Cowichan Valley Rhododendron Society

Newsletter

Volume 23:8 Editor: Ian Efford November 2012

President's Message

This last month has been very active. Ken and Madeleine Webb hosted the propagation workshop at their home attended by 38 enthusiasts from the island and lower mainland as well as Dennis Bottemiller from the Rhododendron Species Botanic Garden. Eight members of CVRS were there. It was a most interesting learning experience and everyone came away with a new plant. In addition, attendees were allowed to take cuttings from the Webb's garden and plant them in their propagator.

The following day a large number of people gather at Calvin Parsons' house in Esquimalt to begin the planning of the ARS Conference in May 2015. This conference will be held in the Victoria area, probably Sydney, and is expected to attract 600-1,000 participants. One of the issues discussed at the meeting was the concept that the conference would be a "District 1" conference rather than a Victoria RS conference although most of the work would inevitably be carried out by the members of the Victoria chapter. If it were a district conference then each local chapter would be asked to take on a specific task. At the conference in Nanaimo, CVRS took on the role of organizer of the silent auction and raffle. Other chapters undertook to raise plants for the plant sale and to organize the bus tours, etc. A particular advantage to the district concept is that any profits would be shared between the participating chapters. As some conferences are very profitable, this becomes an attractive proposition! Your suggestions as to how we might help should be made to any member of our executive.

It is most important that everyone pays their dues as soon as possible as we must submit the ARS proportion to head office in November! The annual dues are $38 and they can be paid to Marie Jacques at the next meeting or sent to our mail box by post.

In this Issue

Coming Events

November 7
Garth Wedemire:
"Rhododendrons and Azaleas in North Carolina"

December 5
The Christmas Dinner

The Cowichan Valley Rhododendron Society
A Chapter of the American Rhododendron Society
P.O. Box 904, Duncan, British Columbia, V9L 3Y3 http://cowichan.rhodos.ca

The dues this year remain unchanged and are subsidized by the chapter but it may be necessary to raise them next year. I should note that, as of this autumn, there is a new category of membership for students which costs $10. It will allow the student to access the bulletin on line but they will not receive a hard copy. If you know of an interested student, please let me know.

I hope to see you all at Garth Wedermire's talk on Wednesday, November 7th. Have a happy Halloween.

Ian E. Efford

Naturally Germination

It is quite rare for rhododendrons in our area to germinate in the garden. This seems to be largely a result of the dry conditions during much of the summer with the result that there is a lack of a moss-covered area below the plants. Joyce Gammie has had germination in her Chemainus garden and writes:

> *"A few years ago I noticed some seedlings under my Nancy Evans plant. I transplanted them to an area of my garden where I could keep an eye on them. This year two of them are blooming for the first time. One is in bloom now [May] and it is a pale yellow, smaller florets than Nancy Evans but with the large calyx. The other one is still in bud but starting to show colour that looks much like Nancy Evans. I don't know if it is a common occurrence to have Rhododendrons self- seed in this area but I find it quite fascinating.*
>
> *Another exciting event - the R. roxieanum oreonastes that I planted 12 years ago bloomed this year for the first time."*

Another example of self-seeding was seen during our bus tour to Richard and Heather Mossakowski review by Sandra Stevenson in the October issue of the newsletter. We were all impressed by this lovely cliff-side garden with a large number of mature rhododendrons in flower. What I found even more interesting was the enormous number of seedlings growing in the moss under many of the plants. I assume that this garden is located where there is a lot of rain, shade and also cloud that hangs around at the same altitude as the garden. The combination would provide continuous moist giving rise to the moss layer and ideal conditions for rhododendron germination.

Nancy Evans - photographed by Joyce Gammie

Does anyone else have seedlings under their plants?

Ian E. Efford

Visiting Rhododendron Lake with Rainforest Tours

June Strandberg

During recent years, Rainforest Tours has led a one day trip to visit Rhododendron Lake just north of Nanaimo to search for interesting plants and observe the bird life. These tours are taken by small groups of ten to twelve dedicated naturalists. You can only go up on weekends due to active logging. The roads are typical rough, logging roads and you need to know the way – road signs are few and far between. The last part of the road is the worst. It has not been used for logging for a long time and is in a rough, bumpy shape. On a recent visit, we met only two people who had tried to go to the lake the weekend before but lost the way and consequently missed the best of the rhododendrons. On another visit, we saw one lone fisherman on the lake and met two people in a truck going down as we came up. This was the couple who helped us with the tree across the road.

On this year's trip there was no log across the road and no elk sightings either but lots of flowers and birds. Since it was somewhat damp we ate our bag lunch in the bus before we set out – we had to navigate a few muddy patches on our way down the trail. I managed to put my foot in a deep peaty hole in the middle of a little trail and got a very wet and dirty shoe.

There are big trees, peat and lichen all over the place and lots of bird life. Common plants included Cornus canadensis (Bunchberry),*Oxycoccus microcarpus* (Dwarf Bog Cranberry) and, as always, we took a good look at the Hemlock Witches Broom. We also saw *Myrica gale* (Sweet Gale) and lots of *Kalmia polifolia* but we were too late to see it in flower. The birds were the best part of this year's trip, first on the way up, a group of Tanagers, one of which posed very nicely for the photographer. The highlight was an albino Northern Flicker and his/her normal coloured mate. They were first seen across the lake and eventually flew to our side and sat in a snag so we got a little closer view. Also spotted was a MacGillvray's Warbler and Nighthawks flapping away high in the sky.

We almost missed the pink *Rhododendron macrophyllum* this year - it being an earlier season than we had expected. They only grow on one side of the lake, not a large area but I am not sure how large as the trails are in very poor shape and overgrown. I think once the path went all the way to the other side of the lake but it got too rough for us to go far. *R. groenlandicum* (Labrador Tea – white) was in full bloom and making a great show and we did manage to find a few pink flowers of *R.macrophyllum* to photograph. Lots of pink and white ones grow around the little clearing at the bottom of the trail down from the road and they seem to like being over-grow and overcrowded in the shrubbery and look as healthy as I have ever seen them - which still means most of them are somewhat scraggy! I did manage to find one tiny shoot that I thought might be a seedling. We were looking for these as we wondered how the rhododendrons managed to survive and seed in such dense bush. *Gaultheria shallon* (Salal) grows thick as well as all the other things.
I hope this little lake and its surrounding peat-loving inhabitants survive for a very long time. It is a beautiful spot.

Rainforest charge $45 per person - including tax and include a portable toilet!!

Ed. This is a revised version of an article in The Crevice ed Valerie Melanson #9:1, July 2012.

Rhododendron Lake

Photographs taken by: Barbara Kulla, Gary Murdock of Rainforest, and June Strandberg

Western Tanager

R. macrophyllum

R. groenlandicum

Photos from the Nanaimo Conference

The Nanaimo conference was and excellent way to meet some of the experts from across North America as was attended by all of the officers of ARS. CVRS was represented by quite a number of attendees. In particular Bill Dumont played a major role by organizing the silent auction and raffle. He amassed over 60 prizes and displayed them in a very attractive way with the help of Joe Hudak.

During the banquet, Susan Lightburn circulated through the room taking photographs. Here are three.

Garth Wedermire being presented with the silver medal of the ARS by Mary Parker, the Director for District 1, and Ken Webb, the Alternate Director. Note: Garth will be our speaker in November.

Ian Efford at the dinner with Kathryn Grant [left] from the Nanaimo RS and Kim Sleno a guest from the North Island RS.

Alan Campbell, seen here with Sandy Dorman from the Nanaimo RS and Madeleine Webb from the Victoria RS and CVRS

Photos by Susan Lightburn

Ed. This article is reprinted here as microrrhysal fungi are so important to the well-being of rhododendrons and other Ericaceae.

Mycorrhiza Primer (excerpt) . .

Ted St.John, Ph.D.

Most plant species form a symbiosis (mutually advantageous living arrangement) with beneficial fungi. The roots are colonized by the fungus, which also ramifies through the soil. The combination of root and fungus is called mycorrhiza. Mycorrhiza is considered such a fundamental part of the plant that most species could not survive in nature without it. The few plants that do not need mycorrhiza (mostly weeds) are considered to be departures from the normal state of the plant kingdom.

Mycorrhizas are fundamental to the ecosystem function: the sum of energy flow and mineral cycling processes that characterize a natural com-munity and allocate the resources that maintain it. It hardly states the case to say that mycorrhizas are important to the ecosystem function. It is much more accurate to say that mycorrhizas are ecosystem function.

It is important to understand what mycorrhizal fungi are not. These are not the organisms that fix nitrogen (make atmospheric nitrogen available to plants) in association with legumes (those are bacteria of the genus *Rhizobium*). Mycorrhizal fungi do not fix nitrogen at all; in most cases what they do for the individual plant is aid in the uptake of phosphorus.

Native mycorrhizal fungi are present in healthy ecosystems, but are often destroyed by disturbance. They are always missing from freshly graded sites.

Ectomycorrhizal fungi enter the roots, where the hyphae (fungal filaments) pass between root cells. They do not enter the root cells, as do endomycorrhizal fungi. There is often a mantle (covering) of inter-woven fungal mycelium (mass of fungal filaments) on the surface of the finest roots, and an internal network, the Hartig net, that weaves between the cells in the root. The mantle is often visible to the unaided eye or by use of a hand lens. Ectomycorrhiza is found on many dominant forest trees and involves a 'higher' (often mushroom-forming) fungus. The term is abbreviated ECM or EM. Endomycorrhiza is not really a natural group; it simply refers to the fact that fungal hyphae enter the root cells. Under this name are the very dissimilar mycorrhizas of orchids, Ericaeae and relatives, and the largest group, the arbuscular (AM), or vesicular-arbuscular (VAM) type of mycorrhiza. This last group is so dominant in the plant kingdom that we might simplify the whole discussion by giving AM primary rights to the term endomycorrhiza. The less common types would then go by their own separate names. Growth response: The best known mycorrhizal effect is that mycorrhizal plants take up more soil phosphorus and grow faster than corresponding non-mycorrhizal control plants.

Soil with little inoculum selects against most natives and favors the plant species that do not need to become mycorrhizal early in life – these plants are better known as weeds.

Why Not Just Fertilize Instead of Inoculate?

Fertilization can produce large plants, but it often suppresses mycorrhiza formation. Fertilization lacks or even suppresses the other important benefits of mycorrhiza. Fertilization cannot increase plant species diversity; it tends to favor large individuals of the few most vigorous species. Fertilization does not make the site unfit for weeds, but instead gives them a nearly insurmountable competitive edge against native plants.

Fertilization does nothing to decrease root disease, favor beneficial bacteria, or improve soil structure, perhaps the most important effects of mycorrhiza in natural systems.

Determine Whether Your Plants Need to Be Mycorrhizal

Most plant species – probably 70% to 80% - are normally mycorrhizal in nature, and most of those are AM rather than some other kind. If in doubt, assume that your plants need to be AM. If your plant list contains few AM hosts, you should in most cases add some to the species list to be sure you gain the benefits of soil structure and favorable microbiology.

Consider a Mixture of Mycorrhizal Fungi

Several scientific studies have concluded that growth responses were improved with mixtures of fungi rather than single species. However, none of these studies has included a "wonder fungus" of the type sometimes isolated in large-scale screening projects. Glomus *intraradices* has turned up as a "wonder fungus" in several surveys, and field experience so far has shown it to be equal or superior to mixtures of other fungi. There is a concern that less effective fungi could dilute the propagules of the fungus that works best, perhaps decreasing its effectiveness. Even so, many researchers believe that mixtures of fungal species are preferable.

Specificity to soils: Mycorrhizal fungi are in general more specific to soil type than to host plant. Soil pH is the biggest selective factor, but soil texture and organic matter may also influence the suitability of the soil for particular fungi. The fungi commonly available as commercial inocula tend to have wide tolerance ranges. *Glomus intraradices*, the most widely available species, is suitable for soils from about pH 6 to 9. Another widely available fungus, G. etunicatum, is at its best in the acid range. Plant diversity depends to some extent upon fungal species diversity. There may be a benefit to some rare plant species of having particular fungi that grow at the right time of the year or produce some other specific effect. Until we know exactly how the effects are produced, the only way to include such fungi would be in quality topsoil from the native habitat of the rare plant species. What is very clear, from every study that has done the tests, is that inoculation is greatly superior to no inoculation, with differences between fungal species forming a secondary effect.

Use Mycorrhizal Inoculum Correctly

Root zone: One of the most important points is that endomycorrhizal inoculum must be placed in the soil, where new roots will grow through it. Colonization will succeed only if the fungi are properly placed and if the roots are healthy and growing. ECM spores are better able to penetrate the soil due to their small size.

As a living material, mycorrhizal inoculum is susceptible to environmental stress. It is important not to allow the inoculum to sit in the sun or expose it to freezing temperatures. The life span of mycorrhizal spores, as given in the scientific literature, is in the neighborhood of 6 months to a year. Certain kinds of carriers appear to provide protection, and in good storage conditions, with the original production vessel kept intact, inoculum in calcined clay (the same material often used for cat litter) has retained its viability for two or more years.

If the inoculum is laid down in lines, the lines should be about a foot apart. When growing from root to root, the fungi spread between ½ and 1 meter per year. Soil animals may move it somewhat faster. Container plants may be inoculated at the time of planting, either by adding a small amount of bulk inoculum to the root zone or by dropping in a biodegradable 'teabag' package. Mycorrhiza is a natural part of the soil and a part of plant nutrient uptake. The fungi are the dominant soil microorganisms, and soil biology depends heavily upon the presence, density, and types of mycorrhi-zal fungi. However, mycorrhizal fungi cannot make it rain, cannot decompact a fill slope, cannot compensate for planting out of season, and cannot make up for gardening methods that are otherwise very poor. Here are some of the claims that should raise a red flag:

Plants show dramatic growth increases within a few days: Mycorrhizal growth responses are slow to develop; a rapid response would have come from fertilizer in the inoculum.

Growth response in spinach, broccoli, or other non-host: plants known to be non-hosts are good tests of fertilizer or other non-mycorrhizal factor in the inoculum.

Very low propagule counts: propagule and spore counts vary from as low as two to several hundred per cubic centimeter of inoculum. Be aware that the cost of the material should reflect the propagule density. Make sure labels clearly state density.

This article has been quoted from The B.C. Council of Garden Clubs Bulletin www.bcgardenclubs.com September/October 2012.

The full publication can be found at: http://green-diamond-biological.com/wp-content/uploads/2012/03/Mycorrhiza-Primer.pdf

R. auriculatum

In the September issue of the Yak, the newsletter of the South Fraser RS, Bill Bischcoff writes:

"A couple of weeks ago Carla and I, together with our granddaughter, visited the Glades. The occasion was my donation of some Cyclamen tubers. Carla took some photos of *R. auriculatum*, the pink form. I have also attached some pictures of our *R. auriculatum*, the white form. It bloomed rather sparingly this year. Still the flowers were appreciated so late in the season."

All pictures were taken by Carla Bischoff.

Get Ready … Photographic Contest

Start thinking about your participation in the HO HO Rhodo Photo Contest at our annual Christmas Party on December 7.

The rules are simple, dig through those thousands of coloured Rhododendron photos that you have on your computer and pick the two best ones. Print them yourself or send them to your favourite Photo processing place like Peacocks, London Drugs or Walmart and to be printed in 8x10in or 9x12in format.

Next bring them to the Christmas party along with 4 (yes, four) quarters and you might just end the evening much wealthier than when you arrived!! The only rule is that there must be a rhodo somewhere in the photo; if you know it's name so much the better but not necessary and oh yes, it does not have to be in bloom. So you can even go out and shoot a few photos now.

Put your name on the back of the photographs as some un-named ones were left behind last year.

Sharon Tillie

Cowichan Valley Rhododendron Society
Programme 2012-2013

7:30 pm at St John's Anglican Church
163 First St, Duncan, BC V9L 1R1
(1St and Jubilee)

September 5	By popular demand, the evening will be devoted to a panel answering members questions about any aspect of rhododendron cultivation, hybridization, etc. Bring your questions, leaves that appear to have problems, etc.
October 3	Carmen Varcoe will present a talk on Bhutan, which is located in the centre of the natural distribution of rhododendrons.
November 7	Garth Wedemire will present "Rhododendrons and Azaleas in North Carolina"
December 5	The Christmas dinner.
January 9	Ian E. Efford "Exploring New Zealand Gardens" a presentation to the Cowichan Valley Garden Club. The Garden Club welcomes all CVRS members who wish to attend this talk.
February 6	TBA
March 6	TBA
April 3	TBA
May 4	Garden Fair (10 – 2)
May 6	TBA

2012-2013
Executive

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