# Response to "Questions for Azalea Mavens to Address in *The Azalean*"

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

In the Spring 2016 issue of *The Azalean*<sup>1</sup>, Mr. Will Ferrell raised six azalea-related questions. I am by no means a guru of all azaleas (species and hybrids, evergreen and deciduous) but would like to share my research, communications, observations, and experience to address some of the questions that he raised.

## **Question 1: Can This Journal Print More Information about the Satsuki?**

There have been several articles in *The Azalean* on the Satsuki<sup>2,3,4,5</sup> and many books (Lee<sup>6</sup>, Galle<sup>7</sup>). Unfortunately, most of the publications in Japan, e.g. Satsuki Dai Jiten<sup>8</sup> (Satsuki Large Dictionary) have very few English descriptions. I have touched on some of the issues regarding the Satsuki in my earlier articles. I will briefly describe some facts. The word Satsuki means the Chinese Fifth Lunar Month that covers late May to late June in our case. The group Satsuki consists of two species—Satsuki (Rhododendron indicum) and Maruba Satsuki or the Round Leaf Satsuki (R. tamurae, previously R. eriocarpum) and their within- and between-group hybrids. Both species are endemic in southern Japan, specifically, southern Honshu, Shikoku, and mostly the Yakushima region of Kyushu. In the lower reaches of the hilly regions of the Yakushima prefecture (particularly Tanegashima, Tokara, etc.), we find mostly R. tamurae. The species R. indicum (with many forms) are hardier than R. tamurae. Many of the original large flowered Satsuki are natural hybrids of the two species that originated in the regions where the two meet. Because of over-harvesting and human encroachment, many of them have disappeared.

In the 1692 woodblock print work Kinshu Makura (in English, A Brocade Pillow<sup>9</sup>), the author Ito Ihei described many different forms and color patterns of the two species and their natural hybrids. Many of the species and hybrid Satsuki exhibit sporting due to mutation and other such phenomena; examples: 'Kokinsai' (Ko means small in Japanese; it is a sport of 'Kinsai', aka 'Polypetalum' a strappetal form of R. indicum); 'Otakumi'. In Japan, they are called Shide Satsuki, the word shide means streamers-like irregular, jagged, strap-petal flowers. They are borderline hardy north of Montgomery County, Maryland. A special note: 'Kinsai' was originally introduced as R. laciniatum in the US. Various forms of R. tamurae are less hardy but can be grown with some winter protection in Zone 7. Incidentally, the popular white compact Satsuki 'Gunpo' (sold in the US as 'Gumpo') is not a form of R. tamurae. It is an old Satsuki selection. The extremely large (sometimes over 5" diameter) flowered plants, such as 'Meiko' and 'Daisetsuzan', are quite possibly crosses between R. indicum and R. tamurae and are hardy to Zone 7 with some winter protection. The contorted-leaf Satsuki azaleas such as 'Rinpu', 'Oimatsu',

and 'Secchu-no-matsu' are borderline hardy in Zone 7. They would sometimes lose the contorted-leaf nature to become solid-leaf forms and eventually die. The plant 'Shiriyuno-homare', which also exhibits some contorted leaves, is hardy to Zone 7 and is a robust grower (5' in 20 years). Additionally, this plant has lavender-colored strap-petal flowers. Somatic mutation and chemical exposure caused many Satsuki Hybrids to form variegated leaf cultivars (for example, 'Keigetsu', 'Shira-fuji', 'Murasaki-fuji'). They are borderline hardy in Zone 7. The other phenomenon with these plants, also in Girard's Variegated Sword, 'Girard's Variegated Gem', 'Girard's Variegated Hot Shot', etc., is that they start showing solid green-leafed branches. If these are not cut off, the variegated branches may start dying off and one will eventually end up with the original cultivars without any variegation. There are several forms of the Satsuki species that are hardy to the warmer parts of Zone 6. Examples are 'Beni-kirin' ('Beni-kirishima' in the US; may grow up to 15' or more in height in the shade and is double orange-red), 'Warai-jishi' ('Macranthum Double Pink' in the US), 'Hakatashiro' ('Macranthum Album' in the US). Most of the R. indicum selections were originally introduced in the West as Macrantha or Lateritia and are often sold by that designation. For those who want to go after the illusive yellow evergreen azalea, the mystery may lie in a particular Satsuki called 'Chojuho' [eternal youth in Japanese]. 'Chojuho' is a strap-petal azalea that starts blooming in May and the flowers last until winter, changing its color from light orange-red with yellow tinge in the center and eventually becoming deeper red with a distinct yellow center. This flavonoid (yellow pigment) introduced into a pure white Satsuki like 'Gunpo' or 'Daisetsuzan' bears the possibility of a yellow evergreen azalea. For many other interesting aspects of Satsuki azaleas, both species and hybrids, see my articles published earlier in The Azalean. 2,3,4,5

## Question 2: How Cold-Hardy are Flower Buds of Azaleas?

'George Lindley Taber' is a Southern Indian Hybrid originally introduced by Dr. H. H. Hume in the Glen Saint Mary area of Florida. It is hardy in Zone 7 with winter protection. It was originally meant for Zones 8 and 9. The evergreen azalea 'Appleblossom' is a Kurume Hybrid. Its Japanese name is 'Ho-o' and was introduced by the Domoto brothers, (California nurserymen of Japanese parentage), under the English name. It is both plant- and bud-hardy to Zone 7. There is also a deciduous Mollis Hybrid by that name.

'Sekidera' belongs to the Mucronatum Group. Originally, *R. mucronatum* was thought to be a species. None of the members of this group has ever been found in the wild and,

as a consequence, it lost its species designation and is noted as R. × *mucronatum*. There are various other members of this group that used to be widely distributed by southern nurserymen, such as 'Mucronatum Album' ('Ledifolia Alba' or 'Indicum Album'), 'Lilacina', etc. Most of them are hardy to Zone 7 (and of course in Zones 8 and 9).

The Mucronatum Group played a very important role (along with the Satsuki species and hybrids and R. kaempferi and its hybrids) in the development of Ben Morrison's Glenn Dale and Robert Gartrell's Robin Hill Hybrids. The Mucronatum Group consists of both natural hybrids and human crosses of R. ripense (Kishi-tsutsuji), riverbank azalea, and its close relative R. stenopetalum, previously R. macrosepalum (Mochi-tsutsuji), big sepal azalea. They are both fragrant and the fragrance is inherited by the entire hybrid group. The popular cultivar 'Delaware Valley White' was not introduced from Japan, and its origin is cloudy. Some claimed it is the same Mucronatum Hybrid 'Indicum Album'. Comparison between the two plants fails to show identity or similarity. I believe this cultivar, which is hardier than the other members of the Mucronatum Group, is quite likely a "Found in my Backyard" natural cross in the East Coast between 'Indicum Album' or some other plant of the Mucronatum Group and a midseason-blooming Kurume Hybrid. 'Delaware Valley White' is generally hardy to warmer parts of Zone 6, provided a microclimate. The plant erroneously called 'Koromo-shikibu' is actually 'Hanaguruma' [flower cart] and is a selection of R. stenopetalum f. linearifolium'. (See Thakur, with the picture from my garden on the front cover<sup>4</sup>).

There are several strap-petal forms of *R. stenopetalum*— 'Koromo-kagae', 'Saigyo', 'Shide-guruma', zai''Shiro Hana-guruma', and 'Seigai'. In my recollection, only 'Koromo-shikibu' (to be correct, 'Hana-guruma') and 'Seigai' (both petals and leaves are extremely narrow) are the only two of these plants that were introduced in the US. There is a pure white strap-petal form of *R. stenopetalum* f. linearifolium ('Shiro Hana-guruma' in Japanese) available in Japan. (My picture from Japan is included in this discussion, See Photo 1). In my experience 'Seigai' is short lived in Zone 7, where it blooms sporadically in the spring and fall. R. K. Beattie introduced a plant named 'Koromo-shikibu', listed under PI 77142, No. 600 as a Kurume Hybrid with white flowers with corolla tipped purple, different from 'Hana-guruma'. Kinshu Makura shows many plants of this form belonging to the R. stenopetalum, R. indicum, and R. kaempferi species. The English translation of Kinshu Makura (A Brocade Pillow) has many comments about many of these plants by Dr. John Creech. 9 R. stenopetalum is a semideciduous (or semi-evergreen, depends on how one likes it) in the colder parts of Zone 7. 'Lady Locks', grown from seed of an R. stenopetalum by Dr. Tsuneshige Rokujo of the Tokyo University and introduced in the US by his friend Polly Hill of Martha's Vineyard under the North Tisbury Group designation is the common species in the US gardens. I have the same plant along with the species obtained from the West Coast, and they are virtually identical. In general, most of these species and their hybrids are hardy in Zones 7-9.

None of my R. stenopetalum (the species type and the selection 'Lady Locks') and 'Hana-guruma' ('Koromoshikibu', misnomer) ever failed to bloom in the last 40 years. They are extremely vigorous (4' x 8' in 40 years). They demand space and depending upon the winter condition they are more semi-deciduous than semi-evergreen. Their leaves are rough and sticky and trap mites and other bugs, and their flowers are very fragrant. 'Seigai' is an exception as mentioned earlier in terms of both hardiness and floriferousness. 'Hana-guruma' is probably the most floriferous of them all. Many people seem to have no problem with it in south-central New Jersey, Zone 6, most years. As an additional note, I acquired three strap-petaled white 'Koromo-shikibu' from three different sources on the East Coast. After the first year, they all reverted back to solid white flowered 'Ledifolium Album'. Some gardeners may have different experiences with this plant.

# Question 3: What is the Experience of Members Spraying for Petal Blight (*Ovulinia azaleae*)?

When Bayleton® (triadimefon, a triazole fungicide, developed by Bayer AG) first came out in 1973, we were all excited about its promise and spent a lot of money to buy and use it. The Azalea Society of America bought some in the wholesale market and members bought it from the society at a slightly reduced price. It was very expensive for hobbyists like me and still is (e.g., a discount price on the Internet is about \$190 US for four 5.5 oz. packets). I sprayed my mid-season-blooming Satsuki Hybrids, Glenn Dales, Robin Hills, Ring Hybrids, Back Acres, Harris Hybrids, etc. with it. Alas, I still had petal blight on my plants. According to my late friend Malcolm Clark of North Carolina, my timing was not precisely right. In my understanding, the spraying must be repeated. All of the fungicides are not necessarily safe, particularly if one has children and pets around. I have since stopped using any of these chemicals. The Glenn Dale, Robin Hill, Ring, Back Acres, Harris, and other hybrids and some of the mid-season blooming Satsuki Hybrids are petal blight prone, as one or more of the parents tend to suffer from petal blight. From what I have seen and from the description by the manufacturer, spraying does not damage the plants.

There is an old article on the topic by two scientists from Rutgers University Plant Pathology Department<sup>10</sup> who published their research findings on the petal blight topic and showed comparative effectiveness of various fungicides both individually as well as in combination. They defined two indices: the Ovulinia Index (0%\leq I\_0\leq 100%) and the Sclerotia Index  $(0 \le I_s \le 3; 0 = \text{None}, 1 = \text{Few}, 2 = \text{Moderate},$ and 3 = Abundant, with fractional numbers being possible). The results of their investigation showed Benlate® 50W (DuPont) 8 oz/100 gallons achieving an  $I_0 = 63\%$  2 and  $I_s =$ 0.3; and Daconil® 2787 (Diamond Shamrock) 2 lb/gallon achieving an  $I_0 = 43\%$  and  $I_s = 2.6$ . They concluded that a combination of the above two would provide maximum control of petal blight cycle when applied repeatedly before flowering. At the time they performed their investigation, Bayleton® was not yet available. Unfortunately, because of a large toxicological profile, DuPont has voluntarily withdrawn Benlate® from the US market and stopped



▲ Photo 1—'Shiro Hana-guruma' is an example of a strap-petal azalea. It is possibly derived from R. stenopetalum. Photo taken in Japan.

manufacturing it in 2001. Peterson and Davis published an updated version of their investigation<sup>11</sup> in 1977 that includes Bayleton<sup>®</sup> and many other fungicides for ovulinia control. Unfortunately, they did not show any of the two indices for any of the fungicides investigated in this latter publication.

Both the Lee and Galle books contain extensive discussions of azalea petal blight and other azalea-rhododendron diseases. Garden hygiene may be the most important preventive measure one can take, although it is cumbersome and time consuming. Basically, one has to remove all the ovulinia-affected flowers both from the plants and the surrounding soil, fumigate or remove the surrounding mulch, put new mulch on every year, and prune and trim the plants to provide better aeration and sunlight. Mr. Ferrell's conjecture about the life cycle of *Ovulinia azaleae* is correct. This fungus overwinters as sclerotia spores and produces new ovulinia infections next year; thereby the cycle continues. 'August-to-Frost' likely is a Mucronatum Hybrid that blooms late (August until frost). Because of this late-blooming nature,

it is resistant to the petal blight infection, as are many of the late-blooming Satsuki and other groups containing one or more late-season-blooming Satsuki species and hybrids as parents. The species (evergreen and deciduous) azaleas seem to be resistant to this nasty infestation. A note of caution is in order here: many of the fungicides used in the past and present have large toxicological profiles and many have been either taken off the market or are no longer produced in the US. (DuPont's Benlate<sup>®</sup>, also sold as Benomyl and a dozen other names, is a classic example). There is a compendium published by the American Phytopathological Society<sup>12</sup> that addresses many of these issues with more recent information.

# **Question 4: How Should Mature Deciduous Azaleas Be Pruned?**

Different people have different experience and rules-ofthumb when it comes to pruning azaleas, rhododendrons, camellias, etc. I will discuss my personal experience. I had a complete collection of species deciduous azaleas from Japan, China, Korea, Europe, and both the east and west coasts of the US. Most of them, except for some from the US East Coast—such as *R. periclymenoides* (previously *R. nudiflorum*, pinxterbloom azalea), *R. atlanticum* (coastal azalea) and most forms of *R. viscosum* (swamp azalea) grow naturally as medium-to-large (10'-20') multi-trunked shrubs or trees. Most deciduous azalea lovers generally grow them in moderate to large woodland settings where they probably belong. Most people hardly ever prune these plants, only removing dead branches so that they exhibit their natural characteristics. Furniss<sup>13</sup> (1980) published an excellent article with tips about when (if any) and how to prune azaleas, rhododendrons, and camellias. The article in 2019 by Charles Andrews III concentrated on deciduous azaleas.<sup>14, 15</sup>

I will share my personal experience and lessons learned from it. I had three R. molle subsp. japonicum (the typical orange form, the red form-Renge-tsutsuji, and the yellow form–Kirenge-tsutsuji); one R. molle subsp. molle (Chinese sheep azalea), and one beautiful yellow tubular flowered R. luteum (syn. R. flavum), the Pontic azalea). I grew them over 30 years ago from seeds I received from my friend and plant explorer from Japan, Hideo Suzuki. When they became about 12' tall, I decided to prune the yellow and red R. molle subsp. japonicum, the R. molle subsp. molle, and R. luteum following the "rule of thumb" one-third from the top. This was done in the wintertime. Alas. It has been five years now, and I still have the dead plants sticking out from the ground. I will dig them out after this spring. Typically, when these plants and many others are matured, they start losing branches from the lower trunk and the only leaves then are at the top, looking more like small trees, which is what they are.

Since I pruned them from the top, there were no leaf nodes on these plants after that, and I believe I killed them because of that. On the contrary, there are many Japanese deciduous species (e.g. R. reticulatum (Koba-no-mitsubatsutsuji) or rose azalea, R. weyrichii (Tsukushi-tutsuji) and North American species (R. flammeum, previously R. speciosum; Oconee azalea; R. serrulatum, now recognized as a late-blooming form of R. viscosum; hammocksweet azalea) that have branches along the stems with leaf buds, and seem to respond well after pruning, although they may not flower the following year, depending upon what time of

the year the pruning is done. The hybrid deciduous azaleas belonging to the Knap Hill Group and their descendants Exbury, Ilam, Girard, etc. are mostly bought from nurseries where they have already been shaped by pruning. They do not seem to grow as tall as their species parents, and I would not try to prune them except for removing dead or damaged branches. I have similar experience with the University of Minnesota's Northern Lights Hybrids. In my experience and understanding from friends, azaleas and rhododendrons that are large may not respond well to heavy pruning. Camellias and kalmias seem to do better in that respect.

## **Question 5: Which Cultivars Hygienically Shed Spent Flowers?**

The so-called "Sepal Hypothesis" (fused sepals in hose-in-hose (h/h) and semi-double and double flowers persist when they are spent) to explain why some azaleas have their spent flowers stick on the leaves and other parts of the plant is based on limited small sample observations at best.

The Domoto Brothers introduced a plant named 'Snow'. It is a small white h/h with a yellow blotch, flowering earlymid season (5'-6' at maturity). 'Snow' has been used by many hybridizers in the US, most notably Yerkes and Pryor (in the Yerkes-Pryor and Beltsville Dwarf Hybrids, for example). Whether 'Snow' is a Kurume Hybrid is highly questionable. It is true that the Domoto Brothers, R. K. Beattie, and Earnest Wilson (of "Wilson 50" fame) introduced plants from the Kurume area of the Fukuoka prefecture of Japan. Many of these were actually not Kurume Hybrids. There were many that were species evergreens including R. indicum, Mucronatum Hybrids, and others. 'Snow' was one of them. There is an Amoenum Hybrid (the so-called R. × obtusum or Kirishima-tsutsuji) with white h/h flowers with yellow blotches called 'Shiro Kocho-no-mai' (shiro [white] and 'Kocho-no-mai' [dance of the butterflies]) that shows similarity with the Domoto Brothers' 'Snow'.

Unfortunately, the Domoto Brothers, Beattie, and many others renamed many of the early Japanese azalea introductions in the West with English names. The most authentic Kurume Hybrids introduced in the US were by J. L. Creech, F. G. Meyer, and S. G. March under the group USDA Introduction. These were selected cultivars with their correct Japanese names and descriptions from the Kurume Branch, Vegetable and Ornamental Research Station, Kurume.



### AZALEA HILL GARDENS & NURSERY

#### **EVERGREEN AZALEAS**

We grow Glenn Dale, Back Acres, Robin Hill, Satsuki, Huang, Holly Springs and others

Request list: email ronnie.palmer88@yahoo.com or text 870-489-0884

> 1106 S. Evans Road Pine Bluff, Arkansas 71602 Phone (870) 247-1574

Visit www.azaleahillgardens-arkansas.com



The Amoenum Group belongs to the so-called x obtusum Group, which was originally thought to be a species but has never been found in the wild. Many of the Japanese azalea experts (such as Hideo Suzuki, Dr. Satoshi Yamaguchi, Dr. John Creech of the USDA) opined that the obtusum azalea introduced in England was possibly a natural hybrid of R. sataense, R. kiusianum, and a low form of R. kaempferi. The genetic profile is an important factor behind the stickiness of dead flowers because many of the plants derived from the ones having this stickiness ('Snow' is a prime example) seem to transmit this property to future generations. There are various other h/h, semi-double, and double-flowering azaleas that exhibit such stickiness. Among the doubles are Thompson's 'Rosea' (a Thompson Hybrid with Belgian Indian Hybrid 'Ruffled Giant' × Gable's 'Rosebud') and 'Anna Kehr' (Kehr Hybrid) that also may show stickiness. Both are fully double (>25 petals) with their sepals fused to become petals. On the other hand, there are two excellent h/h Satsuki, one being a deep reddish-orange selection of R. indicum 'Okina-nishiki' [old man's brocade] and the other an old deep yellowish-pink Satsuki Hybrid 'Wakaebisu' [young goddess]. (There is also a pretty Kurume Hybrid with the same name but single red flowers with lighter throat). All of these cleanly drop their spent flowers. There are two double R. indicum selections-'Warai-jishi' ([laughing lion], 'Macrantha Double Pink') and 'Komane' or 'Komanyo Satsuki' ('Rosiflorum', 'Balsaminiflorum', etc.) that cleanly drop their spent flowers. The latter is the most double (>40 petals) of all Ericaceae family members. The flowers do not have any pistils and stamens and the plant is sterile.

If one examines the modern list of available Satsuki azaleas, one finds very few that are h/h, semi-double, and fully double because the Japanese gardeners do not like plants whose flowers may have a tendency of not letting go after they are spent. As a result, over the last 300 years or so, hybridizers and collectors did not appreciate these plants except for a handful I just mentioned. In order to make things worse, even the plants that traditionally do not have their spent flowers stick on the plants, may do so if there is ovulinia infection. In summary, it is difficult to cite a single factor; rather, it is a combination of factors that can be attributed to the spent flower stickiness problem. I do not go out and shake my 'Snow', 'Anna Kehr', and few others that may have this tendency.

## Question 6. Where is the Bulk of the Azalea Root System?

I will try to make some points that specifically apply to deciduous azaleas. Azaleas are like humans. They, like their friends and relatives, congregate with each other. They accomplish this by forming colonies.

The native North American species deciduous azaleas form colonies by producing new plants from seeds, by using their stoloniferous (underground stem) nature, or a combination of both. For example, *R. calendulaceum* (flame azalea), *R. prunifolium* (plumleaf azalea), *R. cumberlandense* (previously *R. bakeri*, Cumberland azalea), and several others, form their colonies by spreading seeds (and occasionally rooting broken branches).

On the other hand, many others do so by using their stoloniferous property and also by spreading their seeds. Prime examples are R. atlanticum, R. canescens (Piedmont azalea), R. canadense (rhodora), and R. occidentale (western azalea). In their natural environments, some of them are growing on rocky terrain and hills. Their roots cannot go down deep but spread instead. Because of that, it is difficult to dig them up for transplanting (I am not recommending even trying to dig them up from the wild; it is a crime in many states and the survival probability is very small). Deciduous azaleas, particularly hybrids such as the Ghent, Knap Hill, Exbury, Îlam, Northern Lights, and others, from nurseries may have different types of root systems because they are "trained" by the growers in either pots or burlaps. Unless these "trained" deciduous azaleas are fully matured, it should not be difficult to move them. Finally, one probably should not cultivate too closely around these plants. One might damage their roots in the process.

#### References

- <sup>1</sup> Ferrell, W. "Questions for Azalea Mavens—to Address in The Azalean." *The Azalean*. Spring 2016. 38(1):13-14.
- <sup>2</sup> Thakur, A.K. "The Enchanting Satsuki, Part 1". *The Azalean*, December 1989. 11(4):64-68.
- <sup>3</sup> Thakur, A.K. "The Enchanting Satsuki, Part 2." *The Azalean*. March 1990. 12(1):4-7, 15-16.
- <sup>4</sup> Thakur, A.K. "Some Old Azaleas: Opening Pandora's Box," *The Azalean*. 1992. 14(2):32-36.
- <sup>5</sup> Thakur, A.K. "A Complement to Jim Trumbly's Chronological List of Satsuki Articles in The Azalean." *The Azalean*. Summer 2020. 42(2):39-44
- <sup>6</sup> Lee, F.P. *The Azalea Book*. Van Nostrand Co., Princeton, New Jersey. 1958.
- <sup>7</sup> Galle, F.C. *Azaleas*. Timber Press, Portland, Oregon. Revised Edition, 1987.
- <sup>8</sup> Kenko Rokkaku Satsuki (Japan Satsuki Association), *Iro Betsu Satsuki Dai Jiten* (*Satsuki Large Dictionary*), Tochi no Ha, Shobo, Tochi Gi, Japan, 2005. (All the texts except for the names of the 1,118 Satsuki and Maruba Satsuki species and hybrids are in Japanese. In many cases the origins and sources of the plants are described, where they are known to the association. The association publishes this book every 4-5 years, often with new plants listed as they are known. All of the plants are listed with beautiful color photographs. The book can be ordered from Kinokuniya USA bookstores in New York City, Seattle, Los Angeles, San Francisco, and many other cities. The 2005 edition was ¥ 3,400 plus applicable taxes and S&H.)
- <sup>9</sup> Ihei, I. *Kinshu Makura* (English Translation, *A Brocade Pillow, Azaleas of Old Japan*. K. Kato

- with notes by John Creech). Weatherhill, New York, 1984.
- <sup>10</sup> Peterson, J.L. and Davis, S.H., Jr. "A New Look at Azalea Petal Blight Control," *Journal American Rhododendron Society*. 1971. 25(3):170-171.
- Peterson, J.L. and Davis, S.H., Jr., "Effect of Fungicides and Application Timing of Azalea Petal Blight." *Plant Disease Reporter*. 1977. 61(3):209-212.
- <sup>12</sup> Linderman, R.G. and Benson, D.M., Compendium of Rhododendron and Azalea Diseases and Pests, American Phytopathological Society, St. Paul, Minnesota, 2014, 2nd Edition.
- Furniss, R.L. "How and When to Prune Rhododendrons." *Journal American Rhododendron Society*. (Previously Quarterly Bulletin of the American Rhododendron Society). 34(3):156-159, 1980.
- <sup>14</sup> Andrews III, Charles A. "Pruning Azaleas." *The Azalean*. Summer 2019. 41(2):37-41...
- <sup>15</sup> Andrews III, Charles A. "For the Record." *The Azalean*. Fall 2019. 41(3):66.

#### Other References for Satsuki Information

Kurume Tsutsuji Magazine Group. *Kurume no Tsutsuji* (Azaleas in Kurume). Ashishobo, Fukuoka. Japan, 1989. (Each of the chapters has original Japanese and English versions. The book contains valuable descriptions of origins of the Kurume, Kaempferi, Satsuki, Hirado, and other Japanese groups).

Ohwi, J. *Flora of Japan*. The Smithsonian Institution, Washington DC. 1984.

**Author's Note:** The two articles from the Journal of American Rhododendron Society cited here—References 10 & 13—and many others of interest for the azalea lovers—can be downloaded from the Virginia Tech Digital Library by typing: http://scholar.lib.vt.edu/ejournals/JARS/index.html#qbars and following the hyperlinks for the volume number and the title. The articles in the Depository do not show any page numbers.

Dr. Ajit K. Thakur is a retired Ph.D. statistician. He has over 100 articles and books in the fields of statistics and biological fields. He has published in *The Azalean* in the 80s on Satsuki and species azaleas. He has visited many azalea locations in Japan in search of them. He is a member of the Northern Virginia Chapter of the ASA and can be contacted at: aythakur1@gmail.com

# Gardening During COVID-19

Richard Bauer—Yorktown, Virginia

Lavid gardeners. We are also avid travelers. Since we don't always have time for both, our traveling frequently interferes with our gardening. The outbreak of COVID-19 totally changed that dynamic. Suddenly we were under a forced "staycation" and had more than enough time to deal with long deferred projects, including maintenance of our garden. Our efforts were focused on four main areas:

- 1. Removal of unwanted plants (e.g., weeds, vines, volunteers etc.) and mulching
- 2. Planting and transplanting plants
- 3. Inventorying and mapping the garden
- 4. Fertilizing

### Removal of Unwanted Plants and Mulching

Any gardener knows this is a constant battle. You pull up weeds one day and new ones spring up the next. The first step in this battle is pulling up the weeds. This is followed by laying down a weed block barrier (e.g., weed block paper, cardboard, or newspaper) and covering with mulch. Fortunately, our local landfill provides mulch at \$5 a cubic yard; otherwise, we would have gone broke using bagged mulch. The photos show the before and after shots of the Klimavicz Azalea portion of our garden. (See Photos 1 & 2)

We found that through benign neglect, vines (honeysuckle and others) had grown through our large azalea bushes. For the most part these were easily removed by pulling them out...preferably by the roots. Unfortunately, some broke off, leaving the roots intact and in other cases we had to cut them at ground level. I suspect we will see them again, but at least they are gone for the time being.

We also found many volunteer plants growing up within our bushes. Some, like magnolias or Japanese maples we tried to dig up and pot to plant elsewhere or give away at chapter plant exchanges. Others, like oak trees, or offspring of the Bradford pear, we cut down or pulled out.

## Planting and Transplanting

I had gotten into azalea propagation several years ago and had a large collection of azaleas in our nursery. We needed to clear out space for future propagation efforts as well chapter plant sale plants. My efforts in propagation had focused mainly on Legacy hybrids by Northern Virginia Chapter members Sandra McDonald, Bob Stewart, Pete Vines (Holly Springs) and Joe Klimavicz. Other varieties I had in smaller numbers were Marshy Point, Schroeder, and Harris. I had already started Legacy gardens for our chapter hybridizers (many of my Holly Springs varieties were compliments of