaves, there was perhaps too low a light intensity. The roots looked fine and were more developed than with the the plants under fluorescent light. The plants have now been transferred into growing medium, and I am following further growth characteristics.

I will also be testing the LED lights on both cuttings and graftings, and will experiment further on the desirable composition of the light. I have recently bought LED light fixtures with 165 red and 65 blue LEDs, each of 0.06 watt. I also have a couple of homemade lamps, and there are endless variation possibilities when building your own LED fixtures. My newest creations are made with 30 one-watt diodes: 20 one-watt 660 nm reds, four one-watt 610-630 nm reds, and six one-watt 450-455 nm royal blues. The diodes are mounted on a 0.5 m^2 sheet of aluminum to prevent overheating. My hope is to achieve a 40-50% power saving.

Mikkel Jørgensen is a member of the Danish chapter.

***R. taliense*: Subgenus Hymenanthes, Sect. Ponticum, Subsect. Taliensia Group C (leaves lanceolate/oblanceolate)**

R. taliense (epithet: from Tali Range, Yunnan) was discovered by the Abbé Delavay in 1887 in west Yunnan above Tali (now called Dali). It was introduced into cultivation in 1910 by Forrest, with later introductions by Forrest, Rock and McLaren. It grows in rocky situations at elevations of 3050-3660 m (10,000-12,000 ft) and the main features of the species are the thick woolly, brown, continuous bistrate indumentum on the underside of the leaves and long, ribbon-like branches. In cultivation it is a compact, rounded or spreading shrub, up to about 1.5 m (5 ft) wide and high, well-filled with dark-green foliage. The plant is hardy and has creamy-yellow, white, or white suffused with rose flowers produced freely in trusses of 8-19.

It is not common in cultivation, but is a favourite in my garden on Vancouver Island, BC, Canada, where it flowers in late March/April, making it a choice rhododendron. It exudes a pleasant scent on a warm day. It has not been used much in hybridizing, but www.hirsutum.info lists an unregistered cross with *R. lacteum.*

References

H.H. Davidian. (1989) *The Rhododendron Species Vol 1: Elepidotes, Part 1 – Arboreum-Lacteum.*

J.F.J. McQuire and M.L.A. Robinson. 2009. *Pocket Guide to Rhododendron Species.*

www.hirsutum.info

Bibliography of A Rhododendron Library - Part I

An annotated bibliography of books and literature on the discovery and geographic distributions –
Past and Present - of the genus Rhododendron, *Entries 1-18*

Clive Justice, Vancouver, BC, Canada

[Editor's note: This is the first part of Clive Justice's bibliography of his rhododendron library, with his comments of the content of each entry, which has been gifted to the University of BC Botanical Garden in Vancouver, BC, Canada. It will be published in its entirety over subsequent *JARS* issues.]

The physiography, prenology, botanical classification and nomenclature of both wild and cultivated species, their affinities and hybrids with the biographies of the women and men who discovered, collected seed, hybridized, photographed, exhibited, named or registered these flowering, broad leaved evergreen and deciduous plants; who introduced them into our gardens and landscapes of the cool and warm temperate zones of the world.

1. American Rhododendron Society (ARS), Collens, D., Editor. *The Rhododendron Yearbook for 1945*. Binford and Mort, Portland Oregon. *ex libris* Jock Brydon.

ARS, Gatke, R.M., Editor. *The Rhododendron Yearbook for 1947.* Binford and Mort, Portland, Oregon

ARS, Gatke, R.M., Editor. *The Rhododendron Yearbook for 1948*. Binford and Mort, Portland Oregon.

ARS, Gatke, R.M., Editor. *The Rhododendron Yearbook for 1949*. Binford and Mort, Portland, Oregon

[All four of these first ARS yearbooks have short contributions by English, American and New Zealand pioneer rhododendron (Rh) enthusiasts and experts with reprints of The Rhododendron Association (UK) *Yearbook for 1939* list of English named hybrids and Royal Horticultural Society (RHS) Stud Books. Also included the results of the first and second Rh cut truss shows held in 1945 and 1947, at Portland, Oregon. These yearbooks evolved into the ARS *Quarterly Bulletin* beginning in 1947. ARS membership Roster and Articles of Incorporation as an Oregon charitable corporation the officers and the members are included, also coloured and B&W illustrations]

2. Anon. *The Royal Botanic Gardens, Kew, Illustrated Guide*. Her Majesty Stationery Office (HMSO), 1961 **[Visitor guide to the gardens.]**

3. Argent, G. *Rhododendrons of the Subgenus Vireya.* The Royal Horticultural Society and Royal Botanic Garden Edinburgh, RHS, London, England. 2006. **[All members of this subgenus are described, pictured (col) with place found in the wild and the finder.]**

4. Argent, Chamberlain, Fairweather, Hyman & Walker. *The Genus Rhododendron, its classification and synomy*. KBG, Edinburgh, 1996. **[The most recent botanical classification.]**

5. Argent, G., Lamb, A., Phillips, A. & Collenette, S. *Rhododendrons of Sabah*. Saba Parks Publication #8, Kota Kinabalu, Sabah, Malaysia, 1988 **[Pictures in colour of the Rh found on Mt. Kinabalu in Borneo.]**

6. Ball, Cadwalader, Dryer, Opera, Taylor and Walker. *The Rhododendrons of Milner Gardens and Woodland*. Qualicum Beach, Vancouver Island, B C. ARS, 2000 **[Rh species and hybrids (col) growing in the garden.]**

7. Barrett, C. *History of the Rhododendron Species Foundation. Genesis of a Botanical Garden*. Positive Attitude Publishers, Eugene, Ore. 1994. **[The rocky history of the RSF garden prior to Steve Hootman's tenure.]**

8. Biswas, Dr. K. *Plants of Darjeeling and the Sikkim Himalayas.* Supt. Government Printing, Alipore, West Bengal, Indian, 1966, **[Rh and other flora of Sikkim and West Bengal included, and pictured in coloured lithography. Inscribed to the writer from Britt Smith, Kent, Washington.]**

9. Bowers, C.G. *Rhododendrons & Azaleas, Their Origin, Cultivation & Development*.

The Macmillan Company, New York, First 1935 & 1960 Second editions. **[The first thorough and scientific treatment of the genus. There are 28 elegant coloured plates by Franck Taylor Bowers of American species and English hybrids of American species parentage. in the volume The 1960 2nd edit., signed by the author Clement C. Bowers and Jas. B. (Joe) Gable.]**

10. Bretschnieder, E. *History of European Botanical Discoveries in China*, (Facsimile reprint of the original 1898 edition). Zentral Antiquariat dir Deutchan Democratischen Republic, Leipzig, 2 vols, 1962, without the original maps. **[The first listings of the plant and Rh discoveries in China by both known and obscure 19th century Europeans explorers and collectors. Compiled by the then Austrian Director of the St Petersburg Botanical Gardens.]**

11. Brown, J. *Tales of the Rose Tree Ravishing Rhododendrons and their Travels Around the World.* Harper Collins, 2004. **[My Review: I once wrote that David Leach's book *Rhododendrons of the World* was the most complete of all in every aspect of the botanical/horticultural history of the rhododendron as a garden plant and so I thought that was all there was to it. However when I read *Tales of the Rose Tree,* I came onto a whole new dimension in Brown's connections with the rhododendrons stories she relates. Brown makes it personal, imbuing a rhododendron species with persona that relate to people, not places; for instance *R. catawbience*. Most literature on this William Bartram discovery and introduction to England via Quaker nurseryman, Collison, give the Latin name derivation of the Rosebay as coming from the South Carolina river, the Catawba. This is considered to be the more scientific, relating it to a fixed already named geographic or topographic feature close by where it was first found. Brown is not a scientist, she's a historian. She finds another source, equally valid but a more people-related derivation; the native Indian tribe, the Catawbas. That was in the 18th century, in the 19th century Victorian science trumped, as she relates, when John Ruskin failed to have his beloved "rubied crests of Alpin roses" named *Aurora alpinum.* It lost all its personality to Linnean Latin and the hand-lens in *R. ferrigineum* (rust coloured hairs on the leave's undersides). So also went Sir Joseph Bank's Nova Scotia's *Rhodora,* promoted to *R. canadensis*; a botanical province not a country.**

She recounts an interesting and plausible explanation of why the rhododendron never made it into the Chinese culture. The Chinese favoured four seasonal flowers: plum (spring), peony (summer), bamboo (autumn) and chrysanthemum (winter). These plants are the products of cultivation with the whole history of China evolving around wet and lowland agriculture. No place for rhododendrons! The Chinese never tamed the rhododendron,

so it remained confined to the far distant, uncultivatable, high mountains, a part of wild nature. When we visited sacred Mt. Omei (Emei shan) in 1981 as part of the First Canadian Botanical delegation, botanical science, "Taxonomic Tinkering" I called it, had again triumphed over my fascination with plants bearing the *Davidii* epithet that honoured the Lazarist Basque priest Pere Armand David. I was shattered. It occurred when we met Dr. Fang. He showed us around the Chengdu Herbarium at Sichuan University that held his botanical collection of Mt. Omei rhododendrons. Eager to see his herbarium sheets of *R. davidii,* ("not believed to be in cultivation"–RHS Yearbook, 1956), I discovered to my dismay that there was a white sticker on the sheet among the Chinese characters signifying "*glandular fruit rhododendron*" with a hand written notation "*a subs-species of Rh. discolor,*" and a signature by David Chamberlain, Royal Edinburgh Botanical Gardens.

The Chinese botanists having adopted the western Linnean binomial system of nomenclature with botanical descriptions in Latin that described the 20 rhododendrons found on Mt. Omei by Dr Fang and printed in his *Icones Plantarum Omeiensium* in 1942, then under his direction to figure and name in Latin, describe in Chinese all 285 rhododendron species that they found to occur in China. Subsequently the Chinese descriptions of these 285 species have been translated into English by Judy Young and Dr. Lu-sheng Chong, and each species is figured and described in ARS/RSF sponsored book, *Rhododendrons of China*, Binford and Mort, Portland, 1980.

Because of the world's greatest number of rhododendron species being concentrated in the mountainous areas of western China, the ethnocentric (no more than their English, European or American counterparts in fact), Chinese botanists, have postulated the concept that because of this concentration, China is, in Darwinian wording, "the origin of the species" and the center of the rhododendron world. Then over millions of years they have spread to all other parts of the world. This theory was supported in part by August E. Kehr (1914-2001), who wrote in the Preface to *Rhododendrons of China*: "China is undoubtably the center of the origin of the genus as exemplified by the large numbers of polyploid species found there…In general polyploidy in natural species is an indication of relatively recent origin because diploid plants are basically derived from ancestral diploids…or lower ploidy types."

According to another theory, this time proposed by two Canadians, the very reverse may be the case, and that over the millennia the rhododendrons have sought refuge and retreated into a habitat and climate more suitable. What has gone unnoticed, Ted Irving, a retired geophysicist and R. Hebda, botanist with the Royal BC Museum, wrote that the "Extreme Relief and heavy rainfall" of the area in China where the vast majority of the rhododendron

species now occur is a sequestered refuge, not a centre of outward movement. This area of Western China where the species are concentrated, stretches across ten north-south mountain ranges of summit ridges with peaks above 3000 m (9840 ft) and seven or more steep-sided river gorges, the Yangtze, Yalong, Mekong, Salween and subsidiary rivers flowing into these major ones. Irving and Hebda claim that rhododendrons, with a 50 million year history of being on this earth, have "finally by the drift of continents, the rise of mountains when they collide, along with successive climate changes and ice ages over these millennia, been pushed into habitats of small isolated communities of species in deep isolated river valleys. For the first part of the 50 million years, rhododendrons occurred in large contiguous populations in north America and Eurasia, so there was little speciation. With isolation and separation in small communities came rapid speciation of these 'founder populations,' as favourable genetic modifications spread much more rapidly in small compact populations than through large diffuse ones over a wide area."

For me, who has spent some 50 years collecting the stories reading, researching and recording the rhododendron legacy in the English garden, I was eager to read Jane Brown's *The Tales of the Rose Tree.* I was not disappointed for her tales brought an intimacy with the participants: a different memory recall, and remembrance interpretation. However, readers who are not familiar with or have little interest in the rhododendron story but who simply love the flower may find the detail confusing.]

12. Cadwalader, M. *In Veronica's Garden*. Madrona Book and Publishing, Qualicum, B.C. 2002. **[Sympathetic story of Veronica Milner, Irish Aristocrat and English Royal's related second wife of Edmonton industrialist Roy Milner, and her garden at the Milner summer home.]**

13. Clarke, H., Editor. *Rhododendrons*, ARS, Portland, 1956. [**Early American hybrids with descrip-tion of plant, parents and ARS hybridizer with ARS award system if given.]**

14. Clarke, H. *Getting Started With Rhododendrons and Azaleas*. Doubleday & Company, New York, 1960. [**One of the best on the horticulture of genus for the home garden. A small book of 15 chapters in three parts: Part One: Rhododendrons and Azaleas - their origins, uses and special requirements; Part Two: Methods of Culture, Fertilizing, and Pest Control; Part Three: Species and Varieties for Garden Use.]**

15. Clarke, H., Editor. *Rhododendrons for Your Garden.* ARS, Portland, Ore., 1961.

[Longtime ARS Editor's book on rhodo hybrids and species suitable for Pacific West Coast climates.]

16. Chong, Dr. L.-S. and Young, J., editor & translator, ARS & RSF. *The Rhododendrons of China.* Binford & Mort, Portland, Oregon, 1980. [**Each rhododendron species, its description and key translated into English text, Latin name and discoverer from Vol III of ICONGRAPHICA CORMOPHYTORUM SINICORUM, Beijing Botanical Research Institute of Academia Sinica. Each species is drawn in B&W with stamen, pistil and leaf underside as detail, with name in Chinese characters, English text and common name in English.]**

17. Coats, A.M. *Flowers and Their Histories.* Adam and Charles Black, London, 1968. **[Includes a section on Rhs but is mostly about annual and perennial herbaceous plants & bulbs.]**

R. spinuliferum

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Newly Registered Rhododendron Cultivar Names

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

The following rhododendron and azalea names were approved and added to the International Rhododendron Register before June 1, 2013, by the Royal Horticultural Society, which serves as the International Cultivar Registration Authority for the genus *Rhododendron*. (Information on the registration process follows the descriptions of cultivars.)

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

(a) 'Antoinette Martin'
Evergreen azalea: 'Festive' (s) X 'Satellite' (Klupenger). H (1997), G (1999), REG (2013): Joseph Klimavicz, Vienna, VA. N (2013): Toni Burnham & Sam Visner, Washington, DC. Flrs 2/terminal, broad funnel, 1.38 inches (35mm) long x 2.75 inches (70mm) wide with 5 wavy lobes. Bud: deep red (60A), with some white and deep purplish pink (58D) striping. Inside of corolla: white on sides of each lobe, with

deep purplish pink (58D) central stripe extending from center of lobe to the edge at end of lobes, roughly one-third the width of the lobe, and a deep red (60A) throat at base extending in the upper three lobes as wide rays almost to the margins, irregularly centered within the above-cited pink central stripe and forming a prominent rayed blotch; some deep red (60A) flecks irregularly positioned. Outside of corolla: deep red (60A) with deep purplish pink stripes from center of each lobe to edge; sides of lobes white. Calyx: 0.4 inch (10 mm), strong yellow green (144B). Lvs 1.57 x 0.87 inches (40 x 22mm), elliptic, cuneate base, broadly acute apex, flat margin, moderate olive green (146A) above, semiglossy. Shrub 1.5 x 1.5 feet (0.46 x 0.46m) in 5 years; dense habit. Plant and bud hardy to 5°F (-15°C). Flowering early (April in northern Virginia). Etymology of name: named for the late Antoinette Martin, a fine gardener in Washington, DC, and a friend of the namers, who won naming rights in a benefit auction for the National Institutes of Health Children's Inn in Bethesda, MD.

'Antoinette Martin'. Photo by Joseph Klimavicz.

(a) 'Bob Stewart'

Evergreen azalea: ('CB-1'* x 'Elsie Lee') (s) X 'James Stewart'. H (2001), G (2003), N (2013), REG (2013): Joseph Klimavicz, Vienna, VA. Flrs 2-3/terminal, saucer,

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double, 1.38 inches (35mm) long x 2.75 inches (70mm) wide with 16-18 wavy lobes (outer corolla with 5 lobes). Bud: deep purplish pink (72D). Inside of flower: deep purplish pink (72D) fading to very pale purple (73D) toward center with strong purplish red (59D) blotch spotting. Occasional deformed stamens and pistil, but not petaloid. Outside: deep purplish pink (72D). Calyx: 0.4 inch (10mm), strong yellow green (144B). Lvs 1.6 x 0.8 inches (40 x 20mm), elliptic, cuneate base, broadly acute apex, flat margin, moderate olive green (147A) above, semiglossy. Shrub 1.5 x 1.5 feet (0.46 x 0.46m) in 5 years; dense habit. Plant and bud hardy to 5°F (-15°C). Flowering early (April in northern Virginia). Easily propagated by cuttings. Etymology of name: named after Robert Stewart, azalea hybridizer and friend of Joseph Klimavicz.

'Bob Stewart'. Photo by Joseph Klimavicz.

* Not registered. (The cultivar was among seedlings discarded by the University of Maryland's breeding program in the 1990s, acquired by William "Cliff" Brown and shared with Robert Stewart, who assigned the number. The seed parent in this registration was hybridized by Joe Klimavicz, who designated it CL-95-81.)

(a) 'Cape Fear Gold'

Deciduous azalea: *R. austrinum* (s) X *R. calendulaceum* (see note). H (1978), G (1982), N (2013), REG (2013): Lonnie M. Player, Fayetteville, NC. Flrs 7-11/single bud, 1-4 buds/ball truss. Tubular, 1.75 inches (44mm) long x 1.5 inches (38mm) wide with 5 wavy lobes, moderately scented. Bud: vivid yellow (15A). Inside: vivid yellow (16A) with strong orange yellow (17A) blotch covering almost all of upper lobe. Outside: light orange yellow (16B). Calyx: 0.04 inch (1mm), moderate yellow green (146C). Pistil and stamens extend 1.5 inches (38mm) beyond flower. Lvs 2 x 0.75 inches (50 x 19mm), elliptic, cuneate base, broadly acute apex, flat margin, strong yellow green (144A) above, matte. Shrub 8 x 8 feet (2.4 x 2.4m) in 15 years; intermediate habit. Plant and bud hardy to -5°F (-21°C); very heat tolerant. Flowering in April in Fayetteville, NC. Etymology of name: named for the Cape Fear River, in whose valley the hybridizer/registrant lives. Note: seed parent grown from seed collected at

Cape Fear Gold'. Photo by Lonnie M. Player.

Brookgreen Gardens, SC; pollen collected midslope on Roan Mountain, NC.

(a) 'Doctor Douglas J. Fraser Junior'

'Doctor Douglas J. Fraser Junior'. . Photo by Robert Stewart.

Evergreen azalea: 'Mrs. Nancy Dipple' (s) X 'Satellite' (Klupenger). H (1997), G (1999), N (2012), REG (2013): Robert Stewart, Springfield, Va. Flrs 2/terminal, broad funnel, double, 1 inch (25mm) long x 3 inches (76mm) wide with 20 frilly lobes. Buds: strong reddish purple (72C). Inside of flower: strong reddish purple (72C) with strong purplish red spots (67A) on lower portion of upper lobes. Outside of flower: strong reddish purple (72C). Calyx: 0.38 inch (10mm), strong yellow green (141D). Lvs 2.25 x 1 inches (57 x 25mm), elliptic, cuneate base, broadly acute apex, upcurved margins, moderate olive green (137A) above, semiglossy. Shrub 3 x 3 feet (0.9 x 0.9m) in 10 years; intermediate habit. Plant and bud hardy to 0°F (-18°C). Flowering midseason (mid-May in Washington, DC). Etymology of name: named for the ophthalmologist of the hybridizer/registrant.

(r) 'Howard J'

'Howard J'. Photo by Heritage Museums and Gardens (Lutz).

Elepidote rhododendron: unknown parentage. H (1960s): John C. Cowles, Stow, MA; G (1960s), REG (2013): Heritage Museums and Gardens, Sandwich, MA; N (2012): David W. McGraw. Flrs 12/lax truss, open funnel, 2 inches (50mm) long x 2.6 inches (65mm) wide with 5 wavy lobes. Bud: vivid purplish red (61C). Inside of corolla: pale orange yellow (159B) at base of corolla and center of each lobe, blending to strong purplish red (63B) at margins; brownish orange to moderate orange yellow (164A-164B) twin rays on upper three lobes, extending 25mm from base; stamens rudimentary. Outside of corolla: vivid purplish red to deep purplish pink (61C-61D). Truss 4.1 inches (105mm) high x 7.1 inches (180mm) wide. Lvs 3.5 x 1.5 inches (90 x 38mm), elliptic, rounded base, broadly acute apex, flat margins, dark yellowish green (139A) above, semiglossy. Shrub 6.6 feet (2m) high x 8.2 feet (2.5m) wide in 25 years; intermediate habit, lvs held 2 years. Plant hardy to -10°F (-23°C), bud hardy to -5°F

(-21°C). Flowering late season, floriferous. Etymology of name: named after Howard J. McGlynn, father-in-law of David McGraw, member of the Heritage Museums and Garden Board of trustees.

(r) 'Lois Blackmore'


'Lois Blackmore'. Photo by Jim Barlup.

Elepidote rhododendron: 'Fantastica' (s) X 'Rocky Point'. H (1996), G (2001), N (2012), REG (2013): Jim Barlup, Bellevue, WA. Flrs 15/ball truss, broad funnel, 1.75 inches (44mm) long x 3 inches (76mm) wide with 6 frilly lobes. Buds: strong purplish red (60D). Inside of corolla: yellowish white (155D) with pale yellow green (4D) rib veins on all lobes, light greenish yellow (4C) on upper portion of upper lobe; moderate red flare (182A) on upper lobe extending 1.37 inches (35mm) from base. Exterior of corolla: yellowish white (155D) blending to pale purplish pink (65C) on upper lobe 1.25 inch (32mm) from base; pale yellow green (4D) rib veins on all lobes. Truss 5.5 inches (140mm) high x 6 inches (152mm) wide. Lvs 4.75 x 2.13 inches (120 x 54mm), elliptic, rounded base, broadly acute apex, flat margins, moderate olive green (147A) above, semiglossy. Shrub 5 feet (1.5m) high x 6.5 feet (2m) wide in 16 years; intermediate habit, lvs held 2 years. Plant hardy to 0°F (-18°C). Flowering midseason. Etymology of name: A friend of the hybridizer/registrant.

(a) 'Marie Susan Melkovitz'


'Marie Susan Melkovitz'. Photo by Robert Stewart.

Evergreen azalea: 'Mrs. Nancy Dipple' (s) X 'Satellite' (Klupenger). H (1997), G (1999), REG (2103): Robert Stewart, Springfield, Va. N (2012): Rick & Susan Bauer, Yorktown, Va. Flrs 2/terminal, open funnel, hose-in-hose, 2.25 inches (57mm) long x 2.75 inches (70mm) wide with 5 plus 5 wavy lobes. Buds: deep purplish pink (73A). Inside of corolla: deep purplish pink (73A) with strong purplish red spotted blotch on upper lobe. Outside of corolla: deep purplish pink (73A). Lvs 2.25 x 0.88 inches (57 x 22mm), elliptic, cuneate base, broadly acute apex, upcurved margins, moderate olive green (137A) above, semiglossy. Shrub 3 feet (0.9m) high x 4.5 feet (1.4m) wide in 10 years; dense habit. Plant and bud hardy to 0°F

(-18°C). Flowering midseason. Etymology of name: named in honor of the mother of Susan Bauer (naming rights acquired in an auction by the Northern Virginia Chapter, American Azalea Society).

(r) 'Mary Margaret Haugen'


"Mary Margaret Haugen'. Photo by Frank Fujioka.

Elepidote rhododendron: 'Seaview Sunset' (s) X ('Elya' x [*R. degronianum ssp. yakushimanum* x 'C.I.S.']). H (1997), G (2000), REG (2013): Frank Fujioka, Freeland, WA. N (2013): Several friends of Mary Margaret Haugen, Coupeville, WA. I (2013): Meerkerk Gardens, Greenbank, WA. Flrs 18/dome truss, funnel campanulate, 2 inches (50mm) long x 2.5 inches (64mm) wide with 5 flat-margin lobes. Bud: vivid red (45C). Inside: pale yellowish pink (27C) with a deep yellowish pink (43C) 0.25-inch (6mm) picotee-like band on all lobes and a few deep yellowish pink (43C) spots on upper lobe. Outside: vivid reddish orange (44C). Calyx: 1.5 inches (38mm), vivid reddish orange (44C) with pale yellowish pink stripes. Truss 6 inches (152mm) high x 5 inches (127mm) wide. Lvs 4 x 2 inches (100 x 50mm), elliptic, cuneate base, acute apex, downcurved margin, dark bluish green (131A) above, semiglossy. Underside indumentum: hairs, moderate yellow (162A) when young,

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moderate orange yellow (164C) when mature. Shrub 3 x 3 feet (0.9 x 0.9m) in 10 years; dense habit, lvs held 2 years; grows in full sun and flowers last 3 weeks in Puget Sound, WA. Plant and bud hardy to 10°F (-12°C). Flowering midseason (April in Puget Sound). Etymology of name: Named in honor of a 10-term (1993-2013) member of the Washington state Senate.

(a) 'Phil Louer'


"Phil Louer'. Photo by Robert Stewart.

Evergreen azalea: 'Desiree' (s) X 'Painted Tips'. H (1996), G (1998), REG (2013): Robert Stewart, Springfield, Va. N (2012): Leslie & David Nanney, Springfield, Va. Flrs 2/terminal, broad funnel, hose-in-hose, 1.5 inches (38mm) long x 2.25 inches (57mm) wide with 5 plus 5 wavy lobes. Bud: strong purplish red (67A). Inside of corolla: strong purplish red (67A) with moderate purplish red spotting on upper lobe. Outside of corolla: strong purplish red (67A). Lvs 1.25 x 0.62 inches (32 x 16mm), elliptic, cuneate base, broadly acute apex, upcurved margins, dark yellow green (139A) above, semiglossy. Shrub 2 feet (0.6m) high x 3.5 feet (1.1m) wide in 10 years; dense habit. Plant and bud hardy to 0°F (-18°C). Flowering midseason. Etymology of name: In recognition of Phil Louer's long service to the Northern Virginia Chapter of the American Azalea Society (naming rights acquired in a chapter auction).



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(r) 'Rita May'

"Rita May'. Photo by Photo by Heritage Museums and Gardens (Lutz).

Elepidote rhododendron: Unknown parentage. H (c. 1970): John C. Cowles, Stow, MA; G (mid-1970s), REG (2013): Heritage Museums and Gardens, Sandwich, MA; N (2011): David W. McGraw; I (1988): Briarwood Gardens, East Sandwich, MA. Flrs 10/ball truss, broad funnel, 2 inches (50mm) long x 3.1 inches (80mm) wide with 6-7 wavy lobes. Bud: strong purplish red (63A). Inside of corolla: pale purplish pink (62D) blending to deep purplish pink (66C) toward margins; pale greenish yellow (1D) twin rays extending 10mm from base of upper lobe; moderate purplish red (70A) stigma. Outside of corolla: vivid purplish red (57D). Truss 5.1 x 5.1 inches (130 x 130mm). Lvs 5.9 x 2.4 inches (150 x 60mm), elliptic, rounded base, obtuse apex, flat margins, moderate olive green (137A) above, matte. Shrub 13 x 13 feet (4 x 4m) in 45 years; intermediate habit, lvs held 2 years. Plant hardy to -10°F (-23°C), bud hardy to -5°F (-21°C). Flowering midseason, floriferous. Etymology of name: Named after Rita May McGlynn, mother-in-law of David McGraw, member of the Heritage Museums and Gardens Board of trustees. (Note: limited previous propagation as Briarwood 508-69.)

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(r) 'Thea Ann'

'Thea Ann'. Photo by Photo by Heritage Museums and Gardens (Lutz).

Elepidote rhododendron: Parentage unknown H (c. 1970): John C. Cowles, Stow, MA; G (mid-1970s), REG (2013): Heritage Museums and Gardens, Sandwich, MA; N (2011): James and Thea Ann Stoneman. Flrs 6-7/lax truss, broad funnel, 2.6 inches (65mm) long x 3.9 inches (100mm) wide with 6-7 wavy lobes. Bud: light purplish pink (62C). Inside of corolla: greenish white (155C); 2 to 4 rays of deep pink (180D) spots on upper three lobes, extending from base one-third the length of the lobe; greenish white (155C) petaloid stamens mixed with stamens, 0.5 inch (13mm) long; moderate yellow green stigma and style. Outside of corolla: greenish white (155C), with light purplish pink (62C) vein stripes. Insignificant calyx. Truss 5.1 x 5.1 inches (130 x 130mm). Lvs 5.5 x 2.4 inches (140 x 60mm), Elliptic, rounded base, broadly acute apex, upcurved margins, moderate yellow green (137C) above, semiglossy. Shrub 4.9 x 4.9 feet (1.5 x 1.5m) in 12 years; intermediate habit, lvs held 2 years. Plant hardy to -10°F (-23°C), bud hardy to -5°F (-21°C). Flowering late season, floriferous. Etymology of name: named after Thea Ann Stoneman, friend and supporter of Heritage Museums and Gardens. (Note: limited previous propagation under the name 'Main Street'.)

References

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

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All others: Please direct inquiries to Alan C. Leslie, International Rhododendron Registrar.

Jim Barlup's Newly Registered Cultivar Names: Published in the Spring 2013 Issue

Photos by Jim Barlup

'Carol's Candy'. Description on page 108, *JARS* Spring 2013.

'Champagne Lace'. Description on page 108, *JARS* Spring 2013.

'Copper Canyon'. Description on page 109, *JARS* Spring 2013.

'Fancy That'. Description on page 109, *JARS* Spring 2013.

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Jim Barlup's Newly Registered Cultivar Names (Continued from page 101.)

Farewell Bend'. Description on page 109, *JARS* Spring 2013.

'Ivory Dream'. Description on page 109, *JARS* Spring 2013.

'Frosted Lemon'. Description on page 109, *JARS* Spring 2013.

Judy's Choice'. Description on page 110, *JARS* Spring 2013.

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'Lady Bug'. Description on page 110, *JARS* Spring 2013.

'Lemon Prelude'. Description on page 109, *JARS* Spring 2013.

"Orange Amber'. Description on page 111, *JARS* Spring 2013.

'Patricia Hansen'. Description on page 111, *JARS* Spring 2013.

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'Sandstone'. Description on page 111, *JARS* Spring 2013.

'Summer Sunrise'. Description on page 111, *JARS* Spring 2013.

'Tangerine Charm'. Description on page 112, *JARS* Spring 2013.

'Violet Magic'. Description on page 112, *JARS* Spring 2013.

'White Ginger'. Description on page 112, *JARS* Spring 2013.

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3

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Current assets:		
Cash and cash equivalents	$ 23,008	$ 22,587
Money markets accounts	86,373	209,879
Accounts receivable- Chapters	2,000	3,684
Inventories	1,302	2,117
Prepaid expenses	-	250
Investments in Mutual Funds	780,010	640,111
Total Current Assets	892,693	878,628
Property and equipment:		
Office equipment	15,240	15,240
Less: Accumulated depreciation	15,134	13,779
Net Property and Equipment	106	1,461
Total Assets	$ 892,799	$ 880,089

LIABILITIES and NET ASSETS

Current liabilities:		
Accounts payable	$ 1,159	$ 1,159
Accounts payable - Chapters	7,065	-
Deferred dues 2011 - 2020	37,038	38,220
Total Current Liabilities	45,262	39,379
Net Assets:		
Unrestricted - General Fund	(28,173)	10,807
Unrestricted - Designated Life Member Fund	113,010	104,858
Unrestricted - Designated Endowment Fund	528,335	494,100
Unrestricted - Designated Seed Exchange Fund	25,611	25,364
Total Unrestricted Net Assets	638,783	635,129
Temporarily Restricted - RDC Start-Up Fund	7,117	7,117
Total Temporarily restricted Net Assets	7,117	7,117
Permanently Restricted - Endowment Publications	102,417	102,417
Permanently Restricted - Endowment Other	99,220	96,047
Total Permanently Restricted Net Assets	201,637	198,464
Total Net Assets	847,537	840,710
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Errata: The *R. decorum* description in JARS 67 on P 113 was modified from Sean Rafferty's note in the Fraser South Chapter's October 2012 newsletter "The Yak". This acknowledgement should have been published with the description. The same format was used for the *R. coriaceum* description on P 98, with species details from H.H. Davidian's (1989) *The Rhododendron Species Vol 1: Elepidotes, Part 1 – Arboreum-Lacteum*; J.F.J. McQuire and M.L.A. Robinson's (2009) Pocket Guide to Rhododendron Species; and with reference to www.hirsutum.info.

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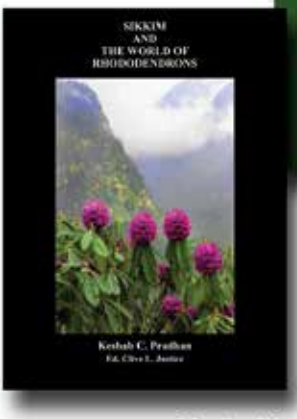

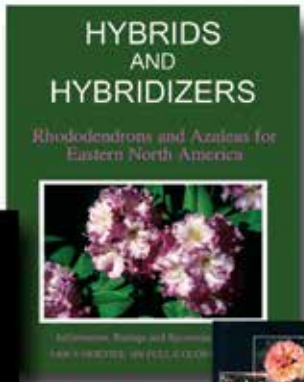

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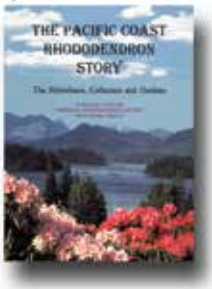

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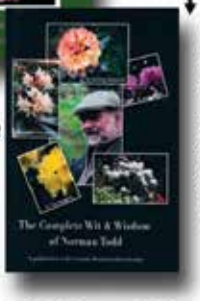

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