

The background of the cover is a close-up photograph of azalea flowers. The flowers are in various stages of bloom, with some fully open and others as buds. The colors range from light pink to a vibrant orange-pink. The stamens are long and thin, extending from the center of the flowers. The background is slightly blurred, showing more flowers and green foliage.

The Azalean

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Journal of the Azalea Society of America

President's Letter

Rick Bauer—Yorktown, Virginia

As I write this letter, we're in the midst of the COVID-19 pandemic. This continues to be a difficult time, more so for some than others. I hope that all of you are following the advice of our health organizations and keeping your social distance and washing your hands. The most immediate impact of COVID-19 on our Society was the cancelling of the Houston ASA convention. Having co-sponsored a convention in the past, I know how much work goes into planning. We thank the members of the Texas Chapter for all the work they put into planning the convention and we're sorry we couldn't visit you in Houston.

The decision to cancel the convention was made shortly before the scheduled start as the COVID19 situation in Houston worsened quickly. Some members had already started their travels when the decision was made to cancel. Dan and Joanne Neckel from the Northern Virginia Chapter were already in Texas at the time of cancellation. As the old saying goes, they "made lemonade out of lemons" and visited sights on the convention itinerary. Joanne has written an article in this issue which gives us a little taste of what we missed.

Our next convention will be sponsored by the Central Carolinas Chapter in the Charlotte, NC, area. A preview of one of the convention's highlights is an article in this issue on the Bartlett Arboretum. This is a jewel among arboreta and is not normally open to the public. I'm certainly looking forward to visiting it next year.

The pandemic is also impacting activities at the chapter level as chapters cancel their planned activities. The pandemic needn't cause all activities to cease, however. The key elements to curbing the spread of the virus are maintaining the proper social distance, washing hands frequently, and, in some cases, wearing masks. Fortunately, our passion for azaleas (and other plants) can be met while maintaining safe practices. For some of us, this extra time at home has given us more time to tend to our gardens. Some public gardens continue to welcome visitors, though indoor facilities may be shut down and capacity controls might be in effect. Members in individual chapters have opened their gardens to visits by other chapter members, again ensuring safe practices are observed. Some chapters have gone the virtual route, gathering pictures from member's gardens, and publishing them in their newsletters (and in some cases increasing the frequency of these letters). Others are posting their photos to chapter Facebook pages.

Now is also a good time to get into propagating azaleas. It is a satisfying way to increase the diversity of azaleas and other plants in your garden. There are numerous resources with information on propagating azaleas and other woody plants, most notably *The Azalean*. The Spring issue was the latest with an article by Dale Berrong on cutting propagation. You can propagate cuttings from your own plants or get cuttings from other members, friends, and neighbors. It is a great way to expand your collection, especially if you are looking for varieties which you don't find in the big box stores. Many interesting and hard to find varieties are available in private gardens.

I look forward to the current COVID19 situation being over and things getting back to normal. The key thing is for all of us to stay safe by engaging in safe practices. While we're all cooped up at home, we also must maintain our mental and emotional health. Gardening is an ideal way to do that as I'm sure many, if not all, of you know. Take this opportunity to take care of all those deferred activities (e.g., weeding, transplanting etc.).

Hopefully in the not too distance future we will be through the current difficulties. I look forward to us getting back together again soon.



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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Robert Thau

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On the Cover

A Woodlanders Nursery selection of *Rhododendron flammeum*, or Oconee Azalea, acquired in 2002 glows in pastel tones along the edge of a sunlit glade within the Bartlett Research Arboretum. This plant is 8' tall by 8' wide, one of a group of three, and "...a real traffic stopper" according to Kevin McCorkle, Central Carolinas Chapter President. A day of exploring the expansive private Arboretum grounds will be a highlight of the 2021 ASA Convention in Charlotte, NC, hosted by the Central Carolinas Chapter. (See related article on p. 34-36.) Photo Kevin McCorkle



The Houston Convention That Wasn't

Joanne Neckel—Fairfax Station Virginia

Dan and I were so looking forward to the Houston 2020 Azalea Society Convention. We were excited to experience Houston's early blooming season and decided to begin our trip by visiting Galveston for a few days prior to the start of the convention.

We flew from DC to Houston, picked up our rental car, drove to Galveston and checked into our hotel overlooking the Gulf of Mexico. It was only then that I checked my email and discovered that the convention had been canceled. After dealing with airline and hotel, we decided to stick to our original itinerary and do the convention ourselves, keeping in mind all the social distancing recommendations.

Galveston's top attraction is Moody Gardens, a 242-acre complex that features an aquarium, rainforest, paddlewheel boat, gardens, and waterpark area. The complex did not have much garden area, but the rainforest contained greenery and colorful plants. (See Photo 1.) Galveston is filled with gingerbread homes and small, cute gardens, but we could only find one yard containing azaleas. (See Photo 2.)

One colorful spot in Galveston was the Bryan Museum which featured original art and artifacts related to Texas history and the American West. The conservatory and gardens had a decent collection of blooming azaleas which were not past peak. The grounds are used for weddings and social events. (See Photo 3.)

On Thursday we intended to visit the Houston Livestock Show and Rodeo before checking into the Marriott Hotel, but the show got canceled—first time in 88 years! We were warmly greeted by the hotel staff and received top notch attention, since the hotel was only 30% occupied! Instead we got a cab and headed to The Museum of Fine Arts Houston and The Houston Museum of Natural Science where we did see some blooming azaleas.

Our cab driver turned out to be a jewel. We used him exclusively for the remainder of our trip. Having lived in



▲ Photo 1—Flower in Galveston's Moody Gardens Rainforest.

▼ Photo 2—Blooming azalea in private garden in Galveston.





Photo Joanne Neckel

▲ Photo 3— Azaleas at Bryan Museum, Galveston.



Photo Joanne Neckel

▲ Photo 4— Blooming Kurume Azaleas in the Butterfly Garden at Bayou Bend Fine Arts and Gardens, Houston.

▼ Photo 5—Formal Garden with azaleas in trimmed boxwoods at Bayou Bend.

▼ Photo 6—Pericat Hybrid 'Sweetheart Supreme' blooming at Bayou Bend..



Photo Joanne Neckel



Photo Joanne Neckel

Houston for over 40 years, he took us to many gardens and parks we probably would have missed on our own. He drove us around the River Oaks Garden area where we could get a glimpse of the beautiful homes, most of which were behind gates and heavy landscaping. We caught bursts of color along the drive.

On Friday we toured Bayou Bend Fine Arts Collection and Gardens, which were on the original convention tour. (See Photo 4.) The home is a museum containing an outstanding collection of American decorative arts and paintings. It was owned by Houston civic leader and philanthropist Ima Hogg

and sits on 14 acres of organically maintained gardens. We missed peak blooms but did find a few azaleas among the formal boxwoods. (See Photo 5.) 'Sweetheart Supreme' and 'Coral Bells' were the most common varieties. (See Photos 6 & 7.)

Ima Hogg established the Houston Symphony Orchestra, and her garden reflects a "musical" theme. The boxwood hedges are shaped into musical notes and even the patio furniture reflects the musical theme. (See Photos 8 & 9.)

From Bayou Bend you can take a wooded path to Rienzi, a house museum for European decorative arts situated on



Photo Joanne Neckel

▲ Photo 7— Kurume hybrid 'Coral Bells' blooming at Bayou Bend.

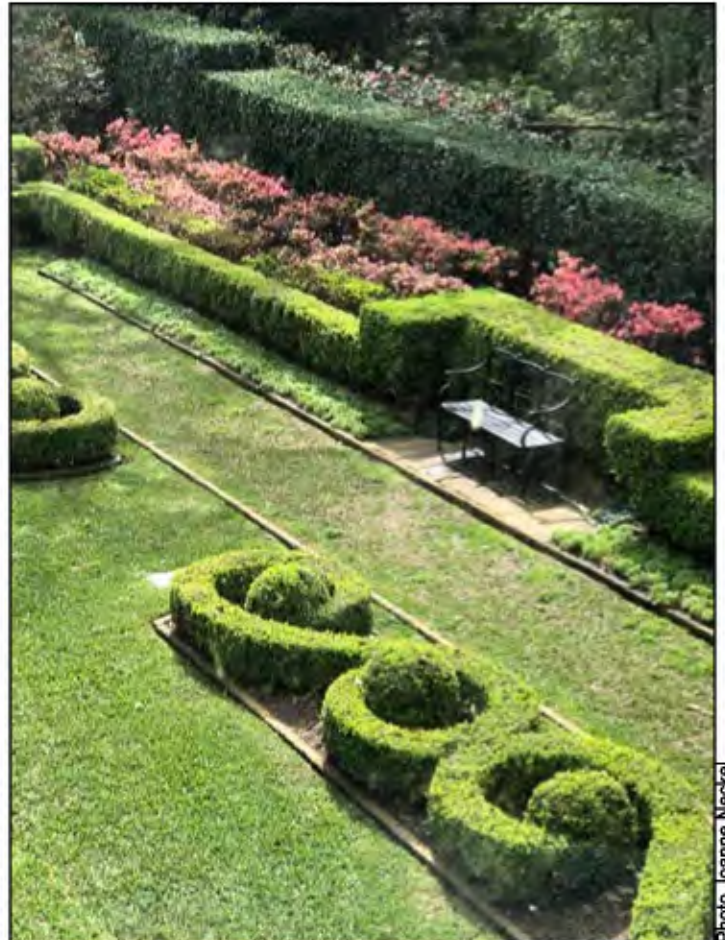


Photo Joanne Neckel

▲ Photo 8— Boxwood hedges and azaleas in Ima Hogg's side terrace at Bayou Bend.

▼ Photo 9—Ima Hogg's musical interest shown in the design of chairs on the side terrace.

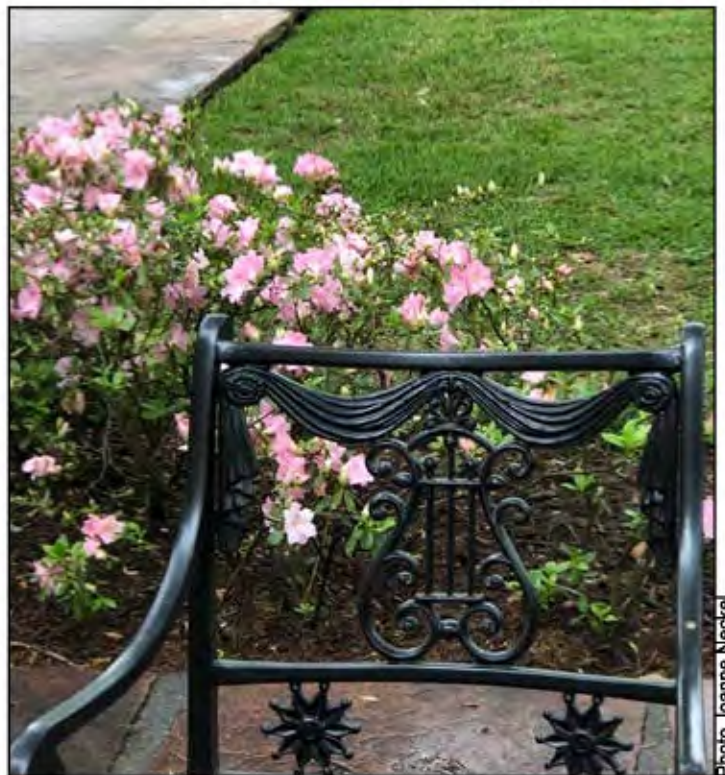


Photo Joanne Neckel

four acres of gardens that was also on the convention tour. We did not tour the museum but took a stroll around the wooded gardens—no blooming azaleas in sight but spotted some tulips.

On Saturday we intended on touring the Houston Zoo (good outdoor activity), but it also was closed. We opted for the Johnson Space Center—the only flowers were outside the visitor's entrance.

Even though the convention was canceled, we made "lemonade from lemons". Every site we visited had plenty of sanitizers, and we attempted social distancing. After landing at Reagan Airport in DC, my son texted that he was not picking us up but would send an Uber instead. He did not want our Houston germs! Sign of the times.

Joanne Neckel originally joined the American Rhododendron Society about 15 years ago. After attending more activities with ARS, she realized many of the members also belonged to the Azalea Society of America, so she joined the ASA. She has attended both ARS and ASA conventions and volunteered at their various activities. She is currently secretary of the Northern Virginia chapter of ASA.

Public Gardens in the Era of COVID-19

Dr. David Creech—Nacogdoches, Texas

After many years working in China, often once or twice a year, I've made many friends at the Nanjing Botanical Garden. We use WeChat all the time (the way Chinese "Facebook", message, chat, video, talk, and pay for things). I was texting with one friend and colleague in China, Dr Jianfeng Hua, who was a visiting scientist here at Stephen F. Austin State University about two years ago. He's part of the *Taxodium* Improvement team of Professor Yin Yunlong. He's kind, brilliant, and was a wonderful addition to our team at the SFA Gardens. Since mid-January, COVID-19 has been a topic of much discussion, of course. I learned in early January there was a serious problem in Wuhan. Wuhan was sealed off, in a serious lock down. He wrote, "...one person gets it, whole family dies." While it took too long for the government to react (sound familiar?), it wasn't long before much of China was in a shelter-in-place mode. Like everyone else, Dr. Hua, his wife, and son Joey were in a stay-in-their-apartment mode for five weeks. By the way, a shelter-in-place in China is different than it is here in the USA. It's serious. Once every two days he was alerted by text that he could come down to the ground floor for grocery shopping and then back to the apartment he went. Temperatures were checked at their door twice a day by a PPE-clad nurse. Eventually, as infections diminished, the citizens of Nanjing were allowed to move about depending on the color of their WeChat QR code. Red, yellow, or green defined the degree of mobility based on their temperatures, where they were, where they had been, and who they had come close to. China is a GPS world.

Since mid-February, Dr. Hua has been worried about friends in Nacogdoches, my staff, and me. He wondered if what he was seeing on the news about America was true. Why so many people together? Why is no one wearing masks? Why is there so much traffic? I explained that Americans are very independent, and we don't like the government telling us what to do. I tried to explain that in the beginning our government's message was not very strong, that many thought



Photo David Creech

▲ Photo 1— Dr. Creech with appropriate mask for work in public gardens.

▼ Photo 2—Cautionary signage at bridge between the SFA Mast Arboretum and Ruby M. Mize Azalea Garden.



Photo David Creech

it was under control and it would maybe disappear on its own. We thought masks don't really prevent infections; they just prevent others from being infected if you have it. We know differently now.

At this writing, Nanjing has been case free for over 35 days. My friends there think, "We have starved the virus." Of course, they all agree it isn't over yet. There will be flare ups, setbacks, and new cases, but my Chinese friends are convinced they are winning the war. At this writing, the big problem is visitors from abroad and a recent 14-day you-pay-for-it quarantine is now the rule for visitors to the country. This ain't your average Texas rodeo, that's for sure.

After four flights to the East Coast for talks in early to mid-February, I returned to Nacogdoches and decided to clear my calendar. COVID-19 made its debut in the USA with the first documented case on January 15, 2020. By mid-February, it was on the move. Denial isn't a river in Egypt. This was serious.

Part of the calendar was our national Azalea Society convention and conference in Houston, Texas, March 12-14. By then, I concluded we would be heading into a train wreck. With so many of our attendees in the over-65 crowd and with most flying into Houston, it seemed like a recipe for disaster. I wanted to cancel. After many phone calls and emails, we did. Bart Brechter, Head of Gardens and Landscape Operations at the Museum of Fine Arts, Houston, gets an A+ for working with the Marriott Hotel and getting obligations of epic proportions off our bill. While we hated to cancel, we know now it was the wise thing to do.

Survey of Public Gardens

In early March, I surveyed university and public gardens in the South. For those ahead of the curve, there was a mix of responses, as shown below.

FOR STAFF

1. Stagger work entry times, lunch, and breaks to reduce interactions.
2. For clerical, sales, admissions, and other personnel who can work remotely, encourage it.
3. Eliminate lines to the time clock.
4. Close vending machines, water fountains, etc.
5. Recognize worker "choke points" and "bottlenecks" and eliminate them.
6. Design a system with workers working solo.
7. Communicate by text or group chats with workers rather than face-to-face.
8. Provide masks and sanitizers to all staff. (See Photo 1.)
9. Provide workers with written documents explaining how COVID-19 is infectious.
10. Recognize your compromised workers (diabetes, cardiopulmonary, age) and provide them with work assignments that include strong social distancing—or have them work remotely.



▲ Photo 3—*Rhododendron austrinum* 'Florida Flame' in full glory.

▼ Photo 4—*R.* 'Koromo Shikibu', seen in both the Ruby M. Mize and Gayla Mize Azalea Gardens.





Photo David Creech

▲ Photo 5—Sport of 'Koromo Shikibu' known locally as "Speckled Spider".

▼ Photo 6—Family visit to lonely garden with few visitors. Plenty of social distancing possible in public gardens for visitors.



Photo David Creech

11. Ban "common areas" like the break room or lunchrooms.
12. Allow workers to go directly from their homes to a work site.
13. Allow workers to have their own assigned ATV or truck – or allow workers to use their own vehicles to move about and compensate them for that.
14. Assign workers their own tools.
15. Assign workers sanitation duties in locations where workers might visit.
16. Recognize "friend or family units"—workers that live together can work together.

FOR VISITORS

(if gardens remain open to the public)

1. If there is admission via a single gate, close the garden or devise multiple entry points with good social distance opportunities.
2. Sign and interpret the garden to encourage visitors to maintain good social distance.
3. Close the bathrooms and turn off the water fountains and cover them so there's no question they're out of service.
4. For paths and trails that are narrow, encourage directional flow with signage. (See Photo 2.)
5. Flag off benches and seating to prevent usage.

For you ASA azalea enthusiasts, we're so sorry you missed the Texas experience. Some of you were going to catch our gardens in Nacogdoches on the way in. We were looking forward to it. It's a downright eerie experience to see it now. It's quiet, totally beautiful, and there's a plant surprise around every corner. All we lack is people. (See Photos 3-6.) Cancelling the SFA Gardens spring plant sale, seminars, workshops, summer camps, and the environmental education program means a dramatic loss of income. That outside-the-university funding is critical for staff salaries, so we have a new challenge. That said, I'm convinced we'll survive. It's a public garden. In these trying times, the value of having such a beautiful and outdoor learning environment, one that's safe, beautiful, and healthy for our visitors, is difficult to measure. I think it's priceless. Until next time, please stay safe—and let's keep planting.

Dr. David Creech is Director SFA Gardens, Regents Professor of Horticulture, and Professor Emeritus of Horticulture at Stephen F. Austin State University in Nacogdoches, Texas. He began his work at SFA in 1978, developed over 100 acres of the SFA Mast Arboretum and Pineywoods Native Plant Center gardens and still oversees all aspects of their operation, including on-campus and regional cooperative research projects with kiwifruit. He is Texas Chapter President and assisted in two other Texas ASA conventions (2007, 2015).

The Hidden Botanical Wonderland of the Southeast—The R.A. Bartlett Research Arboretum

Patrick Franklin and Sean Henry—Charlotte, North Carolina

On the southernmost edge of Charlotte, North Carolina, lies a hidden botanical gem. Most people drive by the neatly trimmed trees tucked behind a clean white border fence without straying from their daily routines or looking up from the latest Facebook alerts chirping from ubiquitous smart phones, but to people in the know, *plant people*, it's a visual wonderland. The R.A. Bartlett Tree Research Laboratories and Arboretum is a private facility that encompasses 350 acres of prestige gardens, working research plots, and fantastic collections of rare and unusual plants. However, if you “know the right person”, they just might graciously open the gates to plant scientists, scholars, Master Gardeners, and other botanical aficionados. (See Photo 1.)

The research lab is owned and operated by the F.A. Bartlett Tree Experts company, which was founded by Francis A. Bartlett in 1907. In 1913, F.A. acquired a 60-acre farm in Stamford, CT, with large hardwood trees and an orchard containing very old apple trees that were easily 100-150 years old. This new property would allow him to begin his scientific and experimental work with trees, while also allowing opportunities to train his employees in tree climbing techniques and tree care practices. It grew and expanded to become an official research station and company training facility in 1927. They enjoyed several decades there advancing the science of arboriculture, but by the early 1960s state taxes on the land became too onerous and the company was forced to look for a new place to relocate its research facilities. Ironically the lab grounds were sold to the state of Connecticut and a portion of the original land still exists as the *Bartlett Arboretum and Gardens*; however, it is not affiliated with the company.

After an extensive search throughout the eastern portion of the United States,



▲ Photo 1—Aerial view of The Bartlett Tree Research Lab, Charlotte, NC.

▼ Photo 2—A glade within the Bartlett Arboretum, flanked by evergreen and mature deciduous azaleas and specimen trees.



Robert Bartlett Sr., son of the founder, narrowed it down to several cities in the upper South. He was looking for a location that could grow both northern and southern species, was close to an airport with good transportation hubs, and had a reliable water source. By 1965 he had found the perfect place—an old horse farm with three ponds, rolling hills, and a nice mixture of pasture and native woodlands. Work began converting an old horse barn into a modern research laboratory, planting new trees, and commencing experiments. Today, more than 50 years have passed, and under the leadership of Robert Bartlett Jr., grandson of the founder, the laboratory has expanded, and the arboretum grounds have blossomed into a living museum.



Photo Kevin McCorkle

▲ Photo 3—One of several inclined paths leading up "Rhodie Hill" at Bartlett Arboretum.

Today our facility serves four basic purposes—plant and soil diagnostics, research, education, and maintaining a living collection of plants in the arboretum. Another primary function of the Bartlett Tree Research Laboratories is to provide intense technical and career training classes to the Bartlett representatives, technicians, and workers who care for the trees and shrubs on client properties. The campus has a fully equipped diagnostics laboratory which processes over 10,000 plant samples and 15,000 soil samples each year from field offices throughout the US and Canada. The research station is staffed with a number of PhD researchers who conduct various cutting edge arboriculture experiments on purpose-planted test plots to investigate new techniques to manage and care for trees and shrubs. There is an extensive library with books that cover every aspect of gardening, insect and disease identification, forestry practices, and plant identification from all over the world. The education center serves both as a place for company training as well as an industry meeting space for international events. Finally, the Arboretum, which also comprises a bird sanctuary, serves as a living classroom and botanical library with extensive gardens and collections. To date, there are over 21,000 accessioned plants in 14 major collections, numerous display gardens, with new additions being made every year.

As an accredited level IV class Arboretum, a few of our highlights include some of the best collections of Rhododendrons, Oaks, and conifers on the east coast, the largest collection of Magnolia cultivars in the world, and the third largest collection of Holly in the United States. There are also extensive collections of Elm, Crape Myrtle, Crabapple, Camellias, Maple, Witch Hazel, Dogwood, Linden, and Boxwood. We aim to actively develop, curate and manage a wide range of showcase plant material, while trialing various plant species for their hardiness, disease tolerance and ornamental value.

A favorite location to both employees and visitors alike is what we nickname "Rhodie Hill." This is our primary *Ericaceae* collection, interspersed with other shade loving bloomers such as Camellia, Pieris, and Dogwood among others. The collection of *Ericaceae* contains 11 Genera, 152 Species, over 1,100 Taxa, and over 5,000 accessioned plants! The hill is situated above two ponds with a high native tree canopy and a northeastern exposure. This creates a unique microclimate that along with miles of irrigation pipes allows us to successfully grow healthy rhododendron species in Charlotte's hot humid climate. In the summer, if you walk or drive a cart along the winding trails there is a noticeably pleasant drop

in temperature at the site, sometimes as much as 10 degrees. In the spring, this hillside bursts with a myriad of colorful blooms that seem to peek out from behind the trunks of the large shade trees inviting you to keep exploring what is around the next corner. With the wide range of plants established on Rhodie Hill, there is something in bloom just about all year round. (See Photos 2 & 3.)

A few of our latest installations at the arboretum are the 9-11 Memorial Garden, Tree Peony Garden, and the beginning phases of a Piedmont Prairie. Bartlett has been integral in taking care of the trees at the World Trade Center site in New York City, and worked with officials to help with the preservation of the Survivor Tree (a Bradford Pear, *Pyrus calleryana* 'Bradford') and cloning of this lone specimen. Using seedlings from these clones we have constructed an arched dome that serves as a centerpiece of the memorial garden, which is designed to provide guests with a peaceful and relaxing place to reflect. The arboretum is also home to numerous rare and endangered plant species such as *Franklinia alatamaha*, *Torreya taxifolia*, *Abies nebrodensis*, *Magnolia macrophylla*, *Cornus wilsoniana*, *Cupressus vietnamensis*, and *Quercus oglethorpensis*.

The property has been purposely planted to take advantage of North Carolina's four distinct seasons. In late winter, one can see an entire field of Magnolias clothed in blooms of various hues of pinks, purples, whites, and yellows. You can also find witch hazels and camellias blooming throughout the property that brighten up every corner, announcing spring is on its way. As spring approaches, the redbuds begin to put on a fiery display of color, soon followed by the dogwoods that seem to light up the forest everywhere you turn. The crabapples and cherries unleash their torrent of colorful blooms creating amazing vistas, and Japanese maples emit a glow with their new growth. This is also when Rhodie Hill comes alive with tons of deciduous and evergreen azaleas, rhododendrons, and bluebells that create a kaleidoscope of color. The hollies also begin to bloom and emit the sweetest fragrance that will stop you in your tracks, to take a

Chapter News and New Members

deep breath and enjoy the beauty that surrounds you. During this time, there are also numerous conifers pushing new growth with some of the most intense colors of blues and golds seen nowhere else. As the high temperatures return, we find ourselves looking to the amazing collection of crape myrtles that bloom with just as many colors as the azaleas and provide interest when everything else is coping with the summer heat. Eventually fall returns and takes us on another rollercoaster ride of colors as the leaves begin to change to brilliant reds, yellows and oranges, with the oaks, hickories, and maples. The cycle then repeats itself; however, as the plants grow larger and more are added to the collections, the show becomes better every year!

Patrick Franklin Patrick has been working with trees most of his life. Growing up in the Sandhills region of eastern North Carolina, he has always enjoyed being in the forest and working with plants. After earning his BBA, he applied to work in Arboriculture at one of the offices for Bartlett Tree Experts. Patrick is the great grandson of F.A. Bartlett and the 4th generation to be involved in the family business caring for trees. He is proud to be part of a company with an impressive history dating back to 1907. After spending 10 years in Charleston, SC, managing trees on clients' properties, Patrick decided to focus on an MBA degree, which he received with honors. He then moved to Charlotte, NC, in 2013 and began work at the R.A. Bartlett Tree Research Laboratories and Arboretum where he is currently the Vice President of Special Operations. Patrick is active in acquiring plants for many of the collections at the Arboretum and is proud to continue the family business of caring for trees and the tradition of collecting plants from around the world.

Sean Henry is a Research Technician at the Bartlett Tree Research Laboratory and Arboretum in Charlotte, NC. Originally from the Philadelphia area, he has had a lifelong passion for horticulture, particularly edible landscapes. He is a commercially licensed drone pilot and has been studying the use of drones in arboriculture for the past five years. In addition to flying UAS (Unmanned Aircraft Systems), he works with Dr. Tom Smiley studying soils and fertilizers, lightning protection in trees, cabling, bracing, and conducting tests on drought resistance, tree growth regulators, and saltwater intrusion remediation.



A business card for White's Nursery, LLC. The card features a photograph of a pink azalea flower on the left side. The text on the card includes the name 'Mike and Deb White' with the email 'whiteaz@verizon.net', the company name 'White's Nursery, LLC' with the tagline 'Specializing in Azaleas and Rhododendrons' and the website 'www.whites-nursery.com'. At the bottom, the address is '22531 Wildcat Road, Germantown, MD 20876' and the phone numbers are '301 788 3293' and '301 471 5958'.

Arkansas Chapter

The chapter welcomes new member Paula Jackson, Hot Springs National Park, Arkansas.

Ben Morrison Chapter

Diane Reinke—Secretary

The Ben Morrison Chapter has no activities to report for the summer issue. We haven't met since our Christmas party, and no activities are planned for the next several months because of uncertainties caused by the pandemic.

Central Carolinas Chapter

Kevin McCorkle—President

Despite the inability to currently meet as a group due to the on-going public health crisis, we continue to plan for our chapter's hosting of the annual ASA Convention scheduled for April of 2021.

We re-visited our field trip destinations again this year during the planned convention week to assure ourselves of what we believe to be the most ideal window of time for touring. We found them all to be knock-your-socks-off spectacular! Let's hope Mother Nature will agree to the timing next Spring.

Our convention plant sale inventory continues to grow. We are pleased with the diversity of plant selections assembled thus far. Included are hard to find deciduous azaleas from ASA Legacy Project hybridizers Kelly Strickland and Earl Sommerville, complex hybrid seedlings developed by the Perkins (each one unique and so fragrant), many select Gregory Bald seedlings via tissue culture, an extensive variety of evergreen azaleas from Legacy hybridizers and beyond, and a mix of native companion plants. (See Photo 1.) We are thankful to skillful ASA member plantsmen Andy Whipple, Robert Thau, J. Jackson and Lindy Johnson for their contributions to our plant offerings.



The chapter welcomes new members Deborah Pollard of Hillsborough, North Carolina, Amanda Taylor and Zach Spurgeon of Morganton, North Carolina and associate members J. Jackson and Lindy Johnson of Trade, Tennessee (Vaseyi) and Suzanne Medd of Hendersonville, North Carolina (Vaseyi).

Louisiana Chapter

The chapter welcomes new member Larry Dickerson, Kiln, Mississippi.

Northern Virginia Chapter

The chapter welcomes new members Anthony Tohill, Remsenburg, New York, and Mike Hudgins, Hayes, Virginia.

Texas Chapter

David Creech—President

We had great help from members of the chapter and others in Houston in setting up what would have been a fine convention in March. We sincerely appreciate the efforts of the following:

In Houston: Bart Brechter (for overall management of the convention, arrangements with speakers, venues,

and hotel), Vickie Lange (for helping with logistics of the whole convention and fielding registration questions), Kay Rice (plant sale coordinator), Margaret Pfeiffer (for coordinating transportation), and Pam Rundle (for hospitality arrangements).

In Nacogdoches: Sherrie Randall (for registration), Don Parsons (for processing registration funds and refunding them).

The chapter hopes to hold a fall plant sale in Nacogdoches and welcomes new member Kay Rice, Houston, Texas.

Texas Forest Country Chapter

Robert Thau—President

This year was a time that we will not forget in a long time. Our ASA convention was canceled along with the Jasper Azalea Festival, due to the Coronavirus, and we were also told to stay at home till further notice.

Now on the bright side, our Jasper City Park is really coming together; we are a little behind our schedule which was mainly due to weather. We are putting off planting azaleas till this fall.

Our chapter still has our yearly propagation workshop scheduled for June, if we are told everything is safe.

All our members need to always be looking for new members so our society can grow.

Vaseyi Chapter

Aaron Cook, President

The Vaseyi Chapter had planned several events and speakers over the months of April and May. Of course, due to the COVID19 pandemic, everything has been put on hold. It is mid-April and everything it seems is in full bloom here in Hendersonville, NC. We had a series of severe storms pass through late Sunday night, April 12th. Many of our members had some damage to their gardens and some are still without power as of Tuesday April 14th. We are looking forward to being able to gather as a group in the near future. Stay Safe.

The chapter welcomes new member Richard Parker, Hayesville, North Carolina.

At-Large Members

Welcome new at-large members Bradley Powers, Southport, North Carolina; Barbara Roberts, Alpharetta, Georgia; Jacqueline Gonzalez, Tallahassee, Florida; and Felix Dejesus, Plantation, Florida.



Photo Kevin McCorkle

◀ Photo 1—The elusive and mysterious Strickland Hybrid deciduous azalea "Kelly's Double" being grown for the 2021 ASA Convention Plant Sale inventory.

Distinguished Service Awards

The ASA Awards Committee awarded the Distinguished Service Award for 2019 to three members: Ronnie and Donna Palmer (See Photo 1.) and Robert Thau (See Photo 3.).

Award to Ronnie and Donna Palmer. The award text shown in Photo 2 reads:

*The Distinguished Service Award
to
Ronnie and Donna Palmer*

In recognition of your many contributions to the Azalea Society of America. Your love for azaleas and sharing of your knowledge has truly advanced our society and has enhanced the appreciation of azaleas for many people. Over your forty years of membership in the society you have actively promoted azaleas through your Azalea Hill Gardens and Nursery, donation of plants to society plant sales, sponsorship of a national convention and most recently through your work in starting the Arkansas Chapter of the society. We greatly appreciate you and thank you for your service and dedication.



Photo Susan Bauer

▲ Photo 1—Distinguished Service Award recipients Ronnie and Donna Palmer at their Azalea Hill Gardens & Nursery in Pine Bluff, Arkansas.

▼ Photo 2



Photo Susan Bauer

Award to Robert Thau. The award text shown in Photo 4 reads:

*The Distinguished Service Award
to
Robert Thau*

We thank you for the time and effort spent in support of the Azalea Society of America by serving as a board member of the national society, as legacy lead, and the national membership chairman. You were instrumental in assisting Jasper, Texas, to become recognized as an Azalea City of America and in recruiting members in Texas to form the East Texas Forest Region Chapter, all while establishing and sharing your broad collection of azalea hybrids and teaching propagation of azaleas in many venues and events. Your appreciation of azaleas and willingness to share your knowledge have inspired others and truly advanced our organization.



Photo Allen Owings

▲ Photo 3—Distinguished Service Award recipient Robert Thau (r.) with ASA President Rick Bauer in Robert's ever-growing azalea garden collections in Jasper, Texas.

▼ Photo 4



Photo Allen Owings

A Complement to Jim Trumbly's Chronological List of Satsuki Articles in *The Azalean*

Ajit K. Thakur, Ph.D.- Springfield, Virginia

Introduction

The collective name Satsuki comprised of two species, *R. indicum* Sweet and *R. tamurae* Masamune (previously *R. eriocarpum* Nakai) and their various forms, varieties, cultivars, and hybrids is probably the largest group of "evergreen" azaleas (over 4,000 and still growing) in the world. Many of these plants are popular bonsai materials as well as favorites of gardeners. There has been extensive literature on the Satsuki describing their flower and leaf patterns, horticultural and agronomical aspects, their distribution in the wild, etc. The present work summarizes most available previous works on the Satsuki complementing what Jim Trumbly has previously published. Jim summarizes his findings on articles from *The Azalean* and some monographs/books on Satsuki azaleas in the following article:

Trumbly, J., "Chronological List of Satsuki Articles in *The Azalean*." *The Azalean*. Winter 2016. 38(4):85-86.

The purpose of this present article is to list works from other journals and books/monographs on Satsuki azaleas published in both English and Japanese with a few notes by this author.

Other Informative Sources

Let us begin by stating that any discussion of the Satsuki (*R. indicum* Sweet) and Maruba Satsuki (*R. tamurae* Masamune, previously *R. eriocarpum* Nakai) and their hybrids must start with References 1 and 2 below:

1. Ihei, Ito. *Kinshu Makura* (English translation—*A Brocade Pillow, Azaleas of Old Japan* by Kaname Kato with introduction and commentary by Dr. John L. Creech). Weatherhill, New York. 1984. (See Fig. 1.)

Ihei's *Kinshu Makura* was published in 1692 and included a collection of 154 woodblock prints of flowers and foliage. The collection contained many unusual azaleas (such as strap petals, petal-less, variegated, etc.) From Creech's notes in the English translation, Ihei's purpose was "...to provide an illustrated description of the azaleas in cultivation and to correct some of the confusion caused by name

duplication." One finds association of many of Ihei's plants with modern day Satsuki, *R. kaempferi* Planchon, and *R. stenopetalum* (Hogg) Mabb (previously *R. macrosepalum* Maxim.) Makino forms. This collection is the first such on Satsuki azaleas that bloom during the fifth month of the Chinese lunar calendar (approximately from the last week of May to the third week of June). There are a few *kaempferi* and some *stenopetalum* azaleas and hybrids that also bloom during this period. The term Satsuki was not coined at that time.

2. Ohwi, J. *Flora of Japan*. (English edition of the author's 1953 original Japanese work edited by Frederick G. Meyer and Egbert H. Walker). Smithsonian Institution, Washington, D.C., 1984.

Dr. Ohwi's monumental work on Japan's flora is the most authentic of its kind. He describes the distribution of the Satsuki (*R. indicum* and *R. tamurae*), their variability, and their natural hybrids. The book also contains extensive coverage of all the Japanese species rhododendrons and azaleas and all other plants endemic to Japan.

3. Stevenson, J.B. Ed. *The Species of Rhododendron—Azalea Series*. Rhododendron Society (United Kingdom). University Press, Edinburgh, Scotland. 1947, 2nd Edition.

The section of this book that deals with azaleas (pp. 42-123) has a plant physiological description of the Satsuki along with the other series members. It is a valuable reading.

4. Creech, J.L. *Ornamental Plant Explorations Japan 1961*. Agricultural Research Service, U.S. Department of Agriculture in cooperation with Longwood Gardens of the Longwood Foundation, Inc. Volumes 34-75. 1961.

Dr. Creech went through the entire Japanese archipelago, including the Northernmost island Hokkaido with his Japanese friends in search of various ornamental plants. They obtained cuttings and seeds from the plants and took meticulous notes including plant habits and location. Many aspects of *R. indicum* and *R. tamurae* are well covered in the monograph.

5. Radcliff, A.E. "Notes on Satsuki Azaleas and Their

▼ Figure 1—*A Brocade Pillow* by Kaname Kato and Introduction and commentary by John L. Creech. (Reference 1.)

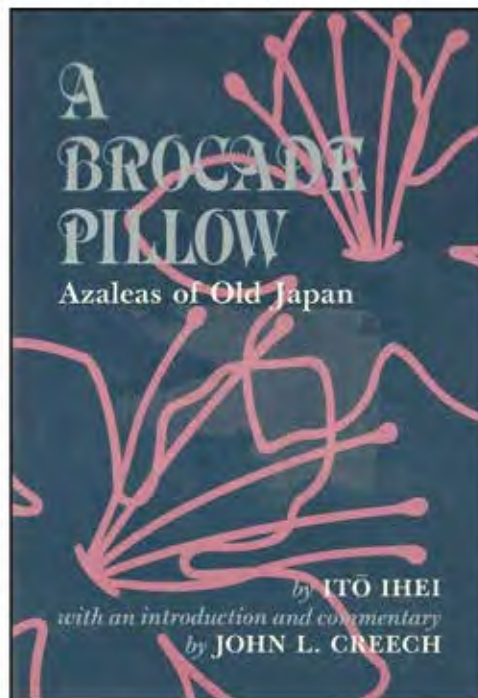


Photo A. Thakur

Allies." *Journal American Rhododendron Society*. 1965. 19(4):211.

The author described his observations for several Satsuki hybrids based on his personal knowledge of these plants. Many of them are correct with some exceptions. For example, what the author called 'Gyrokushin' is actually 'Gyokushin'. The former is not a Japanese name. Some of the color descriptions are not correct either. For example, 'Amagasa' (also called 'Tengasa') is not pink as he described; it is solid reddish orange. In any case, this article contains one of the earliest American descriptions of the Satsuki outside of the USDA.

6. Suzuki, H. and Suzuki, M. *Satsuki Taikan*. Unspecified Publisher. Tokyo. 1972.

The Suzukis published several monographs and articles on Satsuki and bonsai. This book was a compendium of all of that work by these two famous authors.

7. Creech, J.L. "A Distribution Note on *Rhododendron tamurae*." *Journal American Rhododendron Society*. 1978. 32(2):100.
8. Creech, J.L. "Small and Sheared Rhododendrons Can Enhance Gardens." *American Nurseryman*. 1985. 163: 48. (Reprinted in *The Azalean*. December 1987. 9(4):63-65.)
9. Creech, J.L. "Evergreen Azaleas of the Orient and Some Deciduous Species." *The Azalean*. September 1988. 10(3):43-45.

Creech discussed the origins of Satsuki (*R. indicum*) and Maruba Satsuki (Round Leaf Satsuki) (*R. tamurae*, previously *R. eriocarpum*), their distribution, natural hybrids, color forms, and other aspects. He described his visits and experience in Kyushu and other islands in search of these two species.

10. Greer, H. "The Satsuki Azaleas." *Journal American Rhododendron Society*. 1984. 38(4): 174.

The author discusses many historical aspects regarding the two Satsuki species (*R. indicum* and *R. tamurae*), the confusion in their species designations, and many other relevant points. He also provides some beautiful color photographs in this article. This is an article that Satsuki enthusiasts would love to read.

11. Kurume Tsutsuji Magazine Group. *Kurume no Tsutsuji (Azaleas in Kurume)*. Ashishobo, Fukuoka, Japan, 1989. (See Fig. 2)

This monograph was published in conjunction with the 1989 First International Azalea Festival that took place in Kurume, Japan. Each chapter of this wonderful monograph is in both Japanese and English, the latter having been supervised by Dr. John L. Creech. There were speeches by various experts on both Japanese species and hybrid azaleas (evergreen and deciduous). The hybrids covered were the Kurume, Satsuki, Hirado, and some other minor groups. It contains many Satsuki, Kurume, and Kurume-Satsuki intergroup hybrids developed in the Kurume area. It discusses the origin, culture (such as soil condition, fertilizers, watering, fungicides and

pesticides) and developmental history of the Satsuki azaleas. It lists many of the modern Satsuki cultivars by various growers and hybridizers in the Kurume area. The Akashi Kourakuen Nursery, Kuwano Youseien Nursery, Annou Kairakuen Nursery, Hisatomi Senkaen Nursery, and Hisatomi Koukaen Nursery are some of the prominent ones.

Some of their cultivars that many of us are familiar with are 'Adesugata' and 'Seidai' ('Akashi'), 'Sankatsu' and 'Banzai' (Kuwano), 'Isochidori' and 'Wakaebisu' (Annou), 'Otome' and 'Narihira' (Hisatomi). According to this monograph, the commercial production of Satsuki azaleas in the Kurume area started in 1905 by three local nurserymen—Messrs. Kumashiro, Egashiro, and Annou. They published an exclusive Satsuki azalea catalog, the first in Japan with a single plant group, in 1908.

Author's Note: From discussions with various Satsuki enthusiasts in Japan and John Creech, my understanding is that these nurserymen called these plants Satsuki Tsutsuji or the Fifth Chinese Lunar Calendar Month blooming azaleas. In other words, the word Satsuki was then used as an adjective. Shortly thereafter, the Tsutsuji part was dropped in the common usage and many collectors started calling them Satsuki by making the word a proper noun. Actually, it created a misunderstanding among the azalea experts in Japan whereby they started listing the Satsuki as a separate genre from the other evergreen azaleas.

12. Okita, I. *Zi Kan Satsuki (Satsuki Picture Dictionary)*. Bunken Shupan, Year of Publication Missing. Tokyo, Japan. (In Japanese with English plant names.)
13. Nakajima, S. *Satsuki Niumon (Introduction to Satsuki)*. Kin Ensha, Tokyo, Japan, 1985 (in Japanese).

The above two books complement John Creech's findings of the Satsuki.

14. Thakur, A.K. "The Enchanting Satsuki, Part 1." *The Azalean*. December 1989. 11(4):64-68.



▲ Figure 2—Azaleas in Kurume by Kurume Tsutsuji Magazine Group.

Photo A. Thakur

In the Fall of 1988, I gave a two-hour presentation on the Satsuki at the Potomac Valley Chapter of the American Rhododendron Society. Donald Voss presided over the meeting and took meticulous notes. Later, I gave another talk at the ASA annual meeting held in Northern Virginia attended by Don, Malcolm Clark, and Fred Galle. They all encouraged me to write it up and publish in *The Azalean*. Don gave me his notes from my lecture and I wrote a two-part article that was published by *The Azalean*. In Part 1, I described the origin, distribution, naming convention, and various other aspects of the Satsuki and Maruba Satsuki. My descriptions were based on my personal visits of various locations in Japan and conversations and contacts with my friends Hideo Suzuki, Yuji Kurashige, Dr. Tsuneshigo Rokujo, Dr. John Creech, and Dr. Masaaki Kunishige, all Japanese plant explorers and horticulturalists. I also gathered quite a lot of Japanese literature from both new and used book stores in Kyoto, Tokyo, and Osaka. My wife Dr. Yoko Hirohashi Thakur translated them when I needed help. I will not repeat what I wrote because one can read them in my article in reference number 14 above.

15. Creech, J.L. *The Bonsai Saga: How the Bicentennial Collection Came to America, U.S. National Arboretum*. National Bonsai Foundation. 2001.

Creech discusses how the bonsai collection which contains many Satsuki, a few Kurume, and a few conifers found their way to the National Arboretum. There are photographs of these plants along with his notes.

16. Kennedy, A. *Floral Treasures of Japan: Satsuki Azaleas*. Stone Lantern Publishing Company. Passumpsic, Vermont. 1997.
17. Ugajin, T. "Satsuki Azaleas as Dwarf Potted Shrubs," in Sam Gardener, Toyotao Aoshima, Kan Yashiroda et. al., Eds. *The Art of Japanese Bonsai Trees-How to Grow and Train Dwarf Trees Like a Bonsai Master*. Kindle Edition, August 9, 2001 (ASIN B005GR11GE).

18. Callahan, R.Z. *Satsuki Azaleas for Bonsai Enthusiasts and Azalea Lovers*. Stone Lantern Publishing Company. Passumpsic, Vermont. 2006.

The authors of these books discuss various aspects of Satsuki azaleas in general and their bonsai forms in particular, such as their cultural requirements. Dr. Callahan, being a plant geneticist, further discusses some scientific aspects of the Satsuki.

19. Rokkaku, K. *Satsuki Hanagara Hya Ka (One Hundred Satsuki Flowers)*. Gekkan Satsuki Kenkyusha. Tochigi-Ke, Japan. 1979.
20. Rokkaku, K. *Joku Satsuki Hanagara Hya Ka (Another Hundred Satsuki Flowers)*. Gekkan Satsuki Kenkyusha. Tochigi-Ke, Japan. 1980.

The Gekkan Satsuki Kenkyusha introduced two hundred Satsuki with photographs and descriptions in the above two books.

21. Kunishige, M. and Y. Kobayashi. "Chromatographic Identification of Japanese Azalea Species and their Hybrids" in *Contributions toward a Classification of Rhododendrons*. J.L. Luteyn and M.E. O'Brien, Eds. New York Botanical Garden. 1980.

As the title implies, this publication discusses many genetic and other scientific investigations of Japanese azalea species and hybrids including the Satsuki. They did chromatographic identification of these plants. Their investigation reveals the complex anthocyanin complement due to crossing of species containing cyanidin and malvidin. Though the article is rather technical, it helps in understanding the characteristics of different hybrid groups.

22. Tasaki, K., Nakatsuki, A., and N. Kobayashi. "Morphological Analysis of Narrow-petaled Cultivars of *Rhododendron macrosepalum* Maxim." *Journal of the Japanese Society of Horticultural Science*. 2012. 81(1):72.

Although the title of the article may seem to imply that it is on the *linearifolium* (strap-petal) forms of *R. macrosepalum* (now *R. stenopetalum*) (Mochi Tsutsuji or the Big Sepal Azalea), it covers similar forms of *R. kaempferi* (Yama Tsutsuji, Torch Azalea), and *R. indicum* (Satsuki). It provides a detailed morphological analysis to investigate the origin of *linearifolium* forms of many cultivars of these three species.

The Gekkan Satsuki Ken Kyusha (Satsuki Research Association) is the most authentic and extensive organization for Satsuki azaleas. They publish monthly newsletters (available for members only) but unfortunately, all of them are in Japanese with Kanji characters for the plant names. Every 4-5 years, since 1979, they have been publishing a beautiful "encyclopedia" of available Satsuki and Maruba Satsuki (species, varieties, forms, and hybrids) with slightly variable titles. The 1983 edition had the title *Shin Satsuki Jiten (The New Satsuki Dictionary)* with Kenko Rokkaku as the editor. The books contain beautiful color photographs with the origins of the plants (when known) along with their cultivar names in English. Originally, they used to name the title as *Satsuki Jiten (Satsuki Dictionary)*. Then, with the 2001 edition, they changed the title to *Satsuki Dai Jiten (Satsuki Big Dictionary)*. Finally, for the 2014 edition, they changed the title again to *Satsuki Zukan (Satsuki Illustrated Encyclopedia)*. I have their 1983 edition *Shin Satsuki Jiten (the New Satsuki Dictionary)*, the 1987 edition (*Satsuki Jiten*, the Revised Edition), the 1992 and 1995 editions (*Satsuki Jiten*), the 2001 edition (*Satsuki Dai Jiten*) and finally the 2014 edition (*Satsuki Zi Kan*). Each edition excludes some plants that are not readily available and includes new introductions. The 2014 edition of the book is under a new title, *Satsuki Zi Kan*, includes an English index for the first time. Along with many other rare Japanese publications, this item can be had from the Kino Kunya book store chain in Seattle, New York, San Francisco, Los Angeles, Chicago and several other places. All enquiries should be made online to: bookwebusa@kinokuniya.com.

The orders are shipped directly from their headquarters in Shijuoka, Tokyo. In the later issues, the work lists a newly introduced branch sport of 'Kinsai' an indicum selection, which also goes by the name 'Kin-no-sai', 'Kinzai', 'Kin-no-zai', 'Shide-satsuki' (Satsuki with Ragged Streamers, referring to strap or lacinated petals); and sold in America as 'Polypetalum'). This new sport, 'Yuki-no-hana' (Snow Brilliance) is a neat plant with red strap petal flowers like the ones on 'Kinsai' with white edged or variegated leaves that are narrow like the mother plant's. Its name is 'Yuki-no-hana' (Snow of Brilliance). The plant was introduced first in the 1992 edition. So far as I know, it has not been brought into the US. I will cite the editions I have:

23. Rokkaku, K. *Shin Satsuki Jiten, (New Satsuki Dictionary)*. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). Kanuma-Shi, Tochi-Ken, Japan. 1983.
24. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Jiten (Satsuki Dictionary)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan. (Revised Edition). 1987.
25. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Dai Jiten (Satsuki Large Dictionary)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 1992.
26. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Dai Jiten (Satsuki Large Dictionary)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 1995.
27. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Dai Jiten (Satsuki Large Dictionary)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 2001.
28. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Dai Zukan (Satsuki Illustrated Encyclopedia)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 2014.
29. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Satsuki Sen Sue Zukan (Pictorial Book of the 1000 Varieties of Satsuki)*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 2017.
30. Gekkan Satsuki Ken Kyusha (Satsuki Research Association). *Reiwa Version of Satsuki Illustrated Book of 1400 Species*. Tochino-Ha-Shobo, Kanuma-Shi, Tochigi, Japan, 2020. (See Fig. 3.)

▼ Figure 3—Satsuki Zi Kan by Satsuki Research Group.



Photo A. Thakur

Author's Note: When I started collecting Satsuki in the 1980s, several azalea propagators were selling 'Kinsai' (Golden Plant) by all different names stating there were different plants. (See Photo 1.) One nurseryman who sold thousands of Satsuki to garden centers and naïve collectors like me, even called it a form of *R. linearifolium* (now considered to be *R. stenopetalum*), variety 'Red Spider'. So, after my first year my 'Kinsai', 'Kinzai', in the West also called 'Shide-satsuki' (Satsuki with Ragged Streamers), 'Red Spider' all bloomed. They all had identical narrow leaf form and narrow lacinated flowers! One interesting thing about the meaning of the name 'Kinsai'- in English it means golden plant. The flowers are red on this plant. I suspect the name derives from the autumn foliage which could be deep orange. In an earlier article in *The Azalean* (Reference No. 31 below), I mentioned another Satsuki that was incorrectly named in America and was being sold under three different names. The beautiful dwarf Satsuki is 'Kazan' (Deer Mountain), in Japan, also called 'Buncho'— (Java Sparrow), and in the West 'Kakuba-chinzan' which means Pointed Leaf Chinzan; a sport of the old garden variety of *R. indicum* selection called 'Osakazuki'. Because of a mix-up during the original introduction, it was listed as 'Rukizon' in American publications. The word 'Rukizon' does not exist in Japanese language! To make matters even worse, there is a second Satsuki 'Kazan' (meaning Flowery Mountain, with entirely different flower and plant forms), a Kurume hybrid, and a Hirado hybrid that are also pronounced as 'Kazan' but their Kanji characters are different from each other.

31. Thakur, A.K., "The Enchanting Satsuki, Part 2." *The Azalean*. March 1990. 12 (1):4-7, 15-16.

The Bonsai Clubs International (BCI), which has many international clubs under its umbrella, publishes a magazine (*Bonsai Magazine*) that contains many pieces of information regarding the Satsuki. It is not just for bonsai lovers; it is an important magazine for Satsuki lovers as well.

The following article by the Bonsaimaster Tatemori Gondo discusses some interesting issues about the use of Satsuki. According to records, Satsuki azaleas were prohibited for the commoners to use. They were only allowed to be used by temples, shrines, and noble people until during the early Edo period (1603-1864). During the Taisho period (1912-1926) Japanese people got interested in using the Satsuki for bonsai purposes.

32. Gondo, T. (Translated by K. Okimura with Sketches by C. Gratz). "Satsuki Bonsai", *Bonsai Magazine*. 2001. 40(3):20.

The following article provides some suggestions regarding pruning

of Satsuki azaleas:

33. Fassio, D. "After-Flower Pruning of Satsuki Azaleas in California." *Golden Statements*. 2005. 28(3):13.

The following books are for various aspects of Satsuki such as their cultural requirements, bonsai quality, etc. Most of them are how-to type. They have beautiful color photographs:

34. Token, K., Editor. *Satsuki Meika (The Book of Satsuki Azaleas)*. Ikeda Publishing Co., Kanagawa. 1971.
35. Okita, Y. *Satsuki Nyumon (Introduction to Satsuki)*. Hoikusha, Osaka. 1971.
36. Suzuki, M., Editor. *Satsuki Nyumon (Introduction to Satsuki)*. Goto Shoin, Osaka, 1971.
37. Ishikawa, M., Suzuki, N., and Kurihara, S. *Satsuki Kante Jiten (Satsuki Appraisal Dictionary)*. Gendai Kikaku Shitsu, Tokyo. 1975.
38. Naka, J.Y., Ota, R.K., and Rokkaku, K. *Bonsai Techniques for Satsuki*. Ota Bonsai Nursery Publication, Gekkan Satsuki Kenkyusha. Tokyo, Japan, 1979. (Very Expensive, \$200 on Amazon.)
39. Akabane, M. *Satsuki*, 2nd Edition. Nippon Hoso Kyokai (NHK, the only Japanese Public Broadcasting Corporation) (Japan Broadcasting Corporation). Shibuya-Ku, Tokyo. 1989.
40. Nakayama, S. *Satsuki Nyumon (Introduction to Satsuki)*. Kin-Ensha, Tokyo. 1985.
41. Tochinoha Shobou Co. Ltd. *Satsuki Jiten (Satsuki Dictionary)*. Kanuma-Shi, Tochigi, Japan, 2004.
42. www.satsukimania.com/en/varieties. Shibue Satsuki Azalea Bonsai Garden, Kanuma-Shi, Tochigi, Japan, (A website maintained by the Bonsai Garden containing



▲ Photo 1—'Kinsai' also known as *R. polypetalum* or *R. indicum*.

A Final Naming Note

Regarding naming convention of three-word Japanese plant names, Japanese plant lovers use the following convention, for example:

'Nihon-no-hana' (Nihon = Japan, no = of, hana = Light; altogether Light of Japan).

The three-word plant names generally use the preposition 'of', which can also be used in the possessive sense as an apostrophe 's' (i.e., as in Japan's Light).

Finally, some of the Japanese plant names (Satsuki and Marubatsuki in our case) are often spelled slightly differently, as below:

-ba ≡ -ha (e.g. 'Maruba-satsuki' ≡ 'Maruha-satsuki', the Round Leaf Satsuki, *R. tamurae*)

-Dai- ≡ Tai- (e.g. 'Daisuhai' ≡ 'Taisuhai' ≡ 'Osakazuki', meaning Large Sake Cup; they are all the same plant just pronounced differently in Kanji)

-gi ≡ -ji (e.g. the *R. indicum* selection 'Waraigishi' ≡ 'Waraijishi')

-po ≡ -bo (e.g. 'Gunpo' ≡ 'Gunbo', 'Gumpo' in the West. The 'u' should be pronounced as 'oo' as in wood, not as 'u' in umbrella)

-sutoku ≡ -ttoku (e.g. 'Getsutoku' ≡ 'Gettoku')

-jo ≡ -yo (e.g. 'Komanjo-satsuki' ≡ 'Komanyo-satsuki', in the West *R. indicum* selection 'Balsaminiflorum' or 'Rosiflorum').

high resolution authentic photographs of many Satsuki azaleas along with their origins, when known). Remember to put the “en” in the link to get the English version.

43. www.tangorin.com (An online Japanese-to-English dictionary. Very helpful to understand the Japanese names of many plants.)

Dr. Ajit K. Thakur is a retired statistician whose love for azaleas (East Asian evergreen species, East Asian and North American deciduous species, and Satsuki and Kurume hybrids) spans about 45 years. At one time or another, he collected all the evergreen and deciduous species and most of the Satsuki hybrids introduced into the USA. Many of them are still thriving. (See examples in Photos 2-4.) He has given seminars on azaleas on many occasions at various locations and has written about these azaleas in *The Azalean*. He is a long standing member of the Northern Virginia Chapter of the ASA.

Deadlines for *The Azalean*

Fall 2020—July 15, 2020
Winter 2020—October 1, 2020
Spring 2021—January 1, 2021
Summer 2021—March 1, 2021

Remember, you too can write
for the *The Azalean*.

Contact:
theazalean@gmail.com.

Photos 2-4: A Sampling of the Variety of Satsuki Azalea Forms



Photo A. Thakur

◀ (Top Left) Photo 2—'Okinanishiki' (*R. indicum*)

▼ (Bottom Left) Photo 3—*R.* 'Balsaminiflorum'

▼ (Bottom Right) Photo 4—*R.* 'Sumizome'



Photo A. Thakur



Photo A. Thakur

A Note on Cultivar Naming

William C. Miller III—Bethesda, Maryland

The author may be correct that Japanese plant lovers use 'Nihon-no-Hana', but plant professionals and The Azalean follow the *International Code of Nomenclature for Cultivated Plants* (ICNCP) and the *International Rhododendron Register and Checklist* (IRRC). Under Article 21: Names of Cultivars (21.3) of the ICNCP, "Each word of a cultivar epithet must start with an initial capital letter unless linguistic custom demands otherwise.

Exceptions are words after a hyphen unless they are proper nouns, conjunctions, and prepositions other than those in the first word of the epithet." The citation in the IRRC for the cultivar name offered by the author shows 'Nihon-no-hana'. Other examples are 'Shinnyo-no-tsuki' and 'Niroku-no-iwai'. If authors are unsure about the spelling or the proper form of any cultivar names (not just in Japanese), they have access to a digital version of the IRRC on the ASA Website.

ASA Financial Statement - December 31, 2019

Paul A. Beck, Treasurer

INCOME STATEMENT

Year 2019

RECEIPTS

Contributions, Donations & Gifts	\$5,610
Dues (Life & Regular) ¹	\$12,095
Seed Exchange	\$828
<i>The Azalean</i>	\$2,535
Interest & Dividends	\$5,831
Total Receipts	\$26,899

EXPENSES

Grants	\$10,000
Professional Fees ²	\$5,400
Printing, publications, postage	\$10,124
Membership	\$2,882
Other expenses	\$877
Total Expenses	\$29,283

INCOME - EXPENSES

(\$2,384)

BALANCE SHEET

December 31, 2019

ASSETS

Checking	\$7,316
Savings	\$24,641
PayPal	\$2,939
CDs	\$80,296
Investments	\$128,524
Total Assets	\$243,716

LIABILITIES AND RESERVES

Uncashed checks	\$0
Credit Card Account	\$24
Operating Fund	\$75,269
General Endowment	\$62,715
Research Fund	\$105,708
Total Liabilities	\$243,716

¹ In 2019, the dues revenue was \$12,095 compared to \$19,490 for 2018. This is a huge difference. Details are discussed in the 2019 Treasurer's report, published on our website, <https://www.azaleas.org/annual-reports>.

² Three issues of *The Azalean* were published in 2019; the 2019 Winter issue came out in early 2020; this issue cost \$4,347.

13andMe

By Dayton Wilde and Lav Yadav—Athens, Georgia

Over 5 million people have had their DNA analyzed by the genetic services company 23andMe. This analysis can provide information about someone's ancestry by examining how closely their DNA matches the DNA of people from different geographic regions. The genetic profile can predict, with some accuracy, the likelihood for certain traits like eye color or aversion to cilantro. The presence of DNA from closely related species, such as *Homo neanderthalensis*, can also be determined.

The techniques used to explore the genomes of humans can be applied to azaleas to understand their genetic diversity and to identify genetic traits of horticultural interest. In humans, unique DNA sequences or "markers" have been identified that are distinctive of a geographic region or physical trait. DNA markers are often single nucleotide changes, such as an A (adenine) in place of a G (guanine). These variants are called SNPs, for "single nucleotide polymorphisms". Through genome sequencing, SNP markers have been identified across the 23 pairs of human chromosomes. We were interested in looking at the genetic diversity of Piedmont azalea (*Rhododendron canescens*), which has 13 pairs of chromosomes.

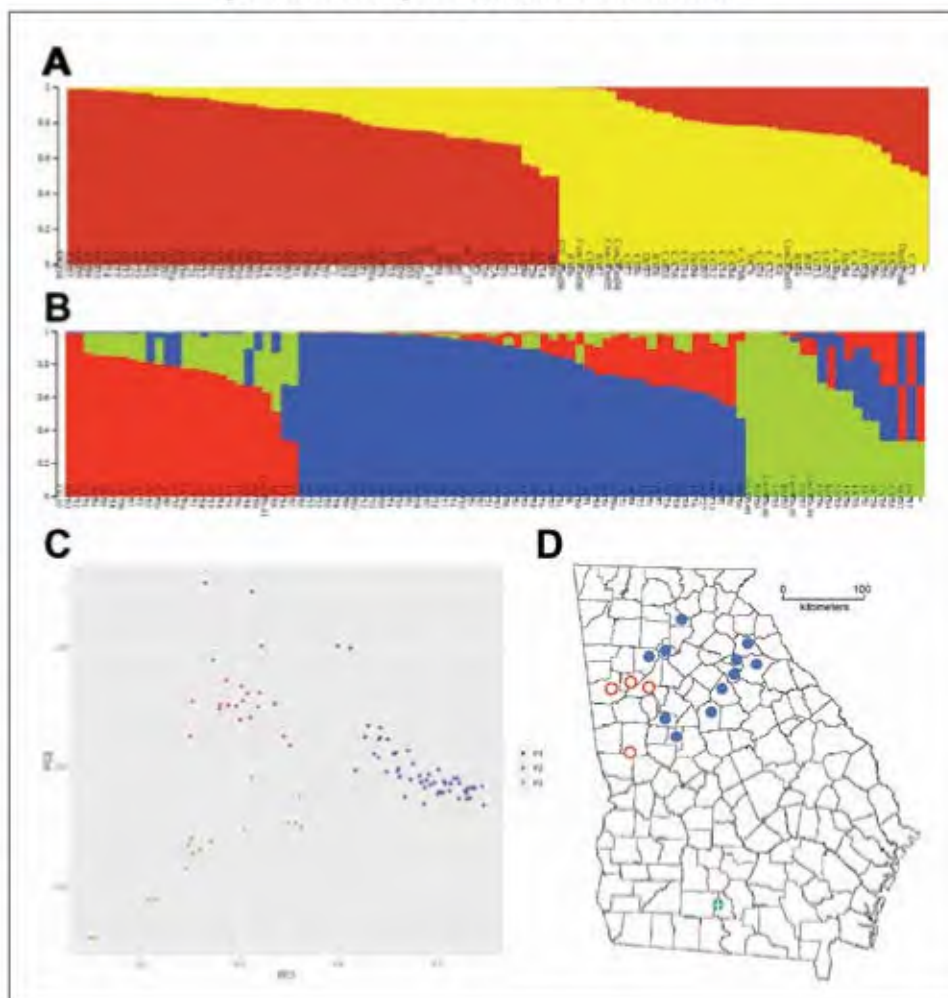
With support from the Azalea Research Foundation, we collected leaves from about 300 Piedmont azalea plants from across Georgia and isolated their DNA.¹ Ninety-six plants were selected to represent the diverse collection sites, and their DNA was cut into specific fragments by two enzymes. The ends of the DNA fragments were sequenced, providing a sampling of each genome that could be compared between the 96 plants. Around 100 million high-quality sequences were read, and SNPs were identified using two different bioinformatic platforms, STACKS² and GBS-SNP-CROP³. Over 3,000

SNP markers were then used to determine how closely related the 96 Piedmont azaleas were to one another.⁴

The relatedness of plants in the azalea collection is shown in Figure 1. Plants with similar patterns of SNP variation were assigned to groups, shown here as colored vertical bars. Several azalea plants had genetic characteristics of more than one group. The number of groups identified with matching SNP patterns depended on which bioinformatic program was used to identify SNPs. Two major groups (red and yellow) were resolved from the STACKS data (Fig. 1A). Three groups (red, blue, green) were found with the GBS-SNP-CROP data (Fig. 1B).

The patterns of SNP variation were then examined by a different approach called principle component analysis (PCA). PCA compared the azalea samples based on the two major sources of that variation, identified as principal component 1 and 2 (PC1 and PC2) in Fig. 1C. In this case, SNP markers from both bioinformatic programs gave the same answer: three populations could be distinguished, corresponding to samples from (a) the western Georgia Piedmont, (b) the eastern/central Georgia piedmont, and (c) collaborators (Fig. 1D). The samples from collaborators came from locations in northern Florida, southern

▼ Figure 1—Population structure of Piedmont azalea using data from STACKS analysis (A) or GBS-SNP-CROP analysis (B). Principle component analysis (C). Collection sites of Piedmont azaleas (D). The groups identified by the blue, red, and green colors in figures B, C, and D are the same.



Georgia, and northern Georgia. This population, interestingly, contained all plants with a particular phenotypic variation, the presence of glandular hairs on their petioles, bud scales, and new growth.

A third type of population statistics⁵ determined that the genetic diversity of Piedmont azaleas within each of the three populations was high. In fact, more variation was found among the individuals than between the populations. This suggests that there may be a significant level of gene flow between the populations. The degree of inbreeding among the Piedmont azaleas was found to be low, which would be expected from a species in which crossing among unrelated individuals is favored. Chappell and co-authors⁶ proposed that pollinators may be responsible for reducing differences between populations of native azaleas by increasing gene flow. Piedmont azalea has been observed to be pollinated by bees, butterflies, and hummingbirds. Hybridization with other native azaleas species, such as *R. flammeum*, may be a source of genetic diversity in *R. canescens*.⁶

The level of genetic diversity of Piedmont azalea in Georgia is encouraging for the search for variation in genes for traits of ornamental potential. We are interested in genes that control plant shape, particularly height and branching patterns. We are in the process of screening over 200 of the Piedmont azaleas for variation in 15 genes that are known to regulate height and branching in other plant species. These include genes involved in hormone biosynthesis and signaling, lateral bud repression, and the transition from vegetative growth to flowering. A dwarf Piedmont azalea is among the plants being screened and this analysis may discover the genetic basis for its reduced stature. Plants with variation in specific genes may be useful for breeding Piedmont azaleas with a more compact plant shape for landscaping.

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Dayton Wilde is a professor and Lav Yadav is a doctoral student in the Horticulture Department of the University of Georgia. A major interest of our lab is the application of genetics to streamline the development of ornamental traits, particularly in native plants. The authors wish to thank the Azalea Research Foundation for its generous support of this research.

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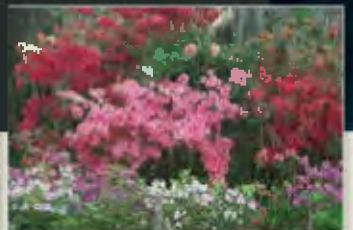
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- William Wordsworth

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