

Journal of the Azalea Society of America.

# President's Letter

Rick Bauer—Yorktown, Virginia

It's hard to believe we're at the end of another year. Unfortunately, it seems that the years go faster as I get older. This past weekend I read an interesting article in my local newspaper with the headline "Power of a sense of purpose." It discussed the longevity value of having a sense of purpose. The article touted the value of having a purpose and suggested that people should spend more time on activities they enjoy or use work skills in new way. This is not the first article I've read that espoused these suggestions.

Now why am I bringing this up in this President's Message? I believe that active participation in the society can have positive benefits for all of us. I have been impressed with the skill sets of many of our members. While some have spent their entire careers in horticulture related areas, many worked in other fields where their passion for azaleas (and plants in general) had to take a back seat. Now many are focusing on their passion for azaleas, while others are in support roles, using their work-related skills to further the goals of their chapters and the society. This benefits the individual as well as the organization.

Organizations also benefit from a "sense of purpose." I personally believe that your membership is enhanced by belonging to an active chapter which has a purpose for its existence. Active chapters have a robust program such as sponsoring talks on azalea related topics, propagating and selling azaleas to the public, or working in collaboration with local gardens to expose the public to some of our thousands of beautiful varieties. One structured way to have a sense of purpose is to actively participate in the "Legacy Project." This project was elevated to a society project at the Board of Director's meeting in Hammond. More information on the project is on our website and in an article in this edition of *The Azalean*. Participation in this project can provide a structure and purpose for your organization's activities.

We have many members who are in areas where we have insufficient numbers to support a full chapter. In these cases, I'd recommend affiliating with the closest chapter or another whose program might be of interest to you. In the Northern Virginia Chapter, we have encouraged at-large members from across the United States and Canada to affiliate with our chapter. We keep them in the loop on all chapter activities and have been pleasantly surprised as members from Canada, Georgia, North Carolina, Texas, and Arkansas have shown up at our events in the past!

The bottom line is that there are benefits, both to the individual and the organization, by actively participating in the society and its chapters. Step forward to take leadership roles. Learn more about various aspects of azaleas and teach a class. You will find that taking an active role will be beneficial to you and the society.

### For the Record

Barry Sperling took the photo of Jane Newman and edited the "In Memorium" text about her shown on page 62 in the Fall 2017 issue of The Azalean.

Correction needed on Vice President's name: Charlie Andrews' full name should have been shown as Charles R. Andrews, III, on pages 51 and 64 of the Fall 2017 issue.



The Azalea Society of America, organized December 9, 1977 and incorporated in the District of Columbia, is an educational and scientific non-profit association devoted to the culture, propagation, and appreciation of azaleas which are in the subgenera Tsutsusi and Pentanthera of the genus Rhododendron in the Heath family (Ericaceae).

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# In This Issue

NUMBER 4

WINTER 2017

### Features

76 The Legacy Project

**VOLUME 39** 

By Richard Bauer—Yorktown, Virginia

- 79 Azaleas in Arkansas! National Convention By Gerald Klingaman—Fayetteville, Arkansas
- 82 Water Transport in Azaleas: Who Will Be Left High and Dry?

By Sharon Danielson—Kirtland, Ohio

94 A Gardener's Guide to Native Azaleas By Charles Andrews III—Cumming, Georgia

## Society News

- 74 President's Letter
- 74 For the Record
- 85 ASA Seed Exchange By Lindy Johnson—Trade, Tennessee
- 86 The Annual 2017 Index
- 87 ASA Board Nominations
- 88 Navigating the New ASA Website By Paul Beck—Treasurer and Assistant Webmaster
- 89 "Tax Exempt" vs. "Public Charity" By Paul Beck—Oak Hill, Virginia
- 89 Renewal Time in Now!

By Paul Beck, Treasurer

90 Chapter News and New Members

### On the Cover

Begun in the 1990s, Larry Coleman's Batesville, Arkansas, garden shows the results of careful adaptation to site conditions: This photo shows how he used pockets in a steep hillside lot to create several water features and many planting sites for his azaleas and rhododendrons. Photo by Gerald Klingaman.



# The Legacy Project Update

By Richard Bauer—Yorktown, Virginia

Those of us in the Azalea Society of America (ASA) have a great appreciation for the beauty and variety of azaleas. While some are species, the vast majority of azaleas are hybrids, hybridized in the last century. As of this writing, in the ASA plant database, we currently have over 10,953 different varieties and 567 different hybrid groups. Some of these have been partially documented in books such as Fred Galle's *Azaleas*, while others have little to no coverage. Of even greater concern is that many of the varieties no longer exist, or exist in collections of which we are unaware, and may be on the road to extinction.

The question then becomes, is this an issue we should be concerned about, and if so, what should be done and who should do it? This question has been posed by others and efforts to address it have been initiated by a number of folks and organizations, both internal and external to the society. The Northern Virginia Chapter looked at the situation and brought together a multi-faceted program to address the issue. This program, the Legacy Project, brought together different initiatives under a single umbrella which included collection and recording of information on the various hybrids, identifying and propagating true copies of the hybrids, educating the public on the various beautiful hybrid varieties which exist, and introducing the hybrids to the public through plant sales and introduction of the hybrids to public and private gardens.

An initial article on the Legacy Project was in the 2013 Winter issue of *The Azalean*. At that time there were four hybrid groups in the project and it was managed solely within the Northern Virginia Chapter. Since that time, the ASA Board of Directors approved elevating the project to the national level at the 2017 Hammond Convention. The ASA website, which has undergone an incredible makeover, now features the project on its homepage. Steps are being taken to actively encourage public gardens to include these hybrids in their collections. Of greatest interest is the growth in the scope and participation level. The project currently has 14 hybrid groups sponsored by members in three society

▼ Photo 1—Klimavicz Hybrid 'Brenda Marie'



Hybrid Group	Legacy Lead	Chapter
Aromi	Sherrie Randall	Texas
Bowie Mill	Robert Thau	Texas
Glenn Dale	Ronnie Palmer	Northern Virginia
Harris	Robert Thau	Texas
Holly Springs	David Nanney	Northern Virginia
Huang	Ronnie Palmer	Northern Virginia
Klimavicz	Carolyn Beck	Northern Virginia
Linwood	Ronnie Palmer	Northern Virginia
Marshy Point	Donald Hyatt	Northern Virginia
McDonald	Rick Bauer	Northern Virginia
Sommerville	Ronnie Palmer	Northern Virginia
Stewart	Carolyn Beck	Northern Virginia
Strickland	Kevin McCorkle	Central Carolinas
Varnadoe	Kevin McCorkle	Central Carolinas

#### **Table 1: Current Legacy Leads**



▲ Photo 2—Strickland Hybrid 'Jenny Maphis'

▼ Photo 3—Strickland Hybrid 'Roberta Hardison'



chapters and eight different legacy leads as shown in Table 1.

Obviously there has been considerable activity since the original article on this project. The Northern Virginia Chapter continues to propagate and sell legacy hybrids at their plant sales and auctions. We have presentations at chapter meetings on the legacy hybrids as well as give presentations to other chapters and plant societies on legacy hybrids and the Legacy Project. We continue to gather photos and other artifacts associated with the hybrid groups for loading onto the Legacy Project website. We are currently in discussion with Meadowlark Gardens in McLean, Virginia, to establish a Legacy Garden with Klimavicz Hybrids (see Photo 1). Chapter members Roy and Elizabeth Cosby have been active planting legacy hybrids in their garden (now named the Lewis Ginter Nature Reserve), which they have given to Lewis Ginter Botanical Gardens in Richmond, Virginia.



▲ Photo 4—Aromi Hybrid 'Amelia Rose'

We are working with former ASA President Aaron Cook to establish Stewart and Klimavicz Legacy Gardens on the campus of Caldwell Community College and Technical Institute in Hudson, North Carolina. We have also entered into discussions with other public gardens for the purpose of establishing legacy gardens.

Kevin McCorkle from the Central Carolinas Chapter and others are actively involved in finding and propagating Strickland azaleas, many through using tissue culture (see Photos 2, 3.) Their efforts took on additional urgency when they discovered that many of the original stock plants are in rapid decline due to age and natural attrition. In working on the Strickland azaleas, Kevin happened upon the Varnadoe Hybrids. He has been working with Aaron Varnadoe's son David, whose house is on his father's land where the original hybridizing was done. David is excited about working with Kevin to identify, document, and propagate his father's cultivars (over 50, with around 12 having been named and only one currently in the trade).

Sherrie Randall from the Texas Chapter, with considerable assistance from Maarten van der Giessen, has taken the lead on the Aromi Hybrids by updating the Aromi Legacy webpage with photos, parentage and other documentation (see Photo 4). Also offering to assist is Amanda Wilkins of the Mobile Botanical Garden who will be providing cuttings for propagation of the hybrids. The Mobile Botanical Garden is home to a large number of Aromi Hybrids and will likely become an Aromi Legacy Garden.

Robert Thau has signed on to be the legacy lead on the Harris and Bowie Mill azaleas. He is working with other society members who are knowledgeable about these varieties to capture and load documentation on the Legacy Project website. Additionally, he is actively propagating the varieties and actively marketing them as well as other azalea varieties to other garden clubs in southeastern Texas.

The Legacy Project can be accessed on the ASA website by selecting "Legacy Project" from the menu at the top of



▲ Photo 5–Legacy Project Screen Shot from ASA website.

the page. You will then be shown a page containing all of the current Legacy Hybrid groups (see Photo 5).

The focal point of any legacy hybrid group is the legacy lead. This individual coordinates all of the activities associated with promoting and retaining the hybrid group. He/she is the gate keeper for hybrid information entered on the ASA website. The concept is to have a team working on maintaining the legacy of the specific hybrid groups. For example, members proficient in PowerPoint, and comfortable giving presentations, might prepare and present programs on the hybridizer and hybrid group (or multiple groups). Others who may be more interested in actual plant propagation might root cuttings and raise them for sale. The key is to tap into the various interests and skills of our members to promote the goals of the project. Future enhancements, dependent upon interest and skill set, could be to prepare presentations on the hybrid groups and film them for uploading to YouTube.

The full scope of Legacy Project activities is a suggested goal; however, any actions taken to further the legacy of a hybrid group are beneficial to the society and azaleas. One statement I frequently use is "Don't let what you can't do keep you from doing what you can."

While an interested member may become a legacy lead, chapters should consider supporting the efforts of their member legacy leads. The actions taken in the Legacy Project are supportive of the objectives and goals of the society, including, "The Society shall promote understanding and skills in the classification, hybridization, propagation, and culture of azaleas among all interested people." Sponsoring hybrid groups can also provide additional structure and purpose to chapter programs.

I'm assuming that most of us joined the society because of our love of azaleas. Active participation in the Legacy Project, in any role, will help promote and maintain our numerous azalea varieties for future generations. I encourage you to become involved. More information is available online at <u>https://www.azaleas.org/legacy-project/.</u>

Richard Bauer was elected ASA President in 2017. He and his wife Susan have been members of Northern Virginia Chapter since 2002. Rick served as the chapter vice president of the Northern Virginia Chapter for four years, chapter president for five years, and as an ASA director for two years. He was co-chair of the 2016 ASA/ARS Convention in Williamsburg, Virginia, and was a member of the team which digitized *The Azalean*. He retired from the US Army in 1994 after 20 years of active service and retired in 2011 from Science Applications International Corporation, where he helped develop software applications for US Army customers.

# **Azaleas in Arkansas!**

By Gerald Klingaman—Fayetteville, Arkansas

The 2018 ASA convention is being held in Little Rock, Arkansas, Thursday April 5 through Saturday April 7. Arkansas' ASA convention is being hosted by the Louisiana Chapter with help from the few members scattered here in Arkansas. Buddy Lee, Allen Owings, Janet Carson, Ronnie Palmer, Larry Coleman, Stan Brown, Gerald Klingaman, and Bob Stassen, president of the Ozark Chapter of the ARS, are the planning committee organizing the event. We invite you to come check out the azaleas here in "The Natural State" (Photo 1).

The Little Rock meeting will be held at the Airport Holiday Inn, 3201 Bankhead Drive in Little Rock. Preregistration packets will be available on Thursday afternoon, April 5. Except for the ASA Board meeting, scheduled for Thursday, April 5 from 1:00 until 4:00 p.m. at



▲ Photo 1—Ronnie Palmer (left) and Larry Coleman (right) are key members of 2018 ASA convention planning committee.

Ronnie Azaleas 101, a primer intended for Arkansas gardenersnan, and especially Arkansas Master Gardeners-is scheduled for Thursday 9:00 am until 3:00 pm at the Cooperative Extension Vite you Service auditorium. It is being organized by Allen Owings and Janet Carson, Arkansas' Master Gardener coordinator,

listed on the registration form.

and Janet Carson, Arkansas Master Gardener coordinator, and hopefully will spur interest among attendees in becoming ASA members. Enrollment is limited to 50 people, and it is anticipated most of these will join ASA members on the Friday and Saturday tours. Registration for the azalea workshop is being handled separately.

the Arkansas Cooperative Extension Service Headquarters,

2301 S. University Avenue, all events will be at the Airport

Holiday Inn. Contact information and prices for rooms are

Speakers will kick off on Thursday evening with Janet Carson giving an overview of Arkansas and the work she has done to build a strong statewide network of over 2000 Master Gardeners throughout the state. These volunteers support a diverse assortment of garden-related activities and help elevate the level of garden expertise throughout the state and region.

Charlie Andrews, current vice president of the ASA and president of the Azalea Chapter of the ARS, will be the keynote speaker, giving an overview of American native deciduous azaleas. Gerald Klingaman, Operations Director at the Botanical Garden of the Ozarks, will present an overview of azalea and *Rhododendron* distribution around the world and the geologic and climatological forces that left them scattered throughout the world. Stan Brown, a Clarksville, Arkansas-based plant breeder and nurseryman, will highlight some of the woody plant breeding efforts carried out in Arkansas during the past century (Photo 2).

The plant sale is being coordinated by Ronnie Palmer who will have an assortment of his Azalea Hill Nursery plants

▼ Photo 3—Huang 2-4-41 is one of the azaleas we hope to see in bloom at Ronnie Palmer's garden and nursery.





▼ Photo 2—'Angie' is an azalea developed by Stan Brown, nurseryman and plant breeder from Clarksville, Arkansas.



▲ Photo 4—The Garvan Pavilion, designed by the late architect E. Fay Jones, is one of the architectural gems of Garvan Woodland Gardens in Hot Springs.



▲ Photo 5—Garvan Woodland Gardens has over 180 kinds of azaleas that bloom throughout the spring blooming season.

available including Huang, Holly Springs, Linwood Hardy, Glenn Dale, North Tisbury, and other azaleas. Other plants will be provided by Robert Thau who propagates from the over 400 azalea clones he grows in East Texas, Buddy Lee of Encore fame, and possibly others. Stan Brown will make available some of this crape myrtle clones he has developed, and Bob Stassen will offer up some of the hyperthrum rhododendrons that do well in the South. Hopefully we will be able to include a couple of the clones selected by the late John Carden, a Fort Smith azalea grower whose material circulates in western Arkansas. Mitch Mortvedt, from Woodland Wonders Nursery at Gilbert, Arkansas, along the Buffalo National River, will have some of his deciduous azaleas available.

Friday and Saturday will be devoted to touring. Going south out of the state capitol, we will visit Ronnie and Donna Palmer's Azalea Hill Gardens and Nursery near White Hall. Ronnie and Donna have been growing and collecting azaleas since 1971. What began as a hobby has evolved into a collection that serves as the source of cuttings for their azalea nursery. They have specialized in evergreen azaleas that have done well in south-central Arkansas, including stalwart classes such as Glenn Dales, Back Acres, Satsukis,



▲ Photo 6—Larry Coleman Garden view in Batesville.

and less familiar groups including introductions by Robert Stewart, the Holly Spring lines, and the Huangs (Photo 3).

Garvan Woodland Garden is located six miles from Hot Springs National Park, a national treasure that has been protected as a National Preserve since 1832, with National Park designation granted in 1880. Garvan Woodland Garden is a 210-acre botanical garden sitting on a peninsula jutting into Lake Hamilton that began as a private garden in the 1950s but didn't open to the public until the end of the 20th century. In 1995, the Department of Landscape Architecture at the University of Arkansas was bequeathed the garden by Verna Cook Garvan with the stipulation they build a world class botanical garden. The garden is built in a mature woodland setting and contains architectural gems such as the award-winning Anthony Chapel and its accompanying bell tower, Garvan Pavilion, and a raft of elevated walkways and bridges that showcase the natural beauty of the site (Photo 4).

The gardens themselves are also stunning, especially in the spring when the over 100,000 tulips bloom and the collection of over 180 kinds of azaleas do their thing. They also have an extensive collection of mature Japanese maples, camellias, and other woodland plants. The four-acre



▲ Photo 7—The Old Mill in North Little Rock is one of the masterpieces created by Mexican artist Dionicio Rodriguez.

Garden of the Pine Winds showcases a wide array of Asian plants and has been voted as one of the best Asian gardens in America (Photo 5).

Private gardens won't be overlooked. Larry Coleman's garden in Batesville, Arkansas, was begun in the 1990s as a way to make use of the steep hillside that falls away from the back side of his house. Following a series of trails down the slope, he has added an impressive collection of rhododendrons, azaleas, and an assortment of other interesting plants that grow well in his Ozark garden. To date he has planted more than 600 azaleas, 300 rhododendrons, and around 100 Japanese maples. His waterfalls, ponds, and tea house anchor the garden at the base of the hillside. Though his sloping hillside is completely planted, he continues to add trails and plantings on the steep hillsides of his neighbors on either side of his property (Photo 6).

Ann Wood's garden in Searcy is a parklike space with a collection of mature trees and a small, but immaculately designed and maintained cottage garden. Her garden



changes with the seasons, showing a different face to visitors throughout the year.

The Old Mill, a North Little Rock gem, is part of a public park and housing development that began development in 1931. The mill was envisioned as a reminder of the waterpowered mills that once dotted the back country of Arkansas and were so pivotal in the state's development. Dionicio Rodriguez, a Mexican born concrete artist who did works from Maryland to New Mexico, was commissioned to build the mill. Using his special blend of artistry and craftmanship, he built the mill and surroundings completely from concrete. The project was completed in 1933 and was placed on the National Register of Historic Places in 1986 (Photo 7).

Those wishing to see more of Arkansas before or after the convention may consider some of the other state attractions. The William J. Clinton Presidential Library and Museum is just a few miles from our hotel and would make a good stop for the political junkie. I haven't been there in a while, so I don't know if the infamous blue dress is still on display.

The city of Hot Springs, Arkansas, with its iconic Bath House Row and horse races might be of interest. Not far from Hot Springs, Crater of Diamonds State Park near Murfreesboro presents a unique opportunity to prospect for diamonds in the remnants of an ancient volcano. Every year or two some sharp-eyed prospector will come across a stone large enough to make the news.

Going northwest out of Little Rock takes you into the Ozark Mountains. The 150-mile-long Buffalo National River, the first National River, presents an excellent opportunity for hiking and canoeing along its length. Lost Valley, located near Ponca on the upper Buffalo, is an easy way to see some of the natural beauty and not get too far off the beaten path. The native *Rhododendron prinophyllum* found in the area don't usually bloom until the last of April into early May.

Fort Smith National Historic Site, sitting on the edge of Oklahoma, is where the wild west of popular imagination begins. The old fort preserves the history of American expansion into the western states and is a must-see stop for the history buff.

In the northwest corner of the state in Fayetteville you will find the Botanical Garden of the Ozarks, a six-acre garden that features a series of display gardens showcasing a unique blend of whimsy and artistry. Up the road a few miles in Bentonville is Crystal Bridges of American Art, a world-class art gallery in a beautiful natural setting where the Walton family has created a not-to-be-missed display of art, architecture, and nature.

We hope to see you in Little Rock this spring!

Gerald Klingaman is Operations Director, Botanical Garden of the Ozarks.

# Water Transport in Azaleas: Who Will Be Left High and Dry?

By Sharon Danielson—Kirtland, Ohio

As any gardener will tell you, providing the right amount of water for your plants is pivotal. Avid gardeners meticulously measure rainfall and soil moisture. Most folks know the crucial role that the root system plays in accessing water from the soil for the plant to use. But have you ever wondered about what happens to the water after it enters the roots? If you are like the researchers at the Holden Arboretum, you may be very curious about how water flows through the plant, and how different species use water. We are particularly interested in the role that leaves play in utilizing and moving water through the plant. Working in the laboratory of Dr. Juliana Medeiros at the Holden Arboretum, I have been studying how azaleas from various climates differ in the way they use water. The following is an account of the preliminary results for three azaleas I studied.

#### Leaf Hydraulics Background

To inspect the way water is used by each species, I used a measurement called leaf hydraulic conductance. Leaf hydraulic conductance quantifies how easily water flows through the leaf. During photosynthesis, small pores on the leaf called stomata open to allow  $CO_2$  to enter. At the same time, water evaporates from the leaf surface in the form of water vapor, because the air is dryer outside of the leaf than inside it.

This places the plant in a precarious balancing act between maintaining open stomata to photosynthesize and potential desiccation, or closing the stomata to reduce water loss but risking starvation. If the plant maintains open stomata to keep exchanging gas for photosynthesis, it risks losing too much water and drying out, unless it is able to continuously replenish water to the leaf. Simultaneously, this process of water evaporating from the leaf also pulls the water from the soil up through the plant and into the leaves. This makes leaf hydraulic conductance such an important physiological trait because it determines the ability of the plant to replenish the water lost during photosynthesis.

### Measuring Leaf Hydraulic Conductance in the Lab

To measure leaf hydraulic conductance in the laboratory, we determine how quickly water evaporates from a leaf. In fact, measuring evaporation rate is quite difficult, because there is always water in the air, so determining how much came specifically from the leaf is problematic. So, we use a clever technique: we determine how much water flows into an evaporating leaf, which will be equal to the amount of water lost to evaporation. The evening before measurements are taken, a branch is cut from the plant and then it is allowed to hydrate in a vase of water overnight. The next day, leaves

are cut off the branch and measured one at a time on a system specifically designed to measure the rate of water flow into the leaf. The system consists of tubing leading from the leaf to a cylinder filled with water. The cylinder sits atop a balance, which weighs the water. Next, the leaf is placed under a grow light, causing stomata to open and water to evaporate from the leaf surface. The balance records the amount of water that is lost every 30 seconds until a steady flow rate is reached. A fan keeps the leaf from overheating and both leaf and air temperature are continuously monitored. Trials last approximately 30 minutes to an hour. After the leaf is taken off the system, its water status is measured and recorded. The leaf size is also measured and used in the calculation of leaf hydraulic conductance. In our study, we measured three plants per species, and at least five leaves from each plant. Leaf hydraulic conductance is calculated as the flow rate (at steady state) divided by the water status, and normalized by leaf size.

### Leaf Hydraulic Conductance is Related to Environment and Leaf Morphology

Hydraulic conductance is not a static trait. It is also impacted by environmental factors including the evaporative demand (i.e. how warm and dry the air is), light level, concentration of  $CO_2$  in the air, and the water status of the leaf (Table 1). Environmental factors like increased light and elevated  $CO_2$  levels will increase the photosynthetic rate, and water supply will need to ramp up in order to accommodate the drying leaves. Hotter, dryer air should also be associated with high water flow because the water is quickly evaporating from the leaves during photosynthesis.

Leaf features also play a key role in how the leaf interacts with the environment. Since water transport in plants is driven by the difference in humidity inside the leaf and outside the leaf, even small differences in leaf traits can shield or expose the stomata to the outside air and impact water supply. It is perhaps easiest to think of the leaf the way we think of topography. The environmental conditions that we experience differ if we are in a field, in a valley, or in a forest. For example, leaf hairs can be thought of as creating a tiny forest around the stomata. Much like a dense forest of trees would hold humidity and shield the wind, these fine hairs create a layer of humid air around the stomata, reducing the rate of water loss from the leaves. On the flip side, if we were to stand in an open field we could immediately sense any changes in temperature, humidity, and wind. On a smooth leaf, the stomata are essentially sitting in a field, easily exposed to differences in water vapor or temperature. Therefore, smooth leaves should have higher hydraulic conductance.

Table 1: Summary of Factors that Impac	et Leaf Hydraulic Conductance
High Conductance	Low Conductance
Warm Climates	Cool Climate
Low Humidity	High Humidity
High Light	Low Light
Low CO <sub>2</sub>	High CO <sub>2</sub>
Leaf Fully Hydrated	Leaf Dehydrated
Smooth Leaf	Hairy or Rough Leaf

I have determined a hydraulic profile for three species of azalea—*Rhododendron occidentale*, *R. austrinum*, and *R. yedoense*, each originating from very different native climates.

#### Section Pentanthera: Deciduous Azaleas

*Rhododendron occidentale*, a deciduous shrub from Section *Pentanthera*, is a coastal species native to the Pacific Northwestern United States. This species had the highest maximum leaf hydraulic conductance of any of the azaleas that were measured. This is in sync with the leaf traits that we observed in this species. It has smooth leaves void of hairs or rough texture (see Fig. 1). Its stomata are more exposed to differences in humidity and temperature, so when I applied light and reduced humidity, plants of this species exhibited higher leaf hydraulic conductance. While *R. occidentale* has a relatively high hydraulic conductance, a closely related species, *R. austrinum* has a different strategy.

*Rhododendron austrinum*, another deciduous azalea, hails from the Southeastern United States. We had hypothesized that species originating from warmer climates would, on average, have higher maximum leaf hydraulic conductance. What I found is that *R. austrinum* had a much lower hydraulic conductance. This is a rather curious state for a shrub from a warm climate.

Why might a plant coming from a warm location not have as high of a leaf hydraulic conductance as one from a colder location? Surely, the leaves from a hot climate are experiencing a higher evaporative demand and would therefore need to increase water flow to the leaf. There may be a clue as to why I found this result, based on the native climate for these two species. Some new research has shown that leaf hydraulic conductance is related to the elevation of the plant. Rhododendron growing at higher elevations have been shown to have higher maximum leaf hydraulic conductance, compared to those from lower elevations.<sup>1</sup> While Taneda et al. found this trend in evergreen species of *Rhododendron*, it is worth noting that *R. austrinum* is found only up to elevations of 330 ft. while its sister, R. occidentale, is found in elevations up to 9,000.<sup>2</sup> At higher elevations plants typically experience lower atmospheric CO, and lower humidity outside the leaf, compared to lower elevations, so high elevation plants are predicted to have higher rates of evaporation during photosynthesis. Since water exits the leaf at a higher rate, the water needs to be replaced. This could explain why a plant found in much higher elevations would have a higher maximum leaf hydraulic conductance than its

relative from lower elevations.

The leaf morphology of *R. austrinum* may also provide some explanation for our water transport results. *Rhododendron austrinum* has leaf hairs and a rough leaf surface (see Fig. 1). The hairs have created a thin shield around the stomata, slightly increasing the humidity directly outside of the leaf. Additionally, some of the stomata are in tiny valleys because of the rough texture. All of these traits can work together to decrease the leaf hydraulic conductance.

#### Section Tsutsusi: Semi-Evergreen Azaleas

*Rhododendron yedoense* is native to Korea and Japan where the minimum temperatures dip to approximately -26°C. A particularly durable azalea, it is often hybridized with other species in order to increase hardiness.<sup>2</sup> Our research showed that it was moderate in maximum leaf hydraulic conductance compared to the other two azaleas I measured.

Recall that hydraulic conductance is a dynamic trait that changes with the water status of the leaf. As a leaf dries out, small air bubbles begin to form in the plant veins, or xylem, which are the cells that transport water to the leaves. These bubbles, called embolisms, block the movement of water within the veins. Just like an embolism in your veins can block the flow of blood, embolisms in the plant reduce or eliminate the leaf water supply. Some species are very susceptible to embolisms as the leaf dehydrates, but some species are resistant to embolisms, such that the leaves can still transport water, even when they are very dehydrated. The way in which leaf hydraulic conductance declines as the leaves dehydrate is called "drought vulnerability," and much attention has been paid to how it differs among species to understand their relative susceptibility to drought.

Interestingly enough, while the maximum hydraulic conductance in *R. yedoense* is not particularly high, as the leaf dehydrates the leaves of this plant maintain higher hydraulic function than *R. occidentale* or *R. austrinum*. This means that these leaves are relatively less vulnerable to drought embolism than the other azaleas measured (although it should be noted that, compared to arid-land plants, no azaleas are considered drought tolerant). As seen in Fig. 1, the leaf surface of *R. yedoense* is somewhat rough, but the roughness is imparted by subsidiary cells. These cells are often found on plants from dry locations, and it has been hypothesized that they could play a part in water conservation. So, once again, our work points to leaf surface features in *R. yedoense* as a key component that could make it a more stress-tolerant species. For a hardy plant that still manages to succeed in cold



▲ Figure 1. Leaf surfaces of azaleas showing features that could influence leaf hydraulic conductance. The upper row shows the leaf landscape, and the bottom row shows a close-up of stomata. *R. occidentale* (top left) has a fairly smooth leaf landscape, with a small leaf vein running through the landscape like a river. *R. austrinum* (top center), has a rough landscape, with large hairs that can be seen as black filaments rising up from the leaf. *R. yedoense* (top right) also has hairs, but they are small and stiff, often located on top of the veins, which are the long cells along the left-hand side of the image. Zooming in, note the stomata (bottom row), which look like small, dark beans. The stomata of *R. occidentale* (bottom left) have a raised border surrounding them, but the leaf surface appears very smooth compared to *R. austrinum* (bottom center) and *R. yedoense* (bottom right). In *R. austrinum* the stomata are found on mountains and in valleys, and the surfaces of the epidermal cells are covered in small raised dots, imparting a rough feel to the leaves. *R. yedoense* also has a rough leaf landscape, but the roughness is imparted by raised subsidiary cells, which are the small rectangular cells surrounding the bean-shaped stomata. Rougher leaves should have lower leaf hydraulic conductance, because greater roughness increases the humidity at the leaf surface.

conditions, adding an extra benefit of drought tolerance is certainly a bonus.

#### **Conclusions and Implications**

Leaf hydraulic conductance helps us to understand how a plant functions under specific environmental conditions. Ultimately, that information can be extrapolated to predict which species will do best in horticultural practice and in a changing climate. When choosing plants to use in gardens, ideally, we want a plant that has it all—beauty, cold hardiness or heat tolerance (depending on where you live), longevity, and drought resistance. Each of these things has its importance, and the importance varies with location.

Plants that have some mechanism to provide them with drought tolerance will make for a flexible watering schedule. *R. yedoense* is less vulnerable to changes in water status, so the impact of mild drought will be less intense on this species compared to the deciduous azaleas measured in this study. So, as a plant that is already known to be cold hardy and is less vulnerable to changing water status, it is likely to provide a gardener with a little peace of mind. The deciduous azaleas *R. occidentale* and *R. austrinum* are more vulnerable to changes in water status making them potentially more fussy plants to have in the garden.

Perhaps of bigger concern, however, is that as the climate warms overall, weather events are predicted to become more extreme. Cold and warm temperature shifts alike are expected to become more dramatic. Further, droughts are predicted to become more frequent and last longer. Our data thus far suggests that the deciduous azaleas will be will be more affected by these extreme shifts than R. yedoense. Even though *R. occidentale* has a high maximum hydraulic conductance to support high rates of photosynthesis, it has little protection against drought. Its leaves are at risk of desiccation. With a relatively low maximum hydraulic conductance, R. austrinum may have difficulty supplying its leaves with water under hot or dry conditions, and it is more sensitive to changes in water status, leaving it in a precarious state for a warming climate. Again, R. vedoense is the apparent winner of the three species to manage the stress of a warmer climate because of its ability to continue to replenish water to its leaves, thereby maintaining photosynthesis, even as the leaves become dehydrated.

#### **Future Work**

There is still a lot we do not know about leaf hydraulic conductance in azaleas, and it turns out this trait is even more complex and interesting than we first expected. The main finding of this work is that many leaf traits interact with the environment, to cause unexpected patterns of hydraulic conductance in azaleas. This initial work has shown us that leaf surface characteristics certainly play a role in the water flow pathway. Rough leaf texture and the thickness of the indumentum can potentially increase the fine layer of humidity surrounding the leaf, leading to lower hydraulic conductance even when climate tolerance is similar. Azaleas can vary widely in their leaf surface characteristics-for example, R. canescens is pubescent, while R. periclymenoides is predominantly glabrous. It will take further study to fully understand how these features affect water transport. Currently, I am quantifying the arrangement and size of stomata on the leaf surface, which will provide insight into the rate of evaporation that would be possible while controlling for other surface traits like indumentum.

In addition to examining leaf surface features, I also plan to assess the leaf anatomy to see if internal leaf traits may account for the difference in leaf hydraulic conductance I observed. Perhaps the most important puzzle piece in understanding differences in hydraulic conductance, is the venation network. Since the veins provide the pathway of water across the leaf, they play a key role in determining the conductance of water. I will be quantifying different traits of the leaf veins. I have also been measuring leaf hydraulic conductance from many species of Rhododendron in the garden over different seasons to track how this trait changes with differences in precipitation, light, and temperature. All of these factors together, will help us to better understand this dynamic trait and how plants have such differences in their water use so that, ultimately, we can make informed planting decisions.

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- 1 Taneda, H., Kandel, D. R., Ishida, A., & Ikeda, H. 2016. "Altitudinal Changes in Leaf Hydraulic Conductance across Five *Rhododendron* Species in Eastern Nepal. *Tree Physiology*, tpw058. http://doi. org/10.1093/treephys/tpw058
- 2 Cox, Peter A. & Cox, Kenneth N.E. 1997. *The Encyclopedia of Rhododendron Species*. Glencarse, Perth, Scotland: Glendoick Publishing, Glendoick Gardens Ltd. p. 212, 384.

Lead researcher: Juliana Medeiros is a researcher at the Holden Arboretum. Juliana received her PhD in Biology from the University of New Mexico, and conducted postdoctoral research at the University of Kansas.

Sharon Danielson is a student intern at the Holden Arboretum. Sharon has a Master's degree in Biology from John Carroll University and she entered the PhD program at Case Western Reserve University this fall continuing to work in the Medeiros lab.

[This research was funded in part by the ASA Research Fund. A final report on the project will be published in a future issue of The Azalean. Ed.]

# **ASA Seed Exchange**

By Lindy Johnson

#### **Contributing Seed**

Seed contributions will be accepted from ASA members and other sources throughout the year until December 31. The seed from each plant should be described by the:

- contributor's name
- seed parent name
- pollen parent name
- plant type (evergreen, deciduous,
- azaleodendron)
- pollination type (open pollinated, hand pollinated or wild cutting)
- where collected (geographic feature or town)
- notes

This information can be written on seed envelopes, or we have a seed data form to describe the seed, as a short (4KB) file to down load and print.

If you have digital pictures of the parents, please e-mail them to Dave Banks, with the name, date and location taken, for posting on the web linked to your seed. dfbanks@ earthlink.net.

Seed should be current year production and can be cleaned or not. Put the seed from one plant into one paper envelope with one completed form (or write the information on the envelope), and mail to: Lindy Johnson, 843 Wallace Rd, Trade, TN 37691.

When we receive the seed, it is cleaned and distributed into #1 coin envelopes, and each lot of envelopes is assigned a number and stored until it is ordered.

#### **Ordering Seed**

The seed list will be posted online on or about January 1st. The notice also gives the address to request a hard copy list of seed available.

Seed is shown on the web on a seed list page, where it is listed alphabetically by seed parent name with the information provided by the seed contributor, including links to any pictures of the parent plants.

After January 1st seed is distributed to contributors and ASA members on a first come, first served basis. After April 1st seed is distributed to anyone on a first come, first served basis.

All seed is packaged in #1 coin envelopes, and costs \$2.00 for approximately 50 seeds. Shipping and handling is an additional \$3.00 for all the envelopes in one order. Orders can be placed by e-mail to appalnativeplants@gmail.com or by a letter addressed to the Lindy's address provided above.

All seed not distributed before the annual convention will be offered for sale there.

Seed orders can be paid for with a check made out to "ASA" with "seed exchange" on the memo line, or by a credit card payment through PayPal using the form on the Seed Exchange 2016 page.

### <u>Title Index</u>

2017 Officer Candidates, 21 2017 Annual Azalean Index 86 2018 Board Nominations, 87 "2017 Convention Report-Fun Down on the Bayou"-Barbara Stump, 40 "2018 National Convention—April 5-7, 2018 for Azaleas in Arkansas!"-Gerald Klingaman, 79 "ASA Financial Statement"-Paul Beck, 35 "ASA Seed Exchange"—Lindy Johnson, 85 "Azalea Care in the Fall"-Charles R. Andrews III, 64 "Basic Hybridization Glossary" - 22 Chapter News and New Members-20, 38, 60, 90 "Chillin' Up North with the Florida Azalea"—Steve, Krebs, 66 For the Record (Corrections)—58, 74 "A Gardener's Guide to Native Azaleas" --- Charles Andrews III, 94 "Glenn Dale Azaleas on Mt. Hamilton-The Long and Winding Road to Today, Part I"-Barbara Bullock, 4 "Glenn Dale Azaleas on Mt. Hamilton-The Long and Winding Road to Today, Part II" — Barbara Bullock, 28 "In Memorium: Jane Newman, 62; Jim Thornton, 62; Kathleen Van Veen, 63 "The Legacy Project"-Richard Bauer, 76 "The Lost Azaleas of Magnolia Plantation and Garden"-Caroline Howell, 33 "Navigating the New ASA Website"—Paul Beck, 88 "Newest Azalea City-Brookings, Oregon"-Teri Davis, 69 On the Cover—3, 27, 51, 77 On the Back Cover—3 "Preliminary Study to Investigate Variation in Flooding Tolerance Across Six *Rhododendron viscosum* (L.) Torr. Subpopulations"—Alexander Susko, Steven McNamara, Stan Hokanson, 52 President's Letter—J Jackson, 2 President's Letter-Rick Bauer, 26, 50, 76 "Recruiting New ASA Members"—Robert Thau, 59 "Recognizing Generous ASA Members"—Paul Beck, 58 "Renewal Time is Approaching"—Paul Beck, 59 "Renewal Time is Now"—Paul Beck, 89 "Save the Dates—April 5-7, 2018 for Azaleas in Arkansas"-Gerald Klingaman, 65 Society News-36, 50, 74 "Tax Exempt" vs. "Public Charity"-Paul Beck, 89 "Water Transport in Azaleas: Who Will be Left High and Dry?"-Sharon Danielson, 82 "The Western Azalea"—64 "Yes, You Can Write for The Azalean"-61 Author Index Andrews, Charles R. III-64, 94

Andrews, Charles R. III—64, 94 Bauer, Richard—76 Bauer, Rick—26, 50, 74 Beck, Paul —11, 35, 58, 59, 88, 89 Bullock, Barbara—4, 28 Danielson, Sharon—82 Davis, Teri—69 Hokanson, Stan C.—52 Howell, Caroline—33 Jackson, J—2 Johnson, Lindy—85 Klingaman, G.—65, 79 Krebs, Steve—66 McNamara, Steven—52 Stump, Barbara—40 Susko, Alexander—52 Thau, Robert—59

### Subject Index

**National Conventions** 2017 Hammond, LA Convention—40 2018 Little Rock, AR Convention-65, 79 **Society News** 2017 Officer Candidates—21 2018 Board Nominations-87 ASA Financial Statement—35 ASA Membership Renewal Reminders—59, 88 "ASA Seed Exchange"—91 ASA Service Awards—36 Chapter News and New Members—38, 60, 90 For the Record (Corrections)—58, 74 "Navigating the New ASA Website"—88 "Newest Azalea City-Brookings, OR"-69 On the Cover — 3, 27, 51, 75 President's Letters-2, 26, 50, 74 "Recognizing Generous Members"—58 "Recruiting New ASA Members"—59 "Tax Exempt" vs. "Public Charity"-89 "Yes, You Can Write for The Azalean"-61 **Azalea Care and Culture** "Azalea Care in the Fall"-64 "Basic Hybridization Glossary"-22 "The Western Azalea"—64 **Azalea Gardens** "Lost Azaleas of Magnolia Plantation..."-33 **Azalea Hybrids** "Chillin' Up North with the Florida Azalea"—66 "Glenn Dale Azaleas on Mt. Hamilton...Part I"-4 "Glenn Dale Azaleas on Mt. Hamilton...Part II"-28 **Azalea Research** "Preliminary Study to Investigate Variation in Flooding Tolerance..."-52 "Call for Gardens' Deciduous Collections"-61 "The Legacy Project"-76 "Water Transport in Azaleas..."-82 In Memorium Jane Newman—62 Jim Thornton—62 Kathleen Van Veen-63

The following are proposed as candidates for BOD leadership roles. The three BOD directors will serve from 2018-2020, beginning at the annual convention in Little Rock.

#### ASA Treasurer—Paul Beck

Paul has been a member of Northern Virginia Chapter since 1983, the chapter treasurer since 2010, chapter webmaster since 2013, and ASA treasurer since 2015. He is very active in the chapter, assisting with plant sales and annual auctions, and creating and maintaining the ASA online membership database. Paul also designed and implemented the ASA online repository for The Azalean. He has automated the chapter plant sales with an online inventory, bar code identification tags, descriptions, and photographs. Paul provided this automation capability to the 2016 joint ARS/ASA convention in Williamsburg, VA, and was also the treasurer for the convention. He holds a PhD in Operations Research and retired from the United States Air Force in 1984 after 20 years of service. In 2012, Paul retired from his second career, after spending 30+ years in software development. He works actively in the garden with Carolyn, his devoted wife of 53 years. They have two children and three grandchildren. Paul enjoys building and flying remotely controlled model airplanes.

#### ASA Secretary—Leslie Nanney

Leslie and her husband Dave joined the ARS in 1979, and were founding members of the Northern Virginia Chapter of the ASA in May 1980. They caught the "azalea bug" from her mother, Frances Louer, and their collection now includes over 1800 varieties of azaleas. Since moving to their current home 30 years ago, about half of the beds have been devoted to the work of a single hybridizer. Leslie and Dave are the Legacy Project leads for the Holly Springs azaleas developed by Pete Vines.

Leslie has served as treasurer of the Northern Virginia Chapter, and as a director of the ASA. She has been the ASA secretary for the last four years.

#### **Director**—Fred Anderson

Fred Anderson joined the ASA two weeks before the 2015 national convention in Nacogdoches, TX, which he attended and has been to every ASA convention since. He was a member at large for quite a while until he joined the Vaseyi Chapter in NC. Being in a prime azalea area, Fred has made attempts to start a new chapter called the Smoky Mountains Chapter by manning and self-funding a membership booth at garden events. Fred is a Tennessee Master Gardener and has started developing a unique azalea collection. He is the founder of Anderson Estate which he is developing as a private collection of his favorite plants. He also has a vision of planting azaleas and dogwoods all along his street. Fred is an entrepreneur and has started

several businesses from scratch. He is currently retired but still owns BrakeQuip LLC. His wife Sandra totally supports Fred in all his endeavors and next year they will celebrate 45 years of marriage. Fred and Sandra have two children and four grandchildren that all live in Australia. They have lived in Knoxville, TN, for the past 15 years. Apart from being a gardener "out of control," he is an animal lover, a street rodder, a bee keeper and enjoys nature and socializing with people. Fred is also president of the East Tennessee Hosta Society and has a large collection of hostas that share the part shade environment where azaleas thrive. Fred enjoys travelling to conventions and meetings around the world and would be honored to be a director of the Azalea Society of America.

#### **Director**—*Robert Thau*

Robert Thau is the current president of the Texas Chapter of the ASA and former vice president. He is currently holding the position of ASA membership chairman and is active in the Legacy Project, promoting the Bowie Mill and Harris azaleas. He has been active growing plants since the early 80s and learned how to propagate when he was co-owner of a retail nursery in Louisiana, specializing in azaleas and camellias, and a member of the Louisiana Nursery and Landscape Association. He moved to Texas in 1989 and a few years later joined the Texas Nursey and Landscape Association while deciding to start a wholesale nursery growing tropical bougainvillea. He retired in 2014 and decided to get back to his love of azaleas and built a garden named Nature's Way Gardens. He gives tours to the public, showing the different types of azaleas available and promoting membership in the ASA.

#### **Director**—*Andy Whipple*

Andy Whipple has been a great fan of our native deciduous azaleas since attending the joint ASA/ARS 2002 convention in Atlanta. An avid gardener since childhood, he and his wife You-Ying moved to Black Mountain, North Carolina, upon retirement in 2015 and joined the Vaseyi Chapter. Andy was a professor of biology at Taylor University for 31 years, teaching several courses including Cellular and Molecular Biology, Microbiology and Immunology, and the Biology Senior Capstone course (an intense course combining biology, the scientific method, the history and philosophy of science, and the interaction of science and Christian faith). Having discovered the unwillingness of many deciduous azaleas to be propagated by the usual means, and under the tutelage of Earl Sommerville, Andy became somewhat proficient in the micropropagation of deciduous azaleas. He used this as a means to teach his students the scientific process as well as to introduce them to these wonderful plants. He continues the micropropagation of deciduous azaleas in a tissue culture lab in his basement in the beautiful mountains of western North Carolina.

# Navigating the New ASA Website

By Paul Beck—Treasurer and Assistant Webmaster

When I originally established the ASA membership database on the Northern Virginia Chapter website in 2013, I knew that it was an ASA resource and should have been on the ASA website (azaleas.org), not the NVA Chapter website. At the time, the environment was not such that it would have been possible to provide a database-backed membership roster, which could be searched and updated by the members themselves. That environment has since changed, and in the fall of 2016, Dave Banks asked me to assist with the transition of the data to a new ASA website, in conjunction with re-hosting the site on a newer, more "responsive" environment. The term "responsive" simply means that the website will respond to differing technologies and screen sizes of the viewing platform; i.e., it will work and look well on your smartphone or tablet. Dave suggested the use of the WordPress as the hosting platform, since he had good experience with it, and it was extremely popular and widely accepted as the standard. Importantly, WordPress supported the use of "themes" to customize the look and feel of your website, and the current themes were responsive and would meet the goal to accommodate our increasing membership's usage of smartphones. Dave and I agreed to split the workload of creating a new website with WordPress, with Dave tackling the huge job of sorting through the old website and extracting the useful information (there was a lot of that) and converting it to work with the more modern website. I was to create the portion of the website representing interactive content, much of which already existed on the NVA website.

When I created the NVA website, I used a technology base and programming language which easily supported the concept of dispersed content management. We found it very useful to be able to delegate the maintaining and updating of content to various members acting in different roles. For example, individuals with the appropriate role could upload images and create/update azalea data. This concept worked so well that we determined that the new ASA website should support the same concept. It turned out that the WordPress platform, recommended by Dave Banks, was up to the task. As an example of how well this is working, the Legacy Project started by Rick Bauer, and originally hosted on the NVA website, has now become an ASA level project, and has gained much interest throughout the society. There are several Legacy Leads from various chapters of the ASA that are actively creating and updating valuable information on several Legacy projects. If you have not visited the new Legacy Project home page on the ASA website, I think you will be impressed by what our new leads have accomplished. There is a link to it on the top-level menu. Check it out!

This article will be an introduction to a series of future articles each explaining one of the interactive features of the new ASA website, along with some instruction and guidance on how to make the most of the website. We intend to continue the articles in future issues of *The Azalean*. In the feature listing below, the title of the section and the location of the menu selection will be shown. A brief description of each of the features is included. Starting with the next issue, I will dive into one feature at a time per issue, with appropriate instructions and screen grabs.

#### **Membership Database**

(About the Society $\rightarrow$ Members). The online membership database is a key feature of the new interactive content. Members can be searched for by last name, first name, chapter, state or country (or combination thereof). An individual's record can be updated by the member themselves, or by one of several administrators. When viewing a chapter listing on a smartphone, note that if your phone is rotated to landscape position the member's phone number appears, and that if you then touch their number it will initiate a call to that member.

#### **Azalean Online**

(The Azalean  $\rightarrow$  Azalean Online). This content was also initially released in early 2015 on the NVA website, and has been fully ported to the new website. The 12 most current issues are viewable only by logged-in members. Older issues can be searched and viewed by anyone. The journal can be viewed (or downloaded) as a complete document by clicking on its issue volume and number, or individual articles can be viewed by clicking on the (Contents) link. In addition, back hardcopy issues can be ordered online and paid for with PayPal<sup>TM</sup>. Thanks to Dave Banks, we have introduced a full text *Azalean* article search capability with Google Custom Search<sup>TM</sup>.

#### Searchable Azalea Database

(Azalea Types $\rightarrow$ Azalea Database). This page was a key feature that drove the move to the new hosting platform and interactive database content. The core concept was to have one location for data, photographs, and other information about azaleas, and that this information would be searchable and integrated. The initial data load included all the azaleas on the NVA website with descriptions, characteristics, and photographs where available. The old ASA website had a huge repository of cultivar names and groups, but descriptions and pictures were not included (pictures were on a separate website, pBase). The cultivar names and groups have been imported from the old ASA website into the searchable database, but there is a huge need to populate the database with details and photographs.

#### Legacy Project

(Legacy Project). This content has been briefly described previously, and will be an in-depth article in the future. The

Legacy Project, currently led by ASA President Rick Bauer, has gained tremendous traction after being ported to the ASA website. Several new groups have been added to the project, and legacy leads have volunteered (and become very active) from the Texas and Central Carolinas Chapters, as well from the Northern Virginia Chapter, where the project was started. Each lead person has full control over their project with the ability to update any information and photographs on the home page, as well as all cultivar data, search criteria, and photographs.

#### Join Us

(Join Us, Renew or Donate). This page is the one-stop shopping location to join the society, renew your membership, donate, or sign up for a subscription membership. The new subscription feature, implemented last year, saves you time, saves the society expense of mailings, and is highly encouraged.

# Renewal Time Is Now!

That time of year, when your annual dues need to be paid, is <u>here now</u>. Dues are still \$30 per year. A renewal reminder email was sent to all members (with an email address on file) in mid-November. Paper mailing of reminders will go out in mid-December. If you choose to not renew electronically, you may use the renewal form on the wrapper of this issue of *The Azalean*. This application form is also available on the ASA website, at the Join Us, Renew or Donate link.

As per the ASA by-laws, members who have not renewed by the end of February will have their membership inactivated. If you then renew at a later date, you will not receive any missed issues of *The Azalean*.

If you did not receive the reminder email, please check your spam folder. The email was sent using the new permanent treasurer's email, treasurer@azaleas. org. Please add this address to your contacts if you did not get the reminder email. Also, I may not have a valid or current email address for you, so please send me an email at the above address if you did not receive the reminder, and I will add that address to your record.

If you wish for your email address to not be viewable by other **members** (membership information is not publicly viewable) on our website, please let me know and I will mark it as private.

This year I am strongly encouraging the use of our new **subscription service**, via the PayPal<sup>TM</sup> credit card payment service. This will allow you to register your credit card with PayPal, and have your annual membership fees deducted automatically. Click on the "Yearly Automatic Subscription" accordion near the bottom of the **Join Us** page.

# "Tax-Exempt" vs. "Public Charity"

### By Paul Beck—Oak Hill, Virginia

The question about tax-exempt status has again been raised by one of our chapters. In the fall of 2016, I sent an email to all chapter presidents and treasurers outlining the process required to obtain "Public Charity" status. I will reiterate that simple process below, but first I need to explain the difference between being "Tax-Exempt" and a "Public Charity."

A chapter can obtain **"Tax-Exempt"** status simply by electronically filing the very simple IRS Form 990-N "Postcard", providing that your average yearly receipts are less than \$50,000. Being tax-exempt simply means that you do not have to pay corporate income taxes. You must, however, have an <u>EIN of your own</u>, and not be using the ASA EIN for bank accounts. In 2015, all chapters were instructed to obtain their own EINs and to cease using the ASA EIN on bank accounts. If you are still using the ASA EIN, you need to immediately take care of getting your own EIN, and update all financial instruments and accounts accordingly. If you fail to file the 990-N for three years, you will lose taxexempt status, and will have to apply to the IRS to have it reinstated (and explain how you have put in place procedures to prevent that from happening again).

The distinctively different status of being a "**Public Charity**," or a "**501(c)(3)**" organization is often (incorrectly) equated with being "Tax-Exempt." The main reason for a chapter obtaining public charity status is that contributions of cash, supplies, equipment, plants, etc. to the chapter may be deducted from the income tax of the person or company making the donation. This cannot be legally done if your chapter is simply tax-exempt. Also, chapter members using their personal vehicle to support chapter functions, such as delivering plants to plant sales, may take standard mileage deductions on their taxes as a charitable contribution. You cannot, of course, deduct mileage simply to attend chapter functions.

If you think having "Public Charity" status is a good thing for your chapter (and I think it is), you need to follow the two simple steps shown below. (Before attempting to file, be sure you have your own distinct EIN). The IRS has greatly simplified the process in recent years; the Northern Virginia Chapter was granted 501(c)(3) status by the IRS less than a month after applying.

1. You must first obtain an account at **pay.gov** in order to pay the required \$275 filing fee.

2. After obtaining the login at pay.gov, you can then file the very simple IRS Form 1023-EZ. On the lower right of the pay.gov home page is a link to the form.

The 1023-EZ is exceedingly simple to fill out; you may contact me if you have any questions.

### **Ben Morrison**

#### Harold Belcher, Secretary

The October luncheon and meeting were held in Crofton, Maryland. Plants were auctioned, with some being provided by Northern Virginia Chapter members. The auction of 29 plants included several azaleas: 'Exquisite', a Kurume; 'Zig Zag' a Greenwood Hybrid; 'Kotobuki' and another Satsuki; and 'Red Ruffles' as well as lots of other outdoor and indoor plants such as daylilies, ornamental grasses, Japanese anemones and hens and chickens.

At the business meeting, President Budne reported the chapter had received a 2,000 bequest from the estate of Jean White and that the chapter now has its' certification as a 501 (c)(3) tax-exempt organization by both the US and State of Maryland. In addition, a memorial donation of 250 was made in honor of Debra Hughes, who was a great help at the 2004 convention, to the Friends of the National Arboretum Save the Azaleas campaign. The slate for new officers was presented.

Welcome new associate members: Fred Newlan, Temple Hills, VA, and Faith and Jerry Bange, Davidson, MD.

> ▼ Strickland Hybrid 'Jesse Benton' (*R. austrinum* x *R. atlanticum* x *R. austrinum*).



#### Diane Reinke, Secretary

November 30 members of the Ben Morrison Chapter had a most enjoyable holiday party, thanks to the gracious hospitality of Bill and Gabrielle Scott at their lovely home in Upper Marlboro, Maryland. Everyone feasted on the tasty dishes provided by members. This chapter has some great cooks! Bee Hobbs's legendary chocolate chip cookies were a special treat. Officer elections were held, with all officers proposed in October being elected: Budne Reinke, president; Rosa McWhorter, vice-president; Dale Flowers, treasurer; Diane Reinke, secretary. Tentative 2018 plans are being made for meetings in February and May and a cutting exchange in the summer.

A warm welcome to new member Sylvia Greene, Cowingo, MD.

### **Central Carolinas Chapter**

#### Kevin McCorkle, President

After an August and September of tropical heat and humidity with very little rain, the Central Carolinas Chapter welcomed fall with a speaker presentation and plant sale at UNC-Charlotte Botanical Gardens on October 28. Special thanks to our own Dr. Larry Mellichamp for treating us to an



excellent presentation on "Growing Rhododendrons, Azaleas, and Suitable Companion Plants in the Southeast" and to those who attended from our chapter, the NC Native Plant Society, and friends of the Botanical Gardens.

 Central Carolina's Larry Mellichamp, PhD, Director Emeritus of UNC Charlotte Botanical Gardens holding sample leaf from Bigleaf Magnolia (Magnolia macrophylla).



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In addition to covering the deciduous azaleas native to eastern North America, Larry introduced us to many unusual native plants suitable for the semi-shady woodland garden in a setting where azaleas thrive. These include spring-flowering shrubs such as spicebush, sweetshrub, and witch-alder. Ground-covering spring wildflowers such as green-and-gold and Alleghany-spurge can be mixed with profuse bloomers like bloodroot (which will self-sow all over your woodland), Virginia bluebells, fern-leaf Phacelia (a beautiful wintergreen biennial), foamflower, Solomon'splume (Smilacina), Indian-pink (Spigelia) and Stoke's aster. The woodland garden can then be rounded out with longlasting structural elements such as Christmas fern, lady fern, and maidenhair fern.

Our plant sale area was a very popular place. Most members and non-members went home with plants, including a few seedling-plug giveaways. We're very grateful to member plantsman Danny Little for providing many interesting azaleas and companion plants to supplement the chapter's plants, for delivering them to the venue, and for assisting with set-up and sales.

Our members-only end of year meeting on November 18 at UNC-Charlotte's McMillan Greenhouse included new business, election of officers, and member social during our traditional annual silent auction of unique deciduous and evergreen azaleas and companion plants, many of which are uncommon and hard to find in the trade. Thanks to our talented member plantsmen for sourcing. propagating, growing, and sharing these special plants for the enjoyment of our members and guests. Newly collected native deciduous azalea seed from member field trips was made available to attendees along with a short refresher presentation on seed sowing and growing on for the benefit of new members interested in seed propagation. There was also a discussion about alternate methods of vegetative propagation of deciduous azaleas, including an experimental trial by a member working with dormant woody cuttings.

▼ Pictured (left to right) are Allen Broyles, Nancy Broyles, Allen Owings, Eddie Martin, Cindy Martin, SFA Gardens Director David Creech and Jim Campbell. Not pictured are Norman and Glenda Balliviero.

Several chapter members are continuing to further the Strickland Legacy Project through collection, propagation, documentation, and distribution. The Strickland legacy lead has also been working to develop a Legacy Project for the work of late plantsman Aaron Varnadoe. Field trips to photograph and document additional cultivars and for collection of propagation material for both legacy projects will continue in 2018.

Welcome new North Carolina members: Julia Priester, Charlotte; Therese Roy, Lincolnton; and Christy Lynch and Wiley Bennett, Monroe.

#### Louisiana Chapter

#### Allen Owings, President

Members and friends of the Louisiana Chapter of the ASA attended the SFA Gardens' fall plant sale at Stephen F. Austin State University in Nacogdoches, Texas, in early October.

#### Northern VA Chapter

#### Barry Sperling, Corresponding Secretary

Large turnouts, in the 30–40 range, have become common for the chapter as we've continued our schedule of events into the fall.

The annual cutting exchange was highly successful in July with many outside visitors and two demonstrations.

In September, the annual sale and auction was held both outside and inside the Kirkwood Presbyterian Church, through the active sponsorship of VP Lars Larson. The church has been the host location for many of our meetings and we appreciate it. The outside lawn supported hundreds of plants, organized by hybridizer, and supported by an array of flower photos. Adrea Scurlock recorded the sales, which allowed cash, check and credit card purchases. Indoors, Paul Beck and Susan Bauer kept up the computer records and sales, so we always knew what we had left.



Joe Klimavicz describes his many azalea hybrids at the NVA Chapter meeting in October. The Klimavicz lecture was very well attended.





▲ NVA Chapter plant auction participants (I to r) Ralph Habegger, David Meadows, Carolyn Beck, and Paul Davis.

Also inside, there was a silent auction as well as a regular auction. Bob Harrison came up from North Carolina with his wife, former NVA and ASA Vice President Eve Harrison, and ran the auction aggressively and humorously so that we all enjoyed the whole performance. Don Hyatt offered information about the different plants as the auction went along. David Meadows, Paul Davis, and Ralph Habegger did the muscle work, showing off the large pots and delivering them to the successful bidders.

October featured well known hybridizer Joe Klimavicz showing off almost 1000 pictures of his hybrids, both named introductions and possible future entries. And, yes, we all wanted one of each!

December 3, we celebrated as the holiday social filled our stomachs, and we enjoyed getting together. Decisions from the annual business meeting will decide where, and how much, to send donations to worthy horticultural recipients, as we've done for many years.

We hope that you can join us for our activities and tours in 2018!

Check out our website to view our event schedule, locations, and pictures of many plants: www.nv-asa.org.

Welcome new members: Janice Kennedy, Falls Church, VA; Paul Girdzis, McLean, VA; R. Craig Hudson, Alexandria, VA.

#### **Texas Chapter**

#### Sherrie Randall, Secretary

September 15th Texas Chapter members began their day with a tour of the Tyler Rose & IDEA (Innovate, Demonstrate, Educate, and Apply) garden in Tyler, Texas, conducted by horticulturist and noted author Greg Grant. Following the tour, members traveled to Blue Moon Gardens in Edom, Texas, for lunch, a business meeting, and of course, shopping in their nursery. The business meeting included the election of officers for 2017/2018: President: Robert Thau; Vice President: Jeff Abt; Secretary: Sherrie Randall; Treasurer: Don Parsons. Robert was pleased to announce his home city,



▲ TX Chapter officers listen to Texas A&M AgriLife Extension Agent Greg Grant (far left) explain the IDEA garden concepts and selection of roses and perennials. Shown left to right: Sherri Randall, Secretary; Robert Thau, incoming president; Harold Hall, outgoing president; Jeff Abt, incoming vice-president. In front of Jeff was a representative from Keep Tyler Beautiful.

▼ Local Tyler chapter members Jo Ann Smith (I.) and Susan Travis (r.) shown in front of the cottage garden in the Tyler Rose Garden's IDEA Garden.



Jasper, Texas, will be honored as an Azalea City during the 30th annual Jasper Azalea Festival in April 2018.

In October the chapter again hosted a booth selling member-rooted azaleas at the Nacogdoches Farmers'Market in hopes of encouraging folks to plant in the fall, as well as introducing folks to the Azalea Society. In December members Nancy and Fred Niehaus will host a gathering at their Nacogdoches home to celebrate the Christmas season.

#### Vaseyi Chapter News

#### Suzanne W. Medd, Secretary

Vaseyi Chapter President J Jackson and Lindy Johnson invited everyone to visit their gardens on the weekend of June 10th. Their extraordinary garden features their hybrids of native azaleas from Gregory Bald. Later that week, June 13th, Charlie Hawkins gave a presentation on



▲ The TX Chapter held its' second azalea plant sale October 15 at the Nacogdoches Farmer's Market. Shown (I. to r.): Harold and Caryl Hall, Treasurer Don Parsons, and Robert Thau. The color photos in the 2- and 3-year plants helped encourage people to try varieties new to them.

Deciduous azaleas from Gregory Bald.



▼ Deciduous azaleas from Gregory Bald group.



the identification of native azaleas at the Americourt in Mountain City, Tennessee.

The chapter is planning a meeting and meal with a speaker in February 2018. There are also plans for an overnight gathering in Boone, NC, on June 10th, 2018. Blue Ridge Parkway and garden visits and a speaker or two will

be included.

Welcome new member: Bill Jones, Carolina Native Nursery, Burnsville, NC

**Rev. John Drayton Chapter** welcomed new members: Joshua Giordano-Silliman and Molly Inabinett of Charleston, VA.

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Native Azaleas	Height	Bloom	Flower Color	Comments
Florida Azalea Rhododendron austrinum	6'-20'	Mar-Apr	Yellow, golden yellow; some pink tetraploid forms	Fragrant. Good for early yellow or orange. Common in South Georgia and North Florida. Tetraploid.
Piedmont Azalea <i>R. canescens</i>	6'-20'	Mar-Apr	Pink to white, often mixed	Honeysuckle fragrance. Most common azalea in SE U.S. Many beautiful forms exist. Diploid.
Pinkshell Azalea <i>R. vaseyi</i>	6'-15'	Apr-early May	Pale pink to purplish pink with greenish throat & orange dots	Not fragrant. Short, bell-shaped flower. Grows wild only in North Carolina. A great pink. Diploid.
Oconee Azalea <i>R. flammeum</i>	2'-8'	Apr-mid May	Red, orange, salmon, yellow	Not fragrant. Formerly <i>R. speciosum</i> . Only GA & SC. Low stoloniferous forms often found in wild. Diploid.
Pinxterbloom Azalea R. periclymenoides	3'-8'	mid Apr-May	Purplish pink, deep to pale pink, white	Slight to no fragrance. Formerly R. nudiflorum. Northern counterpart to R. canescens. Diploid.
Alabama Azalea R. alabamense	3'-7'	mid Apr-mid May	White, often with yellow blotch, sometimes flushed with pink	Lemon fragrance. Uncomon in wild. Very attractive. Good, low to medium height white. Diploid.
Coastal Azalea R. atlanticum	1'-3' +	mid Apr-May	White, often flushed with pink outside, some w. yellow blotch	Rose fragrance. Strongly stoloniferous. Good, hardy, usually low white. Blends with the tall ones. Tetraploid.
Roseshell Azalea R. prinophyllum	4'-15'	Apr-May	Clear, bright pink in various shades	Clove fragrance. Formerly R. roseum. Best at higher elevation or cooler microclimate. Diploid.
Flame Azalea R. calendulaceum	6'-15'	late Apr-late Jun	Yellow, gold, orange, red, with blotch; can have pink	Not fragrant. Larger flowers than Oconee. Generally not stoloniferous. Outstanding. Tetraploid.
Rhodora <i>R. canadense</i>	1'-4'	May	Purplish pink, rarely white	Not fragrant. Short, bell-shaped flower. Canada & New England species; difficult to grow in the South. Diploid.
May White Azalea R. eastmanii	3'-15'	May	White, yellow blotch, occasionally pink blush	Strong, sweet fragrance. Somewhat similar to western azalea but found only in SC. Diploid.
Red Hills Azalea <i>R. colemanii</i>	8'-20'	May	White, pink, or yellow, with or without blotch	Sweet, musky, lemony fragrance. Flowers larger and more substance than <i>R. alabamense</i> . Tetraploid.
Swamp Azalea <i>R. viscosum</i>	3'-15'	mid May-Jun	White to pinkish tinge	Strong spicy fragrance. Long, glandular, sticky tube. Stoloniferous. Most are not tall. Diploid.
Western Azalea R. occidentale	3'-20'	May-Aug	White with yellow blotch, pink shading	Fragrant. Highly variable in habit, flowers, bloom time. Difficult to grow in eastern U.S. Diploid.
Sweet Azalea R. aborescens	6'-15'	May-Jun; late form Jul-Aug	White, sometimes w yellow or pink; red/pink style & stamens	Strong heliotrope fragrance. Good forms are strikingly attractive. Diploid.
Cumberland Azalea R. cumberlandense	2'-8'	late May-early Jul	Orange to vivid red; rarely yellow	Not fragrant. Formerly <i>R. bakeri</i> . Good low, late red. Diploid.
Plumleaf Azalea <i>R. prunifolium</i>	6'-15'	Jul-Aug (Sep)	Light orange to vivid red	Not fragrant. Needs partial shade as do all late blooming native azaleas. Good, tall, late red. Diploid.
Hammock-sweet Azalea R. serrulatum	8'-15'	Jul-Aug (Sep)	White to creamy white, occasionally pale pink	Clove fragrance. Long, glandular, sticky tube. Not stoloniferous. Diploid. Some say variety of viscosum.

A Gardener's Guide to Native Azaleas

A handy chart for studying the deciduous azaleas mentioned in this year's issues; more information is coming in 2018. Chart used by permission of Editorial Review Committee member Charlie Andrews III., Ed.

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