Potomac Valley Chapter

American Rhododendron Society

www.arspvc.org

Early Spring Newsletter: March 2019

Potomac Valley Chapter Calendar – 2019 *(Some dates not confirmed)*

- **March 31, 2019 –** Joint Meeting with NV-ASA, Charlie Andrews speaks
- **April 17, 2019 –** Pennsylvania Nursery Trip
- **May 4, 2019 –** PVC Flower Show/Plant Sale, Annapolis, MD
- **May 15-19, 2019 –** ARS Convention, Philadelphia, PA
- **June 10-21, 2019 –** Tentative Mountain Hikes - Roan Mountain, etc.
- **July 27, 2019 –** Tentative Workshop, Potomac Community Center

Chapter Officers
President: Ginny Mohr
rngmohr@msn.com
Secretary: Diane Reinke
Isabelle49@aol.com
Treasurer: Phyllis Rittman
prittman@erols.com

Next Meeting: Charles R. Andrews III
"American Azalea Natural Hybrids"
Date: Sunday, March 31, 2019
Time: 1:00 PM – 4:00 PM
Where: Kirkwood Presbyterian Church
8336 Carrleigh Pkwy, Springfield, VA 22152

Be sure to come to our next meeting which will be a joint gathering with the Northern Virginia Chapter ASA. We have a very entertaining speaker Charlie Andrews from Cumming, GA. Charlie is past president of the Azalea Chapter ARS and current vice president of the Azalea Society of America. He will be giving a new talk he developed for the keynote address in Chattanooga last fall at the ARS Regional Meeting.

Charlie's talk is titled "American Azalea Natural Hybrids." Those of us who admire the wealth of native azaleas we find in the Eastern United States are amazed at the diversity we see in the wild. The flowers are always beautiful but it is often hard to identify the species. Charlie has been studying them for 35 years and is one of the true experts.

Botanists have grouped our native azaleas into 17 species but these plants seem to be in a state of flux as they continue to hybridize with one another. Divisions are not always clear. Charlie has some innovative thoughts backed up by years of studies in the field. Illustrated by many beautiful photographs, he will help us see that some species categories may be too broad and others too specific. Why do some hybridize with one another and others do not? Charlie is working on a new book about our native azaleas and this will be a brief preview of his work.

As you will undoubtedly discover, Charlie is a Renaissance man. Professionally, he was a retired systems analyst and project manager but he has wide ranging interests including history, genealogy, art, and horticulture. He actively supports the Lions Club and his church. He grows a wide range of plant materials, and of course, native azaleas do rank among his top three passions in life. The other two are his wife of 49 years, Mardi, and trout fishing.

Charlie Andrews Admiring a Native Azalea

Plant Exchange: We will have a plant exchange at our meeting, so bring an extra plant or two from your garden to exchange with others. Great fun!

Refreshment Duty: We ask members whose last names are in the second third of the alphabet (**I – P**) to bring a snack for the refreshment table.

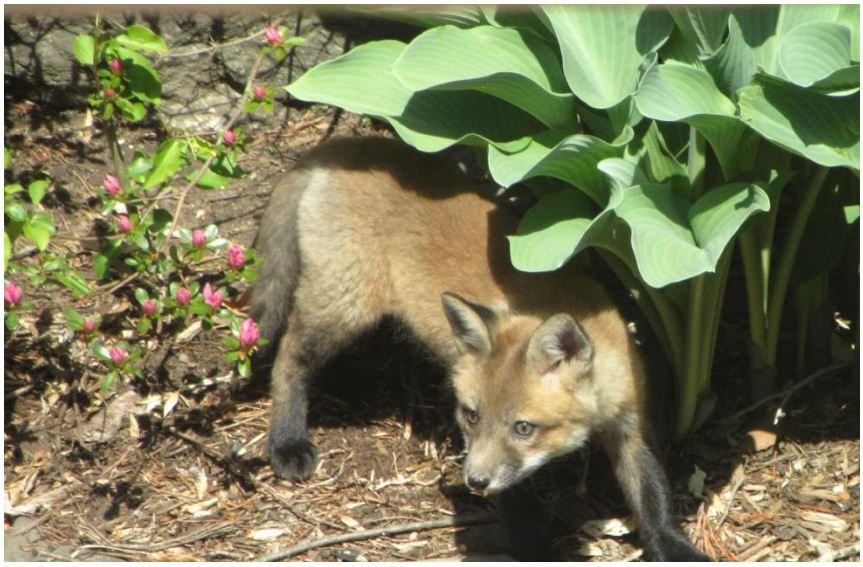
Directions: Kirkwood Presbyterian Church
8336 Carrleigh Pkwy, Springfield, VA 22152

From the Cabin John Bridge in Maryland

1. **Travel south on I-495 to I-95 South** (15 mi.)
2. **Take the exit toward I-95 South** (Keep to the far right and do not get on I-95)
3. **Take Exit 169B to Old Keen Mill Road VA-644 W/Springfield** (drive 3 mi.)
4. **Turn Right on Carrleigh Parkway**
5. **Church is on Left** (8336 Carrleigh Pkwy)

2019 Photography Contest Winners

Once again we had some spectacular photos in this year's contest. Congratulations to Dan Neckel whose photo pictured to the right titled "Fox and Azalea" took Best in Contest.



Category III: Other – 1st Place *and* Best in Show
"Fox and Azalea" – Dan Neckel

Category III: Other – 2nd Place
"The Old Mill" – Rosa McWhorter

Category I: Flowers – 2nd Place
"R. insigne" – Don Hyatt

Category I: Flowers – 1st Place
"Frieda's Benjamin" – William Miller III

Category II: Scenery – 1st Place
"Old Mill, North Little Rock" – William Miller III

Category II: Scenery – 2nd Place
"Peaceful" – Bob McWhorter

Some Other Contest Entries

Category II - Miller

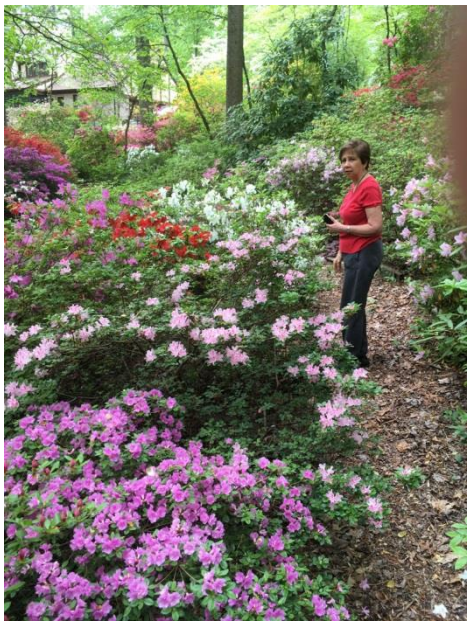
Category II - McWhorter

Category III - Neckel

Category III - Miller

Category I - McWhorter

Category I - Miller



Category II - McWhorter

Category III - McWhorter

Category III - Neckel

Category I - McWhorter

Category III - Hyatt

Category I - Unknown

Native Azaleas and Genetics *by Don Hyatt*

As a former teacher, I often reviewed with my students some of the basic concepts that might be used in an upcoming lecture. That way, they were usually better able to appreciate some of the more subtle nuances in the discussion. When Charlie Andrews visits us later this month, he will be talking about natural hybrids between our native azalea species. It seems appropriate to talk about some simple plant genetics involved before he comes.

Genes, Chromosomes, and DNA

The basic unit of inheritance is a gene, and each gene controls some characteristic that may be found in a plant or animal. In humans, there are about 20,000 genes. They control single traits but can work in concert with other genes to produce the complex organisms we are. A child will get one set of genes from each parent. With plants, one set of genes comes from pollen source (male) and the other set is in the unfertilized seed (female).

With two genes for each trait, both can be the same but they can also be different. If different, one of those genes is usually dominant over the other. A good example of gene dominance is the human trait for eye color (blue vs. brown). Dr. Hans Eiberg, a geneticist from Denmark, discovered that gene. He is also a rhododendron expert who won an ARS Gold Medal last year. Brown eye color is dominant over blue eyes so whether a child gets the brown eye genes from both parents, or brown from one parent and blue from the other, the child will have brown eyes. To have blue eyes, the child must get a gene for blue eye color from both parents. Some gene mutations can cause health problems like hemophilia or susceptibility to breast cancer.

Many characteristics are controlled by multiple genes, such as in the case of rhododendrons flower color. Color inheritance in deciduous azalea flowers is not well known but there has been research with evergreen azaleas. Scientists identified six gene pairs that controlled azalea flower color. The gene for purple flower pigment is dominant over its counterpart, coral color. Other genes can change that purple to lavender, red-purple, or carmine.

For an azalea to be white, it must carry two recessive genes that stop all pigment production. White azaleas may still carry genes for purple or coral that are not expressed which can surprise a hybridizer. Joe Gable used the hardy purple azalea *R. poukhanense* in his breeding and it took him 17 years to produce his hardy white, 'Rose Greeley'.

Making a Cross: Pollen from a stamen is put on the pistil

Genes are found inside the nucleus of every cell on structures called chromosomes. Humans have only 23 pairs of chromosomes. Rhododendrons typically have 26 pairs of chromosomes but some species have twice that number, or 52 chromosomes.

Chromosomes contain DNA, an elegantly simple molecule composed of four base chemicals that pair up in a double helix structure. The pattern of those simple base pairs encodes every gene in every living organism. Most of the DNA found in people will be identical because those instructions are used to cause a cell to develop into a human. We are not all that different. However, there will be some minor differences that are unique to every individual and that fact can be used to positively identify a suspect in a crime scene, or determine a person's ancestry.

Plant chromosomes contain DNA also, and it is amazing how similar it is to the basic structure in human DNA. However, the patterns of those four bases will obviously be much different since they tell a cell to become an plant rather than a person.

Naturally, inheritance is more complex than described here. There is additional DNA that may be present in other cell structures that are not part of the chromosomes. Those characteristics will be passed along from the female parent to the child regardless of the genes provided by the male parent. Yes, moms are really important in so many ways!

Polyploidy and Sterility

Most organisms have two sets of chromosomes, one from each parent, and are called "diploid" where the prefix "di" means "two" and the "ploid" refers to chromosomes. Some plants can have more than two copies of every chromosome and they are called "polyploids" (poly = many).

The most common polyploids in plants are those with four sets of chromosomes. They are called "tetraploids" (tetra = four). With twice as many

Tetraploids like *R. calendulaceum* can have larger flowers

genes, that usually results in larger cell sizes, larger blooms, and heavier textured flowers.

Most of our 17 native azalea species are diploid except for four species. The natural tetraploids are *R. calendulaceum*, *R. austrinum*, *R. atlanticum*, and *R. colemanii*. There is one other tetraploid deciduous azalea species, *R. luteum*, native to the Caucasus.

Tetraploid plants are often valued in farming due to their robust nature and larger cell size. Most of the potatoes and peanuts we eat are tetraploids, and so are Macintosh apples. Polyploidy in the animal kingdom is extremely rare and usually fatal.

Crosses between tetraploid plants work well since seedlings get two sets of chromosomes from each parent. However, hybridizers have discovered problems when crossing tetraploids with diploids. If a cross is made, the seedlings end up with three sets of chromosomes, two from one parent and one from the other. Those plants are "triploids" (tri = three) since they now have three sets of chromosomes. Triploids are often very attractive but chromosomes don't divide up properly when making pollen or ovules so they are usually sterile… no seeds!

Sterile triploids can be advantageous in certain crops. The commercial bananas we eat are triploids and we can be thankful the fruit is not filled with seeds. Seedless watermelons are triploids, too

Sally and John Perkins of the Massachusetts Chapter ARS who spoke to our chapter several years ago have been studying polyploidy in azaleas and rhododendrons for many years. They have shown that tetraploid pollen will usually produce viable seed on a diploid plant, but the reverse is not always true. Tetraploids usually reject diploid pollen.

As I am sure Charlie will point out, our native azalea species are a promiscuous lot. They will try to cross with whatever is around and that can cause some amazing natural hybrids. There are exceptions like the species *R. vaseyi*. It doesn't want to cross with any of the other native azalea species.

As with all things, there are exceptions. Triploids should be sterile but that is not always the case. They sometimes produce unreduced gametes in pollen that may cross with azaleas of different ploidy levels. That may lead to tetraploids, pentaploids (5) or hexaploids (6) and might even allow triploids to pass tetraploid genes back to a stable diploid line.

With so much rampant hybridization, we do have problems saying that any azalea is a "pure" species. Our native azaleas are crossing and evolving as we speak, so extensive DNA studies will be needed before we can fully understand their relationships.

A "hybrid swarm" is a group of azaleas that have been crossing with one another and have produced plants that often look different from all the original species. One swarm is on top of Gregory Bald in the Great Smoky Mountains National Park. There are four species on that mountain and at least three of them have been crossing with one another. The active species are the diploids *R. arborescens* (white), *R. cumberlandense* (orange-red), and *R. viscosum* (white). Most of the azaleas on that 30 acres look like *cumberlandense* but we have found hybrids in shades of red, pink, orange, yellow, white, and multi-color blends. All hybrids tested to date are diploids which is why *R. calendulaceum*, the fourth species, is an unlikely parent in that swarm.

Charlie Andrews has a native azalea hybrid swarm on a large tract of land he owns in northern Georgia. The three original species are *R. canescens* (pink), *R. arborescens* (white) and *R. calendulaceum* (orange). They have also been crossing with one another and have produced an array of colorful azaleas he calls the Hurricane Creek Hybrids. There are many triploids and tetraploids in that population so obviously *calendulaceum* is a major player.

Special thanks to Charlie Andrews for input he provided on this piece. Join us for his talk to see the wonderful plants he has discovered in the wild. Maybe you will come under their spell, too.

Pink and Yellow Triploid Hurricane Creek Hybrid: HC 053
Photo: C. Andrews

Hurricane Creek: Below are some of the azaleas growing along Hurricane Creek in northern Georgia. The three primary species are shown below as well as some of the other azaleas seen on the property.

Primary Species

R. canescens (diploid)

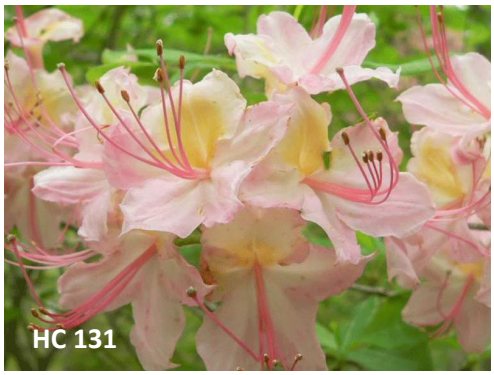
R. calendulaceum (tetraploid)

R. arborescens (diploid)

Hurricane Creek Azaleas (photos by Charles Andrews)

Triploid Hybrids These triploids likely came from *R. calendulaceum* crossing onto one of the other diploid species.

Tetraploid Hybrids These are tetraploids but not *R. calendulaceum.* The pink color must have come from another species.



Gregory Bald: Below are native azaleas that have developed on Gregory Bald in the Great Smoky Mountains National Park. There are four species on the bald, the three shown below that are diploids but also *R. calendulaceum* which is tetraploid. The hybrid tested so far seem to be diploid so *calendulaceum* may not be involved in the hybrids.

Primary Species

R. arborescens (diploid)

R. cumberlandense (diploid)

R. viscosum (diploid)

Gregory Bald Hybrids These are some of the azalea hybrids we have found on Gregory and the names we call them.

'Gregory Christmas Red'

'Gregory Fuchsia'

'Gregory Candy Stripe'

'Gregory Goldilocks'

'Gregory Melon Balls'

'Gregory Big Yellow'

'Gregory Blush'

'Gregory Bright Eyes'

'Gregory Kaleidoscope'

Pennsylvania Nursery Trip

Wednesday, April 17

We had a fun nursery trip to North Carolina in March. In April, some of us take another field trip to several Amish nurseries in Pennsylvania. They grow beautiful plants at good prices and they carry varieties we rarely see locally. We originally had April 11 as our target date but changed to April 17.

You can visit these places on your own but it is more fun to have outings with our plant friends. Below are the nurseries we intend to see and approximate times we expect to be there.

Let **Don Hyatt** know if you are coming so we can keep an eye out for you. Ask him for his cell phone number. He only uses when travelling.

Groff's Plant Farm: 9:30 – 11:45 AM
(travel time from I-495/I-95 in MD, 1 hr. 40 min)
6128 Street Rd., Kirkwood, PA 17536
717-529-3001
www.groffsplantfarm.com

Groff's sells annuals, perennials, wildflowers, hostas, and shrubs. They do not take credit cards so bring cash or your checkbook.

Conestoga Nursery: 12:30 PM – 2:30 PM
(travel time from Groffs, 50 minutes)
310 Reading Road, East Earl, PA 17519
717-445-4076

Conestoga Nursery is a smaller outlet that carries choice trees, dwarf conifers, and shrubs. They are closed on Tuesdays and Sundays.

Black Creek Greenhouses: 2:35 – 4:30 PM
(travel time from Conestoga, 5 minutes)
211 E. Black Creek Road, East Earl, PA 17519
717-445-5046

Black Creek Greenhouses offer an enormous selection of bedding plants, house plants, hanging baskets, and various other annuals and perennials. Their prices have been very reasonable.

Meals: We did not work in a time for lunch but there are options including fast food restaurants in East Earl or nearby New Holland, PA. Some of us prefer to take a sandwich or grab light lunch rather than waste too much time in the middle of the day. Then we can have an early dinner in East Earl before heading home. Just a few minutes away is the incredible Shady Maple Smorgasbord. Dinner hours are from 4 – 8 PM.

Shady Maple Smorgasbord
129 Toddy Dr, East Earl, PA 17519
www.shady-maple.com/smorgasbord

The Membership Roster followed this page but will not appear online.

Flower Show and Plant Sale

Saturday, May 4

Richard Bradshaw has invited us to use his place for our flower show and plant sale. His 100-acre Hidden View Farm is an excellent venue for that but we do have some limitations with traffic and parking. We will send out details later. We are looking for the cases of the green bottles we used in past flower shows. If you have some of them, please let us know. We will need assistance in setup and staging, too. If you can help, let us know.

ARS Convention in Philadelphia

May 15 - 19

Have you signed up for the convention yet? The deadline for registration is April 10 so don't delay. Check out the website: **www.ars2019.org**

Open House at White's Nursery

May 19 - 9:00AM to 5:00 PM, Rain or Shine

On your way home from the convention, don't forget to stop by Mike and Deb White's Nursery for their annual Open House. End of Season Prices!

22531 Wildcat Road, Germantown, MD 20876
www.whites-nursery.com

Barbara Bullock Will Be Retiring

We want to thank Barbara Bullock for the great job she has done as Curator of the Azalea Collection at the National Arboretum. She has been there for 29 years and recently announced that she will be retiring this summer. We wish her the very best.

Update on Gray Carter Memorial

We are making great progress at London Town Gardens on the memorial to Gray Carter. The Ben Morrison Chapter ASA has offered to share in the cost of a bench with our chapter. It will be ordered soon with installation in April. Several members have generously donated funds to purchase azaleas and rhododendrons for landscaping. We will let you know when a date is set for the dedication.

Mountain Hiking Trips

June 10 to 21 (tentative)

We anticipate our mountain hiking trips to be in mid June but we usually wait until we see whether spring will be early or late before we finalize plans. We want to go to the prettiest spots when they are in peak bloom. Stay tuned!

Potomac Valley Chapter ARS - Newsletter
Donald W. Hyatt, Editor
Don@donaldhyatt.com

Potomac Valley Chapter
of the
American Rhododendron Society

The Potomac Valley Chapter ARS is one of three American Rhododendron Society chapters located in District 9 which represents the Middle Atlantic region of the United States. Some of our chapter activities include:

- Regular Meetings with Speakers
- Annual Chapter Banquet
- Garden Tours
- Field Trips to Nurseries or to Wild Stands of Native Azaleas and Rhododendrons
- Local and National Seed Exchanges
- Plants for Members Program
- Flower Show
- Informative Chapter Newsletters
- Annual Photography Contest
- Access to Chapter Library Books

Our regular chapter meetings are usually held four times a year at the Potomac Community Center in Potomac, MD, on Sunday afternoons. However, we do hold occasional meetings at other locations in nearby Maryland, Virginia, or Washington, DC.

We encourage you to check out our chapter website which includes at least 16 years of previous newsletters that contain interesting articles, more color pictures, and examples of past activities:

www.arspvc.org

As a member of our local chapter you will also become a member at the national level of the American Rhododendron Society. This entitles you to a year's subscription of their outstanding quarterly **Journal** filled with information and many color pictures. You will also be invited to attend national conventions or regional conferences.

The cost of ARS membership is $40 per year and includes membership in a chapter of your choice, such as our Potomac Valley Chapter. If you are already a member of another ARS Chapter, you may join the Potomac Valley Chapter as an Associate Member for only $10 per year but you will need to identify your home chapter.

For more information about the American Rhododendron Society, check out the ARS website.

Membership Application
American Rhododendron Society

Name _____

Address_____

City/State_____

Zip/Country_____

Telephone_____

E-mail:

Memberships are on a calendar year basis and include the local chapter membership:

Individual/Family..……..... $40.00
Student (proof of age required)….....10.00
Commercial/Corporate……..……..…..90.00
Sustaining ……..……..……..….....75.00
Sponsoring……..……...…..…… 150.00
Life, single ……..……...…..…..1,000.00
Life, family……..…..……..1,500.00
Associate Membership*……..…….....10.00

**Associate Members must identify home chapter*

☐ I would like my "home" chapter to be the Potomac Valley Chapter

To join our chapter, send this form with payment to:

POTOMAC VALLEY CHAPTER ARS
PVC-ARS Chapter Treasurer

You may also send this form with US Funds payable to the national organization:

AMERICAN RHODODENDRON SOCIETY
P.O. Box 214
Great River, NY 11739

To pay online by credit card, follow the link to "Membership" on the ARS website:

www.rhododendron.org

More ARS National Contact Points:

Phone (631) 533-0375, Fax (866) 883-8019
Email: member@arsoffice.org