# THE AZALEAN

Journal of the Azalea Society of America

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#### AZALEA SOCIETY OF AMERICA

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 the series Azalea (subgenus Anthodendron) of the genus Rhododendron in the Heath family (Ericaceae).

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#### THE TENTH ANNIVERSARY ASA CONVENTION

Charles H. Evans Potomac, Maryland

More than 120 members and guests attended the 1988 ASA Convention during May 5-8, 1988 in the Washington, D.C. area. The activities began on Thursday, May 5 with registration under the direction of Mary Rutley at the Bethesda Hyatt Regency headquarters hotel. The azalea plant sale, headed up by Warren Groomes, and the convention exhibits, arranged for by Bill Miller, opened in the early evening while members were setting up the azalea flower show and receiving early entries.



The ninth Brookside Gardens Chapter azalea flower show, "Azaleas—A Capital Idea" at the Landon School Buchanan library.

Friday morning, after a breakfast social, we journeyed to Hillwood, the Washington, D.C. home of the late Marjorie Maryweather Post, to tour the splendid gardens and view the marvelous collection of Russian art inside Hillwood mansion. The convention then moved on to the opening of "Azaleas-A Capital Idea", the ninth Brookside Gardens Chapter azalea flower show which was held at the Buchanan Library of the Landon School in



Fred and Betty Galle with Elaine and John Creech at one of the convention breakfast socials.



Bill Miller and Glenn Taylor at the convention exhibit, "The People Behind the Azaleas."

Bethesda. The show was part of the Landon Azalea Festival which was under the direction of ASA member Bobby McCeney whose son attended the Landon School. The azalea show, chaired by Denise Stelloh, was the largest to date with several hundred azalea specimens and a number of artistic floral designs on display. Bob Stelloh's entry of 'Refrain' was judged best azalea in the show and Nancy Swell received the Sweepstakes award for award of the most points to azaleas exhibited. Later in the evening after the opening



Fred Galle presenting "The Natives are Wild", the opening address at the convention on Friday evening.



Home of the late Virginia and Bill McCrillis during the Saturday morning breakfast and tour of McCrillis Gardens.

convention reception Fred Galle addressed the members with his slide illustrated talk, "The Natives Are Wild."

Continental breakfast arranged by Els Benjamin, Director of Brookside Gardens, and by Brian Barr. horticulturist at McCrillis Gardens, was served on Saturday morning at McCrillis Gardens in Bethesda along with tours of the gardens by Brian. The convention next moved to the United Sates National Arboretum in



Henry M. Cathey welcoming ASA members to the United States National Arboretum.

Washington, D.C.. After a welcoming address by Dr. Marc Cathey, the Director, and a talk by Dr. Frank Santamour, the members proceeded on to tours of the research and collection areas arranged by Lisa Schum Kratz, curator of azalea and rhododendron collections.

Saturday evening brought forth a festive tenth anniversary banquet celebration at the host hotel which featured an address by John L. Creech, a special award to azalea hybridizer Robert Pryor, and presentation of the sixth Frederic P. Lee Commendation for furthering the knowledge and appreciation of azaleas to William C. Miller III. Another highlight of the evening was the presentation of a plant of 'Pocono Pink' grown by Roger

Brown to each person in attendance and table prizes of azalea plants provided by Bob Stewart and Pete Vines as well as several specimens of the new azalea variety 'Williamsburg' donated by Sandra McDonald who developed and introduced the plant.



Lisa Schum Kratz introducing Frank Santamour during the visit to the United States National Arboretum.

The annual National meeting of the society was held at the close of the convention banquet. Special awards of appreciation were presented to the founding members of the Society by president Mal Clark. Ruth Amos, Fred Galle, Alice Holland, Bob Stelloh, and Don Voss were elected to two year terms as Society Governors. Bob Hobbs was elected Society President for 1988-1989. The other officers for 1988-1989 are: Bob Stelloh, vice-president; Val Lorenz, secretary; Glenn Taylor, treasurer; and Don Voss, chairman of the board.

Sunday moring, following the breakfast social, the convention visited Brookside Gardens in Wheaton, Maryland for a tour arranged for by Brian Barr. This was followed by a luncheon visit to Oak Hill Nursery, the home of Denise and Bob Stelloh in Darnestown, Maryland. After the visit to Oak Hill, members were given the opportunity to visit a number of member gardens in



Brookside Gardens Chapter president Buck Clagett presenting the sixth Frederic P. Lee Commendation to William C. Miller III.

September 1988

Maryland and Virginia which had been arranged for by Mary Rutley and Judy Springer.



Bob Pryor and his daughter Nancy after receiving his award at the Saturday evening convention banquet.



Charlie Evans, Lois Bowker, Ralph D'Amato, Bob Stelloh and Bunny Carroll with the layout drawing of Denise and Bob Stelloh's Oak Hill Nursery.



Eleanor Stubbs and Denise Stelloh.



Bunny Carroll, Lois Bowker, past-president Mal Clark and president Bob Hobbs at Oak Hill Nursery.



Frank and Maureen Kerr with Dorothy and Jack Wilson during the Sunday tour of Oak Hill Nursery.

The tenth ASA Anniversary Convention was a very successful weekend. The members of the Brookside Gardens Chapter enjoyed being the hosts and having the opportunity to meet members and guests from across the United States and from Norway and Australia. Special thanks go to my co-committee members: Brian Barr, Bunny Carroll, Buck Clagett, Warren Groomes, Mary Rutley, Lisa Schum Kratz, Bill Miller, Judy Springer and Denise Stelloh who did so much to insure that all the arrangements were made and that the activities occurred on time and as planned. The committee also expresses its sincere appreciation to the many Brookside Garden Chapter members who helped to make the weekend so successful and to the other ASA members and guests who attended and provided so much fellowship.

# EVERGREEN AZALEAS OF THE ORIENT AND SOME DECIDUOUS SPECIES

John L. Creech Hendersonville, N.C.

The history of evergreen azaleas and other related foreign types in the United States is closely bound to plant exploration and introduction. In the early years of the 20th century, this was either the United States Department of Agriculture (USDA) Office of Foreign Plant Exploration or the Arnold Arboretum. In recent years, the USDA, through its various cooperative collecting expeditions, has provided the wealth of azalea germplasm, and this effort has centered on Japan, where the majority of the species occur and where there is a long history of azalea improvement. The Glenn Dale Plant Introduction Station and the National Arboretum have played important roles in this unfolding drama, because many of the azaleas that were used in modern azalea development in the U.S. passed through these two institutions. This is particularly so because B.Y. Morrison was in charge of the Division of Plant Exploration and Introduction and also the U.S. National Arboretum at the same time. The Glenn Dale Station is a diverse operation functioning as the main plant quarantine station as well as a propagation center for new plants entering the U.S. As a consequence of this fact and Morrison's developing interest in azaleas, a vast array of azalea material was assembled just prior to World War II, including the so-called "Beattie Azaleas" and the "Chugai" azaleas, the latter being Satsuki hybrids. The Beattie azaleas were a collection of some ninety selections gathered as cuttings in Japan by plant explorer R. Kent Beattie, who was on a mission to gather oriental chestnut germplasm in the effort to save the American chestnut. The Beattie collection was the first lot of azaleas planted in the woods at Glenn Dale, later to be followed by various named varieties and then still later the massive planting of the azalea populations from which the Glenn Dale azaleas were selected.

Here, something should be said about B.Y. Morrison because of his extensive involvement in both plant introduction and the garden concepts of the National Arboretum. Morrison was born in Atlanta and educated in horticulture at Berkeley, followed by a degree in landscape architecture at Harvard. After several years in private landscaping, he first was employed in the USDA as an assistant to the famous rose breeder, Van Fleet, who was carring out his research on rented land at Bell, Maryland. When Van Fleet died in 1921, Morrison inherited the rose breeding project and continued it until about 1927 at the Glenn Dale Station, along with several other plant introduction projects. Morrison also was high on iris as well as daffodils at this time. His interest in azaleas must have been stimulated by the fact that these fine garden plants were not thought to be hardy in the Washington, D.C. area, plus the presence of the

Beattie collection. In any event, the breeding project began in 1935 and was to continue until 1939 as an official project, discontinued during the war, and resumed by Morrison unofficially in 1945.

These were the "Camelot" years in American horticulture with men like Morrison, Wister. Gable, Bowers, and Hume dominating the cultural aspects of azaleas in the East and nurserymen such as Hohman (Kingsville Nursery), Andrew Adams (Ten Oaks Nursery), and M. Coplen (Rock Creek Nurseries) in the lead as nurserymen primarily interested in the distribution of the Glenn Dale azaleas. Serious amateurs such as Fred Lee, Henry Allanson, and Fred Coe made considerable contributions to azalea knowledge. All were involved in the American Horticultural Society, Morrison being the most influential.

As editor of the National Horticultural Magazine, Morrison literally kept the magazine alive during the war years, paying the printing costs out of his own pocket. The early issues of that authoritative journal are replete with notes on azaleas, and many of the photographs were later used in Lee's The Azalea Book. Despite his brilliant career, Morrison had his detractors, particularly in the USDA. Pleasant and eloquent in person, his letters, at times, created an uproar, and he tolerated no pressure when it came to the distribution of the Glenn Dale azaleas. It was this aspect of his nature that ultimately caused him to retire from the Department. As is well known, Morrison left the Washington area, where he had lived in Takoma Park, Maryland and carried on with his love of azaleas at Pass Christian, Mississippi. The house at the "Pass" had been occupied for many years by a retired landscape architect friend of Morrison's named Anderson. Here, Morrison developed the Back Acres hybrids, which really began with crosses of Glenn Dale hyrbrids with various Satsuki azaleas and related large flowered types, the seedlings being raised in flats at his Takoma Park garden annex, a small plot across from his home. It is for the azalea races he developed and his contribution to general horticulture in the continuity of the American Horticultural Society, that Morrison is remembered by the annual Morrison Memorial Lecture Series where a prominent horticulturist is selected to deliver a significant statement. The lectures are supported by the U.S. Department of Agriculture.

Turning now to the heart of tonight's address, I would like to present the azaleas of the Orient in the manner that I have encountered them in the wild and in the gardens of Japan. In this island empire, some 30 species of azaleas are dispersed from south to north, with the bulk of the species in the mild southern island of Kyushu. There are several species found in the island

chain down to Taiwan and a limited number of useful garden species on the Chinese mainland and Korea. But it is in Japan where the combination of diversity and a consuming attention to elitism in azaleas has provided the wealth of basic azaleas for our gardens. Here I am referring to the so-called evergreen azaleas, since they dominate the broad spectrum of azaleas grown in gardens. These are the "glamour girls" of the azalea family as compared to those rugged natives that Fred Galle addressed last evening.

If I had to choose one azalea for over-all garden use, it would have to be Rhododendron kaempferi, yamatsutsuji to the Japanese and the Torch azalea to us. Kaempfer's azalea is distributed in Japan from the volcanic upthrusts of Sakurajima volcano in southern Kyushu all the way north to central Hokkaido. It is the only azalea that has so extensive a range of distribution and in doing so, it leaves behind a bewildering array of natural hybrids where it encounters more locally distributed species. Its tall arching habit, just great overhanging a water feature, and the fire-like flower color make it an excellent landscape plant throughout the eastern United States. Yet, this same habit has not excited the Japanese to the same extent. They just cannot afford the space it requires. For us, future breeding that involves R. kaempferi requires a serious look at the distribution in terms of choice of parental stocks. By far the most luxurious form of this azalea is found in northern Honshu around Lake Chuzengi, above Nikko. In more southern locales, the best forms have long since been removed because of the steady stream of plant-conscious pilgrims who for centuries have visited the mountain home of this beautiful azalea. It is in northern Honshu from Nikko to Aomori that this azalea reaches its splendor. It is interesting that it is from this locality that Kaempfer's azalea was first introduced to the western world in 1892 by C.S. Sargent, and yet there is no evidence that it ever was used in azalea breeding. Now, kaempferi is not without its drawbacks—it is almost entirely deciduous in winter, and in full sun, the flowers are inclined to burn. Nor does its lanky growth respond to pruning. But left to its own devices, no azalea is a better landscape plant, especially when planted on a lakeside where it can be reflected in the water. When it has been ennobled, Kaempfer's azalea has become a most important plant in breeding and azalea development.

Within the complex of which Kaempfer's azalea is paramount, a dwarf growing species that grows only above 1000 feet elevation figures in the development of the Kurume azalea. This is *R. kiusianum*, the Kirishima azalea. With its rose-purple flowers and spreading habit, it is not difficult to accept it as a Kurume parent. The high mountains of Kyushu around the volcanic cones are its natural habitat. In many places, it intergrades with *R. kaempferi*, and a bewildering array of beautiful forms occur. Farther south, in an isolated series of eroded volcanic hills, occurs the third azalea that contributes to

the Kurume azalea. This is *R. sataense*, regarded by some as a vigorous form of the Kirishima azalea and questioned by a few others as even being a wild plant, rather a mass of Kurume cultivars planted in the hills. I accept *R. sataense* as a truly wild azalea that is closely allied to *R. kiusianum*, and its similarity in habit and flower to the Kurume azalea make it a most likely parent of that race

Next, in line of importance for the American enthusiast probably would be R. indicum, the satsuki. This is the charming azalea of the river banks of the island of Yakushima, where it is truly wild. I used to believe that this was so, but now I have obtained collections from diverse localities in central Honshu that appear to be wild. This is the "fifth month azalea" in Japan and has been used both for pot culture and in a typical Japanese style as a landscape plant-tightly sheared and for which the flowering is incidental. The deep red winter color of the leaves creates the image of a smooth stone and suits the Japanese psyche perfectly. On Yakushima, where R. indicum is at its best tucked into the granite walls of high elevation streambeds, we have found it in full bloom in October. From a garden view, this azalea readily responds to pruning, and its neat boat-shaped evergreen foliage has made it a most important plant in azalea improvement, both in Japan and elsewhere.

Closely related to R. indicum and found in the same locality of Yakushima and the adjacent islands but at low elevation is R. tamurae (R. eriocarpum). Along with R. indicum, R. tamurae forms the basis for the wonderful Satsuki race of azaleas. This charming azalea is especially handsome in its own right, with shining elliptic leaves and pale purple flat-faced flowers. Just as for R. indicum, R. tamurae flowers in June or July, and this sets them apart from the Tsutsutji or early flowering group. We rarely see this plant in cultivation because of its somewhat subtropical nature and the defect that it seems unable to develop dormancy in the winter. Unfortunately, this character is carried over into the cultivated Satsuki azaleas and accounts for the tenderness of this fine group of late flowering azaleas. On the other hand. I believe that it is R. tamurae that contributes the pale pastel colors that are so desirable. Perhaps the best collection of Satsuki azaleas is located at Brookside Gardens in Montgomery County, Maryland.

Of great early importance are the azaleas that form the basis of the "Indian" or "Southern Indica" azaleas. Foremost is *R. ripense*, the Kishi tsutsuji that is wild along the river banks of Shikoku Island. This vigorous. purple azalea and *R. macrosepalum*, the Mochi tsutsuji, are said to be the parents of *R. x mucronatum* and a complex of hybrid forms that entered into early azalea culture and used frequently by modern azalea breeders. As we follow along the inland sea of Japan to the region of Mt. Fuji, there is an obscure azalea with strong reddish purple flowers and vigorous habit. This is the Ashitaka azalea, *R. komiyamae*. Oftentimes, where it encounters *R. kaempferi*, we can find natural hybrids,

and I suggest that there is opportunity to follow this behavior in cultivation.

There is a group of small-flowered azaleas with quite limited distribution near Hamamatsu on the Inland Sea and one isolated spot near Kirishima in Kyushu. This is the charming diminutive *R. serpyllifolium*, called the Unzen tsutsuji and comes in pink, purple, and occasionally white. It is considered useful by the Japanese for bonsai. A second small flowered azalea with an extraordinary distribution is *R. tschonoskii*. The flowers are small, white, and scattered. Perhaps the most redeeming character of this azalea is its hardiness, and next is the beautiful red fall color.

Before we leave the evergreen azaleas of Japan proper, we need to reflect on *R. scabrum*, native to Okinawa and other Ryukyu Islands. It has the largest flowers of any evergreen azalea but is especially tender. It was brought to Kagoshima centuries ago and is now widely naturalized. Indeed, in some of the old samurai gardens, gnarled trees of the Kerama azalea over 300 years old can be seen. With its brilliant red flowers (sometimes pink) it is easy to appreciate the attraction to this azalea.

There are several deciduous azaleas of Japan. Korea, and China that are beautiful in flower but so slow to reach flowering that few will see them in bloom except in the wild. Of these, *R. pentaphyllum*, with bright pink flowers, and *R. quinquefolium*, with white flowers, are outstanding examples. They are literally trees and in the early spring glorify the mountains of Japan. Nikko is an outstanding area to see these two azaleas together. In the same reasonable association are *R. reticulatum* and its allies, all with pink to purple flowers in early spring and usually mountain plants. One exception is *R. weyrichii* with the orange-red flowers in May and can be found growing at the base of sea cliffs, almost in the sea water. It is an exceptionally tall and upright plant.

Of course, we would be remiss in not speaking of the two important azaleas of Korea, *R. poukhanense* used by both Gable and less so by Morrison for hardiness. Unfortunately, the color is sometimes too vivid a purple to make it worthy in the garden. Also from Korea is the famous Royal azalea, *R. schlippenbachi* that has delicate pink pastel flowers, and these are borne on a large arching shrub. It is a spectacular plant in the garden.

We know less about the azaleas of Taiwan, probably because many of them are tender or, like *R. oldhamii*, show undesirable characters like extremely hairy leaves. However, when incorporated into breeding programs, some provide new variations. On the island of Hong Kong and nearby South China is an obscure azalea, *R. farrerae*, and it is not a frequent garden plant. The flowers are purple and the plant somewhat upright. If you walk around the path on Victoria Peak in Hong

Kong, this azalea will be commonly found hanging from the rock faces.

In China proper, two azaleas stand out. The first is *R. simsii*, probably related to the Japanese *R. indicum*. It grows in the open woods of south China as a rather straggly plant with red flowers. It is the deep purple blotch that catches the eye. It is in cultivation both in the type and the handsome form called 'Vittata fortunei' which has white flowers with red to purple stripes and flowers much larger than the red form. *R. simsii* may have entered Japan at an early era among medicinal plants and is said to be a parent of the Hirado azaleas. These are a group of somewhat tender azaleas with exceptionally large flowers that was developed on the Kyushu island of Hirado. The Hirado azaleas are used extensively by the Japanese as landscape plants along parkways and median strips.

Finally, we come to R. molle, the yellow flowered deciduous azalea of Japan that had figured in the development of modern deciduous races. It grows in southern China and is closely related to a similar species native to Japan. The USDA introduced plants of R. molle from the Lu Shan Botanic Garden some thirty years ago, and both plants and seed have been distributed rather widely. In Japan, the counterpart is R. Japonicum. This deciduous azalea is distributed throughout Japan, except for Hokkaido, and presents an interesting situation because in the southern range, it flowers both orange and vellow while at the northern extreme only the orange or reddish type can be found. Considering that the tender R. molle is only yellow and yellow flowers are found at the southern distribution of R. japonicum while those populations at the northern extreme are only red, there may be a relationship between flower color and hardiness. Finally, I should mention that this famous azalea of Japan almost lost its name as a result of recent botanical name manipulation. However, there was ample reason why only more confusion would occur if the name R. japonicum were assigned to another species of Rhododendron and our argument prevailed. Thus, the name R. japonicum stands for this azalea that has been a delight to Japanese pilgrims in the mountains of Japan for centuries.

Keynote address presented at the Tenth Anniversary A.S.A. Convention on May 7, 1988. Dr. Creech is well known for his far-ranging plant collecting expeditions in many countries including Russia. China, Nepal, Japan, and Malaysia. He served as Superintendent of the U.S. Plant Introduction Station in Glenn Dale, Maryland, and was the third Director of the U.S. National Arboretum from 1973 until his retirement in 1980. He frequently returns to the Orient and is active as a member of the Board of Directors in building the Western North Carolina Arboretum where a planned germplasm repository of native American azaleas will reside.

#### THE NATIVES ARE WILD

by Rhodo Pruninuda reported by F. Galle

Hey man, it's time we raise our beautiful heads and speak out. We've been run over, bulldozed, and burned for too many years. We need to show our color and blow our trumpets (tubes). Have a rally, page the White House, every one is doing it today. I can see it now, banners proclaiming N A B (Natives are Beautiful). We need to hit the streets and stand firm and proud in the gardens.

We've had poor P.R. being called "Wild Honeysuckle." Many of our rank (species) share with honeysuckle a beautiful fragrance, but then we part—we do not become a pest rambling and climbing over everything. We stand proud after being well planted and display our beauty throughout the years.

We rightfully should be called "Queen of the Woods"; with a good name it would not have taken so long to be recognized. Way back in 1790, William Bartram called *Rhododendron calendulaceum* the Flame Azalea and summed up, "this is certainly the most gay and brilliant flowering shrub yet known." How true it is, and just think what he might have written if he had knowledge of all the brother and sister species we know today. Just learned this year that in a remote area of the Carolina's we are called "Whippoorwill" and I am not sure why we were given this name. The Whippoorwill is a bird seldom seen, but certainly its call at night is readily recognized by everyone. Perhaps we share the Whippoorwill name as a welcome call in the spring as they call their mate and we azaleas begin to show our beautiful flowers.

Our seventeen species (plus or minus, depending on the botanist) have great fun in swapping genes; and like proud parents our progeny are often very beautiful and defy classification. There are some who claim that as species we do not hybridize in the wild. Well brother, they have never been in the bush in the spring and seen the fun in finding some of our beautiful seedlings. Some of us do segregate, due to flowering season and other factors. However, when two or more of us are in the same area and flowering, brother do we integrate. In fact, we were doing it long before those smart folks could spell the word.

Two of our species from the Section *Rhodora*, *R. canadense* and *R. vaseyi* do not cross readily with other species. They are known for their split petals and extra stamens. *R. canadense* is also a tetraploid (2 N = 52), while most of us are diploids (2 N = 26). *R. canadense* was crossed with a oriental species *R. japonicum* in 1912 by Mr. G. Fraser of Vancouver, British Columbia, and a cultivar is named 'Fraseri'.

R. occidendale, as a lone species on the West Coast, is typically a diploid, but tetraploids and even hexaploids (2 N = 78) have been reported. and it produces many beautiful progeny in the wild. Plus, with help, with hand pollination, it crosses with its eastern cousins. 'Washing-

ton Centennial' is a knock out, developed by Dr. Frank Mossman, a cross of (occidentale X bakeri) X 'Santiam'. It will be released in 1989 for the Washington State Centennial.

R. calendulaceum, the beautiful Flame Azalea, is also a tetraploid and was thought not to cross readily with other diploid species or that the progeny would be triploids and sterile. Few triploids have been reported, and most of the offspring of the Flame Azalea and a diploid native species are usually tetraploids.

While colorful hybrids often puzzle botanists and horticulturists, they are a delightful addition to the garden. Some even describe our colorful hybrids as species, such as *R. furbishi* (a natural hybrid of *R. calendulaceum* X *arborescens*) and *R. coryi* (is now considered by most as a variety of *R. viscosum*). Some folks (splitters) disagree with others (lumpers) as to our specific standards and feel that *R. bakeri* and *R. cumberlandense* should be treated as separate species. Now a new proposal (heaven forbid) is that *R. bakeri* is a hybrid and should be renamed *R. cumberlandense*.

If that's not enough confusion, most horticulturists have difficulty in accepting species name changes (usually made by botanists). It's true we were first given different generic names such as Azalea viscosa and Biltia vaseyi, and most of us now accept the generic name Rhododendron. However, accepting changes in the species name due to priority of publication is often a hard pill to swallow and costly in making changes in publications and catalogs. The new changes are R. flammeum (syn. specosium), R. prinophyllum (syn. roseum), and R. periclymenoides (syn. nudiflorum). We all feel sad for the Pinxterbloom, alias R. nudiflorum, that was used and accepted for over 140 years to now have such a tongue-twisting, difficult to spell name as R. periclymenoides. Maybe some day those folks will standardize a name that has been in use for 50 or 100 years. Oh well, life goes on, and we feel sure old Pinxterbloom will still be remembered by its old name R. nudiflorum. Frankly, we'll never tell or correct you.

Often we have not been accepted, some stating that natives are hard to transplant. It's true transplanting from the wild is difficult when you leave most of our roots behind. Look at our roots. We have basically two types, a shallow fibrous root system and stoloniferous root system that develops into large plant colonies. Our roots often exceed eight to ten feet from the parent plant and in stoloniferous plants extend 30 to 50 feet in light, sandy soils. Is it any wonder why we are difficult to transplant from the wild when you dig a 15 to 18 inch ball? Man, you have left over 50 percent of our fine fibrous roots! We cannot maintain our tops with less than 50 percent of roots unless you remove some of our branches to compensate for root loss. From the roots you left behind,

we often develop a complete ring of new plants around the shallow hole you left. Hey, some smart guy said let's try root cuttings, and it works. The stoloniferous root system is common with *R. atlanticum*, *R. viscosum*, and *R. canadense*. The following occasionally have stoloniferous root systems: *R. arborescens*, *R. alabamense*, *R. canescens*, *R. oblongifolium*, and *R. periclymenoides* (nudiflorum); and rarely with *R. prinophyllum* (roseum) and *R. flammeum* (speciosum). A secret that is not generally known is that we stoloniferous plants are usually easier to root from cuttings, and you can divide us and make root cuttings. We even carry over this ease in rooting when we are crossed with non-stoloniferous plants. How about that!



Seed pods of R. bakeri (upper) and R. calendulaceum (lower).

The main thing troubling garden folks is that we are hard to identify. Right? Well, some folks have special features of anatomy they like to observe. With Natives, you've got to take in our complete morphological features, such as: floral buds, color and shape of flowers, season of bloom, length of tubes, and the presence or absence of pubescense—glandular setae, bristles, hairs (botanists use a formal term trichome)—on our leaves, flower tubes, lobes, and stems. And if that is not enough, you need to know whether we are



R. vaseyi.

fragrant or not. We species can be identified by using some of those fancy keys that folks make. They are tricky to use, and by golly, our beautiful natural hybrids will give you fits, 'cause we don't follow the keys with all our different features.



R. canescens.

This is not a botanical discourse, but perhaps a few lists will help.

Lobes divided near or to the base

R. canadense 10 stamens

R. vaseyi 5 to 7 stamens

#### Pubsescent buds

R. austrinum

R. canescens

R. canadense

R. occidentale

(also glabrous)

R. prinophyllum

R. viscosum

R. atlanticum

(occasionally)

#### Glabrous stems

R. arborescens R. prunifolium

Non-Glandular Flower
Tubes

R. prunifolium

R. flammeum



Seeds of R. bakeri

As an example: *R. prinophyllum (roseum)* has a short tube rapidly flaring, pink flowers, and a pubescent bud as compared to *R. periclymenoides (nudiflorum)*.

It's true, you must remember all of these special and neat features for the species and cast them to the wind when you meet some of our beautiful natural hybrids. Oh, we know there are some folks, who on spotting a hybrid will try to give our parentage. Do they really know or are they just guessing? With some study, one can often guess if only two species are involved. However, remember we have been integrating for many years, and when three or four of us are in the same woodland flowering at the same time we can have great fun in swapping genes. Then, when you come in and hand pollinate us—Wow! All rules are broken.



Seed of R. calendulaceum.

Today, one has to expose all for a look at our insides. Fortunately, most gardeners do not have microscopes and chemistry laboratories to do this. Our small seed have now been examined and described. Did you know that two of us have unwinged seeds, *R. arborescens* and *R. vaseyi*, while the others have winged seeds? Our wings, while small, are distinct, and the type of lobing at the hilum region vary with each species. In fact, *R. canadense* has a distinct type of wings unlike any other species, with lobing all around the seed.

Now those folks in white coats are looking at us through electron microscopes to examine our hairs (trichomes) and glands. And finally, chemotaxonomic studies are underway checking our flavonoids (lucky we have no blood).

Nothing new under the sun? Nuts! You have not looked with eagle eyes, but please hurry for time and happy hunting sites are rapidly disappearing. By golly, just look at the neat native cultivars introduced by Beasley, Carlson, Holmsombach (Cherokee Series), Leach, Weston, and others; and soon to be reported are the Varnadoe Selections from Georgia and the Appalachian Series by C. Towe of South Carolina.

Several years ago, we had no reports of doubleflowered natives, and now there are at least three from Georgia. 'White Flakes' and 'Sara Copeland' are white doubles of *R. canescens*. Now soon to be registered is a reddish orange, hose-in-hose double, of *R. flammeum* found by P. Schumacher.



R. canescens 'White Flakes'

Each new discovery has an interesting story. 'Millie Mac' is an exciting selection of *R. austrinum* discovered by F. McConnell while cruising timber in Escambia County, Alabama and named for his wife. It must be seen in living color to enjoy, with vivid yellow petals with a wide, white, wavy margin and with fragrance to top it off

Now—the luck of the collector. In 1965, over a 1,000 acres of land were clear cut and bulldozed west of Atlanta, Georga, near the Chattahoochee River for a new Southwest Industrial Park. Callaway Gardens was alerted and collected over 500 dormant plants from the area. Unfortunately the site had never been explored in the flowering season. Mrs. Norma Seiferle, an active botanist from Atlanta, later collected 12 dormant plants at random from the same area and planted them at her home. Three plants planted together (and again collected at random) had pink flowers with thin narrow split petals. The other nine plants were planted in other sections of the garden and had typical tubular pink to yellowish pink flowers of hybrid origin. One of the split



R. flammeum 'Chattahoochee'.

petaled plants was registered as 'Chattahoochee' in 1982. It was first registered as a mutant of *R. canescens*, but due to its glabrous flora buds is now listed as a *R. flammeum* hybrid. It is possible that *R. alabamense* was also in the area, but we will never know for the industrial park has been expanded and no original vegetation was left.

Luck? You bet, and thanks to Norma for collecting 12 plants. Just stop, dream, and speculate what might have been found in the area on a beautiful flowering spring day.

Well, the story is winding down, but is not complete. Hybridizing in the wild and by dedicated gardeners is still going on, with the introduction of genes from Knap Hills and other species and as the introduction of the cold hardy Northern Light Series from Minnesota.

Presented at the Tenth Anniversary A.S.A. Convention. May 6, 1988. Fred Galle was formerly Director of Horticulture at Callaway Gardens from 1953-1979 and Curator until his retirement in 1983. He is the author of Azaleas published in 1985 and the 1987 enlarged revised edition.

#### ORIGINS OF OUR NATIONAL ARBORETUM

Charles H. Evans Potomac, Maryland

A feature of the Tenth Anniversary A.S.A. Convention was a Saturday afternoon visit to the United States National Arboretum in Washington, D.C., forty years after its first Director, Benjamin Y. Morrison, received the first major appropriation allowing the Arboretum to open to the public in 1949. The Arboretum staff, in particular Lisa Schum Kratz, Curator of Azalea and Rhododendrons, with assistance from Dennis Kratz, Diane Nowak-Waring, and Jack Cardon, former partner of Frederic P. Lee and now volunteer keeper of the Lee Garden at the Arboretum, had arranged and conducted a memorable tour that included presentations by Dr. Cathey and Dr. Santamour and visits to the research greenhouse and growing on areas, the National Bonsai Collection, and the azalea collections covering Mount Hamilton and in the Lee Garden.

The origins of the U.S. National Arboretum are summarized in the following excerpts from Frank Cullinan's 1968 article, "Our National Arboretum" which appeared in *The Harbarist*. Dr. Marc Cathey, the current Director, then summarizes in an article he kindly prepared for this Tenth Anniversary Convention issue of *THE AZALEAN*, the development of the Arboretum from its opening to the public forty years ago to the present and the plans for the future.

It was a privilege to have Dr. John L. Creech, the third Director, and Dr. Henry M(arc) Cathey, the fourth Director of our National Arboretum as guests of the Azalea Society at the 1988 Convention. Many enjoyed the opportunity to meet and converse with them. We hope that you enjoy reading about the conception, development and future of the U.S. National Arboretum.

"Visitors to the Arboretum today marvel at its beauty: the large indigenous trees and the various collections of recently planted evergreen trees and flowering shrubs; the Administration Building with its water fountains surrounding the main entrance; the walks along roads and trails where one may view the display of woody and herbaceous plants. Many who come for the first time

ask: How did this garden come to be here? Why do they call it an arboretum? What is its purpose and use? How long has it been here? Who owns it? And other similar questions.

### WASHINGTON AS SITE FOR NATIONAL ARBORETUM

Interest in a National Arboretum began before the turn of the century. Most northern species of plants could be maintained in Washington as the southern limit, as well as southern species with the Capital City as the northern limit of their adaptation. Early discussions were focused on the need for a National Botanic Garden and Arboretum. The first formal study to lay the groundwork for the Arboretum was made by the McMillan Commission in 1901. In 1917 a site was suggested by the then Secretary of Agriculture, David Houston, in Northeast Washington about two miles from the Capitol and he arranged for a soil survey of the area.

In 1920 a preliminary plan for a National Arboretum-Botanic Garden at the Mt. Hamilton site was proposed by the Fine Arts Commission of the District. Mrs. Frank B. Noyes, Chairman of the Committee of the National Capital Garden Club of America and an enthusiastic gardener, became a strong proponent of a National Arboretum. She was prominent in the social life of Washington and was acquainted not only with members of Congress but also with the President of the United States, Calvin Coolidge. In her visits to the White House, she earnestly emphasized to the President and his Budget Director, General Lord, what an arboretum could mean, not only to Washington, but nationally. Her husband was publisher of the Washington Star, so she used that as a medium for articles and illustrations in the rotogravure section to acquaint the public with the beauty of the area proposed by the Fine Arts Commission.

#### THE BILL IS INTRODUCED

A bill authorizing the Secretary of Agriculture to establish a National Arboretum was introduced in the Senate by Senator George W. Pepper of Pennsylvania on December 4, 1924, and a similar bill was introduced in the House on the same day by Representative Robert Luce of Massachusetts. After much debate, the bill was finally passed and signed by President Coolidge on March 4, 1927.

The provisions of the bill are significant: (1) it authorized the Secretary of Agriculture to establish and maintain a National Arboretum for purposes of research and education concerning tree and plant life; (2) a sum of \$300,000 was authorized for the acquisition of land; (3) the arboretum was to be under competent scientific direction and administered by the Secretary of Agriculture separately from the agricultural, horticultural and forestry stations of the Department of Agriculture; and (4) the Secretary of Agriculture was authorized to create an Advisory Council in relation to the planning and development of the Arboretum. The plans for a combined Arboretum-Botanic Garden were abandoned when the bill was introduced.

The site chosen for the National Arboretum was a tract of about 400 acres in Northeast Washington, along the western bank of the Anacostia River, lying roughly between R and M Streets, N.E., and extending west to Bladensburg Road. The area was made up of some 40 parcels of land consisting of small farms and dwellings. The site had many advantages in topography, making it ideal for arboretum use.

With the funds for land purchase provided in the bill establishing the Arboretum, the Acting Director, Dr. Frederic Coville, and Mr. Frederic A. Delano, Chairman of the Advisory Council and also Chairman of the National Capital Park and Planning Commission in the District, began taking options on the property.

In its early development, the Arboretum was fortunate in its administrative relationship with the U.S. Department of Agriculture. Technical direction for the planning was under the supervision of B.Y. Morrison, head of the Division of Plant Exploration and Introduction in the Bureau of Plant Industry.

Careful study was made by Mr. Morrison of the entire area even before the last parcels of land were acquired. The area is roughly the shape of a trapezoid with its long boundaries on the north and south sides. The high point, called Mt. Hamilton, on the west side (225 ft. high) was heavily wooded, principally with oaks. This species extended down the valleys south of the hill. In this area also were other deciduous species, including tulip poplar, elm, beech, gum, maple and dogwood, with an undergrowth of *Kalmia*. On the east side was Hickey Ridge with valleys and cuts extending down to the Anacostia River. Between these two high points was a broad central valley traversed by a stream called

Hickey Creek. The whole aspect encouraged imaginative planning of plant collections.

## PROGRESS OF PLANTING PLANS IN THE FORTIES

Another setback to development of plans for the Arboretum came in 1941 when World War II began for the United States. All projects not related to the war effort were curtailed in the Department of Agriculture. This did not mean, however, that some planting was not done during the war years from the already established nurseries. Some additions were made to the collections of various families that had been started. For example, the first planting of *Leguminosae* was made in 1941 and of evergreens in 1942. The only evergreens on the original site were a group of Virginia pine on the crest of Hickey Ridge. Later, areas for collections of conifers, magnolia, holly, crabapples and maple were laid out. One of the important projects started was the transplanting of Glenn Dale azaleas to nurseries in the Arboretum.

#### GLENN DALE AZALEAS

The Glenn Dale azaleas were bred for a specific purpose by B.Y. Morrison, namely for the production of a garden race of azaleas that would be large-flowered and cold-hardy for the Middle Atlantic States. The hybrids were grown at Glenn Dale, Maryland (hence the name), later transferred to the Arboretum nurseries, and finally planted on the south slope of Mt. Hamilton. In all, they covered about 7 acres of 40,000 plants.

The year 1948 marked a financial lift. In fiscal 1948 the first sizeable appropriation for the Arboretum was obtained from Congress. This provided for the final purchase of land to round out the boundaries, the preparation of detailed plans and specifications for buildings and other facilities, road construction, the construction of a gatehouse, and installation of water systems and drainage projects.

By 1949, when the Arboretum was first opened to the public during the azalea season. visitors were impressed with the great plant potential.

#### RETIREMENT OF FIRST DIRECTOR

In November, 1951, B.Y. Morrison, who had been directing the Arboretum since 1934, retired to resume his first love—the breeding of azaleas at his residence near Pass Christian, Mississippi. He was succeeded by Dr. Henry T. Skinner who had been Curator of the Morris Arboretum in Philadelphia.

Progress continued during the fifties, particularly on the physical features. The gatehouse, near M Street, the first permanent structure, was built. This was followed by restrooms, shelters for visitors, greenhouses and residences. Finally, the goal for which all had waited, construction of a two-million-dollar administration building was reached. The contract was let in 1961 and the building was completed in 1963. This provided offices for the staff, research laboratories, a herbarium, library, auditorium for lectures, exhibits and demonstrations, and facilities for other uses in the educational program.

## DEDICATION OF THE ADMINISTRATION BUILDING

The new building was dedicated on April 27, 1964. It was a gala event, with the Marine Band for appropriate music. The dignitaries on the stage in the open plaza included the Administrator, Chairman of the Senate Appropriations Committee, Senator Carl Hayden of Arizona; Chairman of the House Appropriations Committee, the late Clarence Cannon of Missouri; Secretary of Agriculture, Orville Freeman; Frederic P. Lee, Chairman of the Council of Advisors for the National Arboretum, and author of "The Azalea Book"; and the Director, Dr. Henry T. Skinner.

With the azaleas in full bloom and making a striking picture, Congressman Cannon quoted, appropriately, that lilting poem by Alfred Noyes:

"Come down to Kew in Lilac time In Lilac time, in Lilac time. Come down to Kew in Lilac time It's very near to London.

And we shall wander hand in hand With love in nature's wonderland. Come down to Kew in Lilac time, It's very near to London."

"We are paraphrasing it today," he said, "to say to you and to all America.

'Come down to see Azalea time Azalea time, Azalea time. Come down to see Azalea time It's a part of Washington. And you shall wander hand in hand With love in nature's wonderland. Come down to see Azalea time. It's very dear to Washington!'

Dr. Cullinan, a member of the Council of Advisors for the National Arboretum, was formerly Associate Director of the Crop Research Division, Agriculture Research Station of the U.S. Depart, of Agriculture.

#### AZALEA CALENDAR

October 3

September 17	Glenn Dale Preservation Project Work-
	day. 9 a.m 1 p.m. For directions and
	more information contact: Roger Brown
	at (301) 577-7509.

September 18 Sixth Annual Arnold Arboretum Plant Sale and Auction of Rare and Unusual Plants. Rain or shine. At the Case Estates, 135 Wellesley St., Weston, MA. Public welcome 11-4, members 9-4. Admission free. Luncheon and beverages available. Proceeds to benefit Arboretum programs. For more information please write or call: Jo Procter 617-524-1718, Arnold Arboretum, Arborway, Jamaica Plain, MA 02130.

	Davis Library, Bethesda, MD. 7:30 p.m.
October 15	Glenn Dale Preservation Project Workday. See September 17.
November 19	Glenn Dale Preservation Project Workday. See September 17.
December 12	Brookside Gardens Chapter Meeting. Davis Library, Bethesda, MD. 7:30 p.m.
February 6	Brookside Gardens Chapter Meeting. Davis Library, Bethesda, MD. 7:30 p.m.
April 3	Brookside Gardens Chapter Meeting. Davis Library, Bethesda, MD. 7:30 p.m.

Brookside Gardens Chapter Meeting.

#### THE UNITED STATES NATIONAL ARBORETUM

Henry M. Cathey Washington D.C.

#### FROM 1949 TO 1988:

The National Arboretum in the District of Columbia was established by an Act of congress approved March 4, 1924. Under this act, the Secretary of Agriculture was authorized and directed to establish and maintain a National Arboretum for purposes of research and education concerning tree and plant life. Under authority of the Act, the Secretary of Agriculture has appointed an Advisory Council on the planning and development of the Arboretum. The Council at present consists of 15 members, representing national organizations, including nurserymen, garden clubs, educational institutions, and others interested in the aims of the Arboretum.

Since its beginning, the responsibility for the development and administration of the Arboretum has been assigned to the Beltsville Area, Agricultural Research Service, U.S. Department of Agriculture.

The National Arboretum consists of 444 acres located in the northeast section of the District of Columbia, bounded on the west by Bladensburg Road, on the south by M Street, on the east by the Anacostia Parkway, and somewhat irregularly on the north by R Street, Hickey Lane. and New York Avenue. The US National Arboretum currently uses 3501 New York Avenue, NE, Washington, DC, 20002 for its mailing address.

Its soils are somewhat varied and its terrain is so diversified that there can be found sloping sites with almost any desired exposure.

Originally composed of some forty-odd parcels. some of which had been farmed, it is now integrated into a single whole with the tree-covered mass of Mount Hamilton along the western border. The broad, inner, relatively flat central portion is diagonally traversed by Hickey Creek and its tree-covered slopes of Hickey Ridge, which overlooks the broad expanses of the Anacostia Parkway with the Maryland hills in the distance. Almost 300 acres of the site remain much like they were in the time of the founding of the nation's Capital. Native stands of deciduous hardwoods, marshlands and flowing streams have been preserved indefinitely. Only plants hazadous to the public are being removed. The climax vegetation will remain intact for future generations.

The area is served by a system of blacktopped roads of almost ten miles and miles of foot paths throughout the grounds. Parking areas have been introduced near the major gardens and collections to provide off-street parking to supplement the spaces provided at the "R" and "M" Street entrances. New public toilets at the "R" Street entrance were added in 1986 to supplement the "M" Street and Asian Valley facilities.

The 1984 Master Plan for the United States National Arboretum (USNA) proposed that the Arboretum be

organized around a one-way system of roads (clockwise) moving from the new ceremonial entrance on New York Avenue to the National Bonsai Collection (1976), National Herb Garden (1980), Administration Building (1963), New American Garden (1987), Boxwood and Perennial Collections (1960), Mt. Hamilton Rhododentron Collections (1930's), Fern Valley (1959), Tree Collections (1950's), Asian Valley, (1950, 1979, 1984), Dogwood Valley (1952), Gotelli Collection of Conifers (1962), Maple Collection (1957) back to 3501 New York Avenue, NE. All together, there are 94 gardens and collections of varying degrees of maturation and support on the grounds of the USNA. More are planned for the next years.

The USNA is open to the public from 8 a.m. to 5 p.m. every day except Christmas Day. Visitors are conducted on 300 organized VIP tours a year by volunteer guides, coordinated by the Education Office in cooperation with the National Capital Area Federation of Garden Clubs, Inc. The federeration also runs a gift shop called Arbor House and has its offices and meetings of its members at the Arboretum.

The USNA stages many special educational events in cooperation with the Friends of the National Arboretum (FONA), USDA Graduate School, and many other organizations. It also presents, ten months a year, a major horticultural educational event called "Living Legends." These programs are held on the first Sunday and Wednesday of the month and feature our research, explorations, collections, gardens, and skills. More than 15 organizations stage flower shows in the auditorium, from Ikebana to bonsai. All of these events attract almost 1,000,000 visitors a year, particularly during the peak bloom of spring and the peak foliage color of fall.

As in all proper arboretums, the major interest lies in plants themselves with attention to woody plants only, be they tree or shrub, provided only that they are hardy and successfully grown in this climate. With species, natural forms and variations as the base, the collections will be enlarged to include worthy horticultural forms as well as all clonal material of hybrid or other origin. No attempt will be made to maintain varietal collections of cultivated fruits and nuts that are maintained by the Agricultural Research Service in other respositories.

Because of the somewhat restricted area available for planting, (less than 140 acres) land for nurseries has been made available at Glenn Dale (less than 100 acres) and Beltville (more than 650 acres), Maryland. These lands will serve as the Repository of Landscape plants for North America. A coordinating germplasm specialist will work to help collect, identify, propagate, and distribute both wild collected species and "elite" cultivars of woody landscape trees, shrubs, and ground

covers. It has been decided that *Ulmus*, *Malus*, *Magnolia*, *Platanus*, *Prunus*, *Lagerstroemia*, *Viburnum*, *Hibiscus*, *Camellia*, and *Acer*, among many others, will be the targeted genera for collection from the United States and the world. They will be utilized in the breeding of new pest-and-stress-tolerant cultivars. More than 1000 cooperators and 150 stock increase propagators are involved in the USNA Introduction Program. In its more than sixty years, the USNA has introduced more than 150 new landscape plants with thirty more anticipated to be released in the next three years. The impact of these plants can be observed in most nursery catalogs of the world and in the various kinds of media. Many of the plants are still far from maturity. Their full potentials are still to be recognized.

To honor the introductions of the USNA, the Court of Honor was planted in 1982. In two formal panels to the north of the Administration Building, examples of achievements are displayed. 'Mohave' *Pyracantha*, with its Chinese red berries, demonstrates why it is the most widely grown new shrub in the world. 'Galaxy' *Magnolia* is an upright Asian hybrid with 15 to 18 inch flowers which thrives in such varied environments as Finland and Florida. Eighteen other *Hibiscus*, *Viburnums*, *Ilex*, *Lagerstroemia*, are joined by 80 other examples of plants collected, bred, and introduced by the USNA. A staff of ten with supporting technicians manage the research unit.

In the permanent plantings that have been established, the mountain of azaleas hybridized by B.Y. Morrison has grown into a display of 70,000 plants. When in bloom, the azaleas attract as many as 60,000 people in a single weekend in late April. We have begun to cut back some of the plants to rework the space. The area also has gardens devoted to the more than 500 introductions of B.Y. Morrison (1950) and the late flowering azaleas (1970) in honor of Mr. Frederic P. Lee, author of the *Azalea Book* and former Chairman of the Advisory Council. We are currently in the first state of planning a Rhododendron species collection.

The holly, magnolia, and crabapple (1950) collections are now fully mature. Some of the less successful species and cultivars are being removed to give space to the many new cultivars which have been introduced. The 14 Girl Magnolias came out of these plantings. 'Betty' *Magnolia* has proven to be the most successful of these introductions. It flowers sufficiently late each spring to miss the frost damage that most Asian Magnolia experience four out of every five years.

The crabapple collection, given in 1950 by the American Association of Nurserymen, is now being reworked. We have added a new collection along Bladensburg Road in cooperation with the National Crabapple Evaluation Program.

The conifers at the USAN were greatly expanded by the gifts of Mr. William T. Gotelli of East Orange, New Jersey (1962), and Don and Hazel Smith of Morris Plains, New Jersey (1979). The USNA now has the

largest collection (Gotelli and Watnong Collections) of dwarf and slow-growing conifers in the world (5.38 acres).

Some of these conifer species thrive in the Washington climate, others are just on the southern margin as to where they can be grown successfully. The collection functions as a repository and as a demonstration of how the mature forms of these rare plants will perform in the landscape. We also have maturing groves of Metasequoia glyptostroboides (Dawn Redwood) thriving in several locations on the grounds of the Arboretum. Their stark, wild branches recreate images of a landscape that disappeared in North America thousands of years ago. Thus far, no fertile seed have formed on the healthy plants—we still await their maturity. In 1984, Dr. Ted Dudley collected the seed again in the People's Republic of China to start the cycle again. Specimens of Pinus bungeana (Lacebark pine), another conifer of chinese origin, are giving year-round displays of their sycamore-white trunks supporting dark green needlecovered crowns.

The small valley, looking down from Hickey Ridge to the Anacostia River, has gone through a major redevelopment over the years. Although we lost our cryptomerias and camellias in the area, the upper part of the valley was landscaped in 1950 with funds provided by the Garden Club of America (0.49 acres). The lower part of the valley (1.7 acres) had two overlooks constructed in the early 1980's and a watercourse of almost 900 feet in 1984-1985. The left side of the valley was landscaped with plants of Japanese origin while the other side has Chinese ones. The vistas created in this space are filled with seasonal changes of flowers and foliage. Even in its four-year presence, it is beginning to look like a natural part of landscaping. The adjoinging valley to the right was prepared in 1986 for the creation of a China road. During 1988, 500 new trees and shrubs of Chinese origin, collected by Dr. Theodore Dudley, will be planted along China Road to create a Chinese forest. The road will lead to the Anacostia River, finally opening up the opportunity for visitors to walk along the river. A collection of hardy bamboo will be planted in the area.

Fern Valley (6.6 acres) is a natural wooded area planted with ferns, wildflowers, and native trees and shrubs. Planting began in the valley in 1959, a joint project between the USNA and the National Capital Area Federation of Garden Clubs, Inc. Most of the plants are native to the Piedmont or mountains of eastern United States, but a few have been introduced from other countries and have become naturalized. Most of the plants make excellent, trouble-free landscape plants. A trail of 34 markers introduces the visitor to such rare plants as Franklinia alatamaha (Franklin tree), Shortia galacifolia (Oconee-Bells), Rhododendron prunifolium (Plumleaf azalea), and Betula uber (Round-leaved birch). The valley also has a collection of 1100 cultivars of Narcissus (Daffodils) and Hedera (Ivy) naturalized under the tall oak and beech trees. A

yearly mowed meadow adjoins the area to demonstrate an alternative to a lawn; it is planted with many kinds of wildflowers.

The National Bonsai Collection, opened in 1976, was a gift of the Japanese people to the American people in commemoration of the 200th Anniversary of the United States. The 53 bonsai, assembled by the Nippon Bonsai Association, range in age from 40 to 360 years and were the personal gifts of well-known citizens of Japan. A 180-year-old *Pinus densiflora* (Japanese red pine) was the gift of the Imperial Household. The principal architect of the Japanese garden and pavillion, Masao Kinoshita, has been retained by the National Bonsai Foundation to complete the design of the National Bonsai Museum. The complex includes display areas for various types of bonsai and artistic pot plants. The North America Collection was started in 1984 with the gift by John Naka of Los Angeles, California, of Goshin (Guard or Protector of Spirit), composed of 11 trees of Juniperus chinensis var foemina (Foemina juniper). The Chinese Collection was started in 1986 with the gift of 31 Man Lung artistic pot plants by Yee-sun Wu of Hong Kong. The plants have been in quarantine for two years and will be put on public display during the Fall of 1988. The complex includes the Ellen Gorden Allen Entrance, Gift of Ikebana, International, in 1983. A Tea House, Koi Pond, exhibition areas, offices, training rooms, greenhouse, lath area, and walls are planned.

The National Herb Garden opened in 1980 and was built with a congressional appropriation and a matching gift from The Herb Society of America. The herb garden covers two acres and is composed of a ceremonial Knot/Reception Garden, the Historic Rose Garden, and ten specialty gardens designed by Tom Wirth and others of Sasaki and Associates. The entrance garden of a fountain, matching arbors, container and bedded plants around the Knot Garden constructed out of evergreen shrubs offers a shady haven for all visitors. The more than 120 species and cultivars of historic roses reach their height of color and fragrance during each May. The historic rose collection ends with 'LaFrance', the first hybrid tea, which was introduced in 1867. The ten specialty gardens are arranged around a grassy oval planted with herbal trees. Each garden contains a special collection of plants relating to Dioscorides, Dyes, Early American Indians, Medicine, Culinary, Industry, Fragrance, the Orient, and Beverages. More than 1500 kinds of plants are displayed for teaching and studying purposes. Plans are being considered to add a small holding/teaching structure to the Curator's Building.

The National Country Garden opened in 1984, the gift of more than 200 individuals, firms, and foundations, through the Friends of the National Arboretum. The two-acre site placed in a grove of Ulmus (elm) trees demonstrated three principles of vertical gardening—raised beds, Living Walls\*, and grow bags. All of the more than 1000 kinds of plants were grown in soilless mixes/composted sewage sludge, and watered with

liquid fertilizers. The garden was designed by Guy L. Rando of Reston, Virginia, to present a landscaped garden path to more than 20 kinds of gardens concerned with townhouses, porches, arbors, the handicaped, and Third World Countries. Based on their experiences, more than 980 countries around the world built their version of the National Country Garden. In 1987, the garden received a "Take Pride In America Award" for demonstrating how our citizens can become self-sufficient while safeguarding our natural resources. The temporary garden was dismantled late in 1987. The concepts will later be transferred to the emerging Urban Center located behind the Activity Building.

The National Capitol Columns were erected in a classical design by the late Russell Page during 1987-1988. The 24 sandstone columns, capitals, and bases were on the east side of the U.S. Capitol during the terms of 31 Presidents, Jefferson to Eisenhower. Mrs. George Augus Garrett, former member of the USNA Advisory Council, conceived the idea of having the discarded columns reassembled on the grounds of the USNA. An exchange of letters between Vice President George Bush and the Secretary of Agriculture, John Block, permitted the Friends of the National Arboretum to accept contributions to move and preserve the columns in a setting on an acropolis in the Great Meadow of the USNA. The columns will be oriented East-West in a design which repeats their original placement at the Capitol Building. The floor will be covered with 500 marble steps, more than 200 years old, removed from the Senate in 1956. A single fountain will add sound to the free-standing columns. The water from the fountain will flow down to a reflecting pool which will be placed to the west. Grey-green plants will be used to landscape the area and to soften the marble paving stones. A dedication during 1988 is proposed.

The New American Garden was constructed in the front of the Activity Building beginning in 1984 in a design by Wolfgang Oehme and James A. van Sweden, Washington, DC. The garden addresses how to landscape an area where our visitors come for information, visit Arbor House, and use the tourist facilities. The front yard was transformed into a Garden of Four Seasons, based on trees and shrubs as sculpture, for all-season use, and random placement. The areas are tied together with large masses of summer flowering shrubs, perennials, and grasses and crossed by all-weather walks. All plants are selected to thrive without staking, spraying, or frequent pruning. The plants are allowed to develop their seedheads for display over the winter. Just as the spring flowering bulbs begin to grow, all of the dried vegetation is cut back to the ground. Other than watering during periods of drought and four monthly liquid fertilizations, all the garden needs is a sweeping of the walks. Future sections of shade and sun perennials, vegetables grown with various types of containers, media, and watering systems will create the Urban Center at the USNA. Funds to construct the garden were

provided, in part, by the Alfred S. Martin Charitable Trust, and most of the plants were donated through the Perennial Plant Association.

Ahead: The priorities are set for the years ahead to create the National Repository for North America for woody landscape plants. It will involve specialists to coordinate the germplasm, explorers to collect new forms from the world, breeders to create new hybrids of exceptional merit, and cooperating nurserymen and public gardens to distribute them. We are the leader in collecting germplasm. Recent trips include Japan (1976, 1978, 1982, 1985), Korea (1983, 1985), the People's Republic of China (1980, 1987), and England (1987). We are also involved in giving standardized Latin and common names to all plants, thus facilitating the product coding. We are working with the major garden

organizations to revise and update the USDA hardiness maps. Plant performance by longitude, latitude, and altitude is being assessed for North America. The first finding should become available during 1988. Still true today, B.Y. Morrison concluded: "These are all details. To name the 540,000 sheets of herbarium specimens and the 60,000 accessions is a dull business and pointless, for tomorrow and each succeeding year there will be more

"What one finds or learns at this place, as in another collection, will depend entirely upon the visitor. No one will ask or expect the impossible."

Henry M. Cathey, Research Horticulturist, is the fourth Director of the U.S. National Arboretum. Members attending the Tenth Anniversary A.S.A. Convention visited the arboretum on May 7, 1988

#### EDUCATIONAL EXHIBITS AT THE 10TH NATIONAL MEETING

Attendees to the 10th National Meeting of the Azalea Society of America were treated to three exhibits which were timely and informative.

The first exhibit was provided by the U.S. National Arboretum and presented information about the educational and scientific programs supported by the Arboretum. We are indebted to Dr. Cathey and Mr. Erik Neumann for making it possible for us to feature the Arboretum display among our exhibits.

The second exhibit was entitled "The Life Cycle of the Gypsy Moth." The product of a recent science fair, it was produced by Ryan Miller, my son. I chose to include it because the information that it presented was particularly important and timely.

At the time of the National meeting, we were just recovering from being overrun by the Eastern tent caterpillar (Malacosoma americanum), and we were bracing ourselves for what was expected to be an equally bad year for Gypsy moth (Lymantria dispar). In fact, those of you who visited McCrillis gardens with the tour may have seen the helicopters involved in the state-sponsored aerial spraying program. Introduced into the United States (Medford, Massachusetts) in 1869 in an effort to produce a new breed of silk-worm, some of the Gypsy moth caterpillars escaped. Chiefly a threat to oak trees (and birch, apple, willow, linden, hawthorn, and sweet gum trees—more than 300 trees and shrubs), the Gypsy moth has become a progressively greater problem every year. It spread slowly at first, but over the years it has left its mark, a wake of destruction that is barely imaginable. As it has moved south, it has encountered increasingly favorable conditions which have permitted it to spread more rapidly. It was first sighted in Maryland in 1959, and the first extensive defoliation in Maryland took place in 1981. Today despite control efforts, the Gypsy moth has managed to establish itself in parts of the West Coast and is being seen in North Carolina.

Though not widely acknowledged as a major azalea pest, it will eat azaleas. This fact was confirmed several years ago when, out of curiosity, I conducted feeding experiments to determine (1) whether the gypsy moth caterpillar was a threat to azaleas and (2) whether any preference for one azalea over another could be demonstrated. Caterpillars were collected and maintained on a varied but controlled diet of azaleas. Values from one to three indicating "little interest", 'moderate interest", and "great interest", respectively, were used to characterize the caterpillars' feeding behavior. With nothing else available, all of the proffered azaleas were eaten. That satisfied my curiosity about the first question. Differences in preference were noted, but it was determined later that the findings possibly were artifactual. Feeding behavior varies when the caterpillars shed their skins, an event that was neither recorded nor taken into consideration. Therefore, it is likely that one azalea is as good as any other azalea to a hungry Gypsy moth caterpillar. While not a major threat to azaleas, the same cannot be said regarding oak trees, one of the preferred canopy plants for azaleas. The more you can learn about the Gypsy moth, the better prepared you will be to face the problem.

The third display was my own, a photographic exhibit entitled "The People Behind The Azaleas." It was the product of several years of investigative research and hundreds of letters and phone calls. The exhibit provided a glimpse of many of the people behind the azaleas — the people whose names we use freely when we talk about azaleas: Gable, Shammarello, Chisolm and Merritt, Yerkes and Pryor, Morrison, Reid, Guttormsen, Harris, and Gartrell, to name a few. The inspiration for this exhibit came from my appreciation of "Hybrids and

Hybridizers" by Philip A. Livingston and Franklin H. West and the fact that I never had the opportunity to meet most of the "azalea pioneers." Many of the pictures in the exhibit were directly attributable to Dr. West, and I would like to express special thanks to him for his encouragement. Thanks also go to Dr. Sandra McDonald, Hampton, Virginia; Mr. Erik Neumann, U.S. National Arboretum, Washington, D.C.; Dr. Frank Mossman, Vancouver, Washington; Mr. Fred Galle, Hamilton, Georgia; Mr. Richard Clapp, Decatur, Georgia; Mr. Bill Guttormsen, Canby, Oregon; Mr. Britt Smith, Kent, Washington; Mrs. Anne Perry, Alexandria, Virginia; Mrs. Kathryn Pennington, Stone Mountain, Georgia; Mrs. Isabel Chisolm, Derwood, Maryland; Mrs. F. C. Jeffcoat, Derwood, Maryland; Mr. Don Voss, Vienna, Virginia; Mr.

Fred Whitney, Puyallup, Washington; and Mrs. Virginia McPeak, Washington. D.C.

Finally, special thanks go to Lois Bowker, my mother-in-law, and to my wife, Janet. Without their help in organizing, mounting, and assembly, my exhibit would never have been completed on schedule.

The following material on Robert Lee Pryor is taken from my exhibit and is presented to further honor a gentleman who is one of the few remaining pioneers. A special guest at the banquet on Saturday evening, the National Meeting Committee honored Mr. Pryor by presenting him with a plaque, in recognition of his many achievements and contributions to the world of azaleas.

William C. Miller III

#### ROBERT L. PRYOR

1907 -

Bob Pryor was born in Sabillasville, Maryland, a small town near Camp David and just south of the Pennsylvania line. In 1932, as a young man, he helped survey the Selman Farm, which was to become the Plant Industry Station, now a part of the Beltsville Agricultural Research Center. Guy Yerkes and Bob Pryor began their azalea work in the spring of 1939. Their goal was to produce azaleas with good flowers and foliage that were hardy at Beltsville and farther north. Yerkes was forced to retire in 1946 for reasons of health and Bob Pryor continued the work. Using 'Snow', 'Firefly', 'Indica Alba', 'Maxwelli', and the species Rhododendron kaempferi, 47 cultivars were introduced from 1950 to 1959. Asked recently if he had any particular favorites in the Beltsville or Yerkes-Pryor hybrids, he named 'Guy Yerkes', 'Casablanca', and 'Eureka' as very nice. Initially, in the selections procedure for the Beltsville hybrids, all small seedlings were discarded. That procedure was changed, and the small seedlings were grown on. A race of true genetic dwarfs, the Beltsville Dwarfs, was the result. Nineteen cultivars were introduced in 1959 and 1960. A detailed account of the development of the Beltsville Dwarfs was published in an article entitled "Dwarf Azalea Hybrids" that appeared in the July 1957 issue of the National Horticultural Magazine (Vol. 36, No.3). In 1967, a twentieth cultivar from the dwarf work, 'Irresistible' (syn. 'My-O'), was introduced. When asked if he had a favorite dwarf, he replied that it was a tough question. Another area of great interest for Bob Pryor was his search for a yellow flowered, evergreen azalea. He reasoned that crossing white, evergreen plants with yellow, deciduous plants would produce a yellow evergreen azalea. In



Robert Lee Pryor.

1980, he discovered a good yellow. He found that pH had a significant effect on the amount or quality of yellow—the more basic, the less yellow. The story of his work in searching for a yellow evergreen is presented in "Breeding Azaleas For Evergreen Leaves And Yellow Flowers", THE AZALEAN, Vol. 6, No. 1, March 1984, p. 9-11. 'Pryored', a true blueless red, was derived from this work and was named and introduced by the U.S. National Arboretum to honor Bob Pryor in 1984.

#### THE LANDON SCHOOL AND AZALEA GARDENS

William C. Miller III Bethesda, Maryland

The Landon School was founded in 1929 by Paul Landon Banfield and his wife, Mary Lee Spring Banfield. The story of the Landon School is recorded in a book entitled "The Landon School Story" by Clyde Wilson, a former teacher. The book and story that it relates and the natural beauty of the Landon campus today stands as tribute to the dreams and vision of a cast of remarkable and energetic people who were "determined to start a school to teach boys not only academic skills but also values and standards for the future." The ancient oaks, the mature evergreens, the hollies, and most importantly, the tasteful blend of azaleas, dogwoods, and other companion plants throughout the 72 acre campus, demonstrate an attitude of respect and appreciation for natural beauty. It is in this context that one can best appreciate the Perkins Azalea Garden, Landon's showpiece.

The original Landon School was located at 2131 Massachusetts Avenue, N.W., in a four story, twenty-six room mansion in the District of Columbia—a decidedly urban environment not conducive to horticultural pursuits. By 1932, it was apprarent that a move would become necessary to cope with the school's growth. In 1934, the school was moved to the Walsh estate, a large colonial mansion with thirty-five acres of land, located at the corner of Wilson Lane and Bradley Boulevard in Bethesda, Maryland. In the spring of 1936, the Andrews estates, sixty-two acres located about a mile further west on Wilson Lane, became available. The Andrews property (Landon's current location) was acquired with difficulty, and for the next four years, the school operated from both sites. Additional, but smaller acquisitions, including the Perkins property in 1953, provided the school with a secure outlet to Bradley Boulevard.

In 1939, Mr. and Mrs. Milo R. Perkins, close personal friends of the Banfield's, purchased two acres of thickly wooded land near the Landon School and built their home. Milo Perkins, a foreign economic analyst, was the head of the Economic Defense Board, Executive Director of Economic Warfare, and the creator of the 1939 Food Stamp Plan as an assistant to Secretary of Agriculture Henry A. Wallce. Tharon Kidd Perkins was a loving wife and mother and a dedicated gardener.

In 1945, after the death of their two sons, the Perkins purchased an adjacent parcel of land which joined their property to the Landon campus. They dedicated their efforts to their love of gardening, in memory of their sons, both graduates of the Landon School. The Perkins' friendships with Frederic P. Lee and Ben Morrison contributed to their interest in azaleas, which ultimately led to Milo's co-authorship of The Azalea Handbook, published by the American Horticultural Society in 1952, and to one of the Back Acres hybrids being named 'Tharon Perkins'.

The original design of the Perkins gardens was created by Rose Greely, a local landscape architect and close friend after whom the beautiful white Gable hybrid azalea is named. The garden plan, however, was subsequently modified by the Perkins. As the gardens were developed, many were given whimsical names such as "Earl of Athlone", "Snake", "Jungle", "Tingle", "Morrison", and "Mayo". The gardens are reported to contain about 1,000 varieties of azaleas and approximately 15,000 individual plants, many of which were propagated by the Perkins themselves.

A thorough examination of Tharon and Milo Perkins's notebooks reveals the presence in the gardens of Kaempferi, Gable, Chugai (Satsuki), Kurume, Mayo. Pericat, Southern Indian, Glenn Dale, and Back Acres hybrids. The first acquisitions were fifteen hybrid azaleas from Mayo's Nursery and Orchard Company in Augusta, Georgia in 1945. The majority of the Glenn Dale azaleas were obtained from Frederic P. Lee and Ben Morrison between 1949 and 1952. Additional Glenn Dale, Pericat, and Kaempferi hybrids were obtained from Ten Oaks (Andrew Adams) and Kingsville (Henry Hohman) Nurseries. The Perkins' gardens represent a particularly fine collection of Glenn Dale hybrids, which is all the more remarkable when you consider that the Perkins were not"cooperators" (participants of record in the formal Glenn Dale distribution program). The Per-



Tharon and Milo Perkins in their garden.

kins kept unusually detailed records, and it is possible to trace when and from whom cultivars were received. For example, it has been determined that 359 of the 454 named Glenn Dale hybrids were acquired at one time or another. Additionally, there are references to eight numbered but unnamed Glenn Dale hybrids, two registered Back Acres hybrids ('Marian Lee' and 'Tharon Perkins'), and one unregistered Back Acres hybrid ('Fred Lee'). Ben Morrison, noted for his generosity. donated forty-one Kurume hybrids and made available nineteen Southern Indian hybrids selected for their suitability in the Washington area. Chugal hybrids were received in 1949 from Albert Close, a colleague of Morrison's and the chief propagator at the Plant Introduction Station at Glenn Dale, Maryland. From comments in Tharon Perkins' notebook, two of the Chugai hybrids, 'Otome' and 'Myogi', were particular favorites. Twentynine Pericats were donated to the gardens around 1950, and one in particular, labeled Pericat 120, is noted by Tharon Perkins as "extraodinarily beautiful." It is recorded in Milo Perkins' notebook that Mrs. Joseph Davies (the former Marjorie Merriweather Post) admired the Pericat 'Gardenia Supreme' more than any other azalea in the gardens.

Growing among the native azaleas in the garden, which include *Rhododendron calendulaceum* (The Flame Azalea), *R. vaseyi* (The Pinkshell Azalea) *R. periclymenoides* (The Pinxterbloom Azalea and formerly *R. nudiflorum*). and *R. prunifolium* (The Plumleaf Azalea). are particularly fine specimens of *R. schlippenbachi* (The Royal Azalea), a beautiful deciduous azalea not native to this country.

Other beautiful plants worthy of mention are the "Ironclad" Rhododendrons obtained from Bobbink and Atkins, the Exbury hybrids 'Vulcan', 'Loder's White', 'King George', seedlings of *R. maximum* donated by Frederic P. Lee, Yew (*Taxus*) cuttings from a parent plant that was selected by Dr. Frederick Coe while on a

trip to Northern Canada, a rare variegated canadian boxwood (Buxus) given by Mrs. Joseph Davies, and a collection of beautiful tree peonies (Paeonia) which today are more than fifty-five years old. In addition, Landon enjoys an extensive wildflower collection begun by Mrs. Perkins and expanded by the school's wildflower committee. The collection includes Leopard's Bane (Aronica montana), Wild Bleeding Heart (Dicentra eximia), Dutchman's Breeches (D. cucularia), Wild Blue Phlox (Phlox divaricata), Primrose (Primula), Yellow Lady's Slipper (Cypripedium calceolus pubescens), and the very rare Pink Lady's slipper (C. acaule). Interspersed among the wildflowers are several varieties of ferns, such as the Maidenhair Fern (Adiantum).

In 1953, when the Perkins left the Washington area, the Landon School purchased their property. Mrs. Banfield, wife of the headmaster, and Wilmer Foster, Landon's head gardener, continued the development of the Perkins Garden as a living memorial. Today, the Landon Azalea Gardens are the responsibility of Jan Underwood, the Landon Horticulturist. Assisted by a committee of volunteers (usually interested mothers), she carries forward the tradition of gardening excellence established by the Perkins and the Banfields.

The Landon Azalea Gardens are the centerpiece of the Landon Azalea Festival, an annual event sponsored by the Landon School to benefit the school's scholarship program. Held in early May for more than thirty years, the festival has afforded visitors, azalea experts, and hobbyists alike a rare opportunity to visit and enjoy a mature azalea garden. The gardens may be visited at other times by special arrangement, and permission may be obtained by contacting the school at (301) 320-3200.

Bill Miller is a past president of the Brookside Gardens Chapter. Members at the Tenth Anniversary A.S.A. Convention visited the Landon Azalea Gardens, May 6, 1988.

#### THE EVERGREEN AZALEA CULTIVAR 'POCONO PINK'

It is with pleasure that the Brookside Gardens chapter presents the azalea cultivar 'Pocono Pink' on this the occasion of the 10th anniversary of the Azalea Society of America. It is our hope that this effort will serve as an example for the introduction and distribution of superior cultivars in the future. Through such a mechanism, it is possible to give new cultivars the widest possible exposure and distribution.

It should be noted that this is not strictly a formal introduction, since 'Pocono Pink' has been around for a number of years. However, we feel that it is a particularly fine cultivar which has only enjoyed a modest, regional distribution. It is worthy of being shared in an organized fashion, and this approach will improve its chances for survival.

#### ORIGIN

'Pocono Pink' was discovered in 1979 by Nancy Swell and Rosalie Nachman of the Richmond, Virginia chapter, ASA. Rowed out in an overgrown (eight foot weeds) back section of the Pocono Nursery, these distinctive but unrecognized plants were found "blooming their hearts and souls out" (Nancy). Some of the other plants in the group appeared to be Robin Hills, and all of them were unlabeled. Many of the plants had succumbed to the overgrowth. They were part of a truckload of liners that had been received from Tingle's Nursery. Apparently. Tingle tested and propagated for both Morrison and Gartrell, so there is a multitude of possibilities there that could be considered...Robin Hill and Back Acres. for example. Nancy opines that it is likely "one of Gartrell's that did not have the growth habit that he was looking for or a relative of 'Debonaire'." Nancy bought two plants and Rosalie bought one.

In 1982, Nancy entered it as an "unknown" in the show at the A.R.S. Convention in Washington, D.C., to see if anyone could identify it. No one could. When she began sharing it with others, she realized that it needed a name. What else would you call a pink azalea from the Pocono Nursery?

Nancy's "original plants are a good five feet tall, upright, not spreading, about three to four feet across." In Richmond, it has survived-5 F degrees with no bud damage, die-back, or bark split, and she has made plans to send it to West Virginia and the Shenandoah Valley to see how it does. In my experience over the last several years, 'Pocono Pink' has performed well in Bethesda, Maryland, a northwest suburb of Washington, D.C. Bethesda is a little harsher than Richmond, Virginia.

#### DESCRIPTION

I asked Don Voss of the Northern Virginia chapter. ASA about preparing a proper description. His description follows:

"POCONO PINK: An evergreen azalea of unknown parentage. Specimen described was growing in a 3-gallon pot; flowers described May 12, 1987; sping/summer leaves described July 24, 1987. Flowers mostly 2 per bud; single; corolla funnel shaped, 5-lobed, averaging 52mm. across and 40mm. long; petal lobes medium width, slightly overlapping, of good substance; RHS(66) 55C-D (light to pale purplish Pink), slightly tinged with light tint of RHS(66) 52D (strong Pink); throat shading to White at base; blotch RHS(66) 160D (pale Yellow), spotting RHS(66) 160B (light Yellow) over blotch and RHS(66) 53D (strong Red) over Pink ground. Pedicel



Roger C. Brown

length about 8mm. Calyx present overall length about 5mm., 5-lobed, RHS(66) 144C (strong Yellow Green). Spring/summer leaves' petiole length 0.4 cm., with moderately dense vestiture of reddish Brown appressed loriform hairs; lamina elliptic to broadly elliptic, 3.8 cm. long and 2.2 cm. in width; apex broadly acute, mucronulate; base cuneate; adaxial surface dull, RHS(66) 143A-144A (strong Yellow Green), openly vested with appressed yellowish brown loriform hairs; abaxial surface dull, RHS(66) grayish tint of RHS(66) 144A-B (strong Yellow Green), openly vested with appressed yellowish brown loriform hairs, denser and darker in color along midvein and main secondary veins."

#### DISTRIBUTION

Thanks to the generosity of Roger Brown, past president of the Ben Morrison chapter, we had small plants of 'Pocono Pink' to share with attendees at the Tenth Anniversary A.S.A. Convention. Those of you who know Roger know that he is not a production nurseryman. Despite the obvious advantages accruing from his incredibly green thumb, you can imagine how much effort and commitment was required to generate a sufficiently large number of plants for the National Meeting. For the past four years, Roger has unselfishly given of his time and resources to make this distribution possible. It all began with one plant. While he was producing these plants, he was prevented from producing plants to support his hobby. It is this kind of commitment and unselfishness that stands as an example for all of us. and we owe Roger our sincere thanks.

William C. Miller III for the 10th National Meeting Committee

# "AZALEA CLASSIC" B.Y. MORRISON AND HIS AZALEAS

Frederic P. Lee Bethesda, MD

The story of B.Y. Morrison's azalea breeding work accounts for only a small part of his horticultural life. Following undergraduate studies at the University of California, he was graduated from Harvard University in 1915 with a degree in landscape architecture and engaged in private practice of his profession for a short time

After World War I, Morrison became an assistant of David Fairchild in the plant introduction work of the United States Department of Agriculture and later was head of the Division of Plant Exploration and Introduction for 14 years. From 1937 to 1951, he was acting director or director of the United States National Arboretum.

But Morrison's horticultural activities were not confined to the Government or to azaleas. For his work in connection with daffodils, he received the Peter Barr Memorial Cup of the Royal Horticultural Society and the Gold Medal of the American Daffodil Society. He wrote a Government bulletin on iris and did some breeding of iris in the 20's, receiving the Distinguished Service Medal of the American Iris Society. He edited that Society's *Bulletin* and served as its secretary for many years. Morrison was a specialist in bulbs as, for example, lycoris, species daffodils, and zephyranthes. Few garden plants escaped his attention.

The most extensive of Morrison's non-governmental activities was his editorship of the *American Horticultural Magazine* for 37 years, and he was a principal founder of the American Horticultural Society and at one time its President. Its Gold Medal and Liberty Hyde Bailey Medal were awarded him.

The varied scope of Morrison's horticultural activities were recognized by the presentation to him of the Veitch Gold Medal of the Royal Horticultural Society, the Arthur Hoyt Scott Horticultural Medal and Award, and the Sarah Fife Memorial Trophy of the Garden Club of America.

Most recent recognition of his contributions has come from the government agency in which he worked for so many years. Secretary of Agriculture Orville L. Freeman has announced the first of a series of B.Y. Morrison Memorial lectures to be delivered by individuals chosen for their significant contributions to the science or practice of ornamental horticulture. Mrs. Lyndon B. Johnson has accepted nomination for delivery of the first lecture at a time and place to be determined.

Morrison was born in Atlanta, Georgia in 1891 and died in 1966

Glenn Dale Hybrids. — Despite all these fields of interest, the time given to his many horticultural articles and drawings, and his avocation of music, which included

serving as soloist for several choirs and the occasional giving of voice lessons, Morrison found time to engage in the breeding of evergreen azaleas on a scale unequaled by any one man. The Mt. Hamilton hillside at the National Arboretum in Washington was planted years ago with probably over 70,000 azalea plants. While these include some of the 400-odd named Glenn Dales, they are in great part composed of plants that Morrison considered good enough for a large hillside display but not good enough to be named and distributed as Glenn Dale Hybrids. No one knows how many other seedlings of the project were discarded. Over 28,000 visitors have viewed the Mt. Hamilton display on a single spring day, and yet, because these plants were mostly unnamed seedlings, Morrison would not permit the National Park service to take cuttings and propagate them for Washington city parks decoration. He wanted to avoid a flood of new azaleas named by unscrupulous plantlifters.

With the Glenn Dale Hybrids, Morrison sought to meet the problem of having flowers as large as those of the Southern Indian azaleas (Indicas) but plants cold hardy further north in the Middle Atlantic states. He also desired plants whose different blooming periods would provide flowers from mid-April to mid-June and particularly fill in the mid-May blooming gap in that area. The parents were many. They included clones from many species and hybrid groups in subseries Obtusum-Indica Azalea (indicum), and various forms of indicum, and the Chugai Nursery Company selections from the Satsuki azaleas; Kaempfer Azalea (kaempferi) and Kaempferi (Malvatica) Hybrids, mainly clones 'Alice', 'Louise', and 'Willy', also Malvatica of unknown origin; Sims Azalea (simsi) and 'Vittata Fortunei'; Indica Alba (mucronatum) and var. lilacinum; Kurume Hybrids and 'Amoena'; Maxwell Azalea (phoeniceum var calycinum f maxwelli); Dawson Hybrid cl. 'Hazel Dawson'; Southern Indian Hybrids cls. 'Modele', 'Madame Margottin', and 'Miltoni'; the Korean Azalea (poukhanense); and others.

The exact parentage of each selection together with its offical description is to be found in Agriculture Monograph No. 20, *The Glenn Dale Azaleas*, Published in 1953, and in *The Azalea Book*, 2nd ed. (1965), page 312-354.

Save during the latter part of the project, the trays were planted and the seedlings raised by Morrison as a private undertaking, in a garden with a glassed over pit maintained by him near his home in Takoma Park, Maryland. Seedlings or cuttings were transferred to the Plant Introduction Station at Glenn Dale, Maryland. Also, some of the small plants were set out at the National Arboretum. After selection and naming of a particular

plant, it was propagated and distributed to azalea growers by the Station—hence the name of the group, Glenn Dale Hybrids. Later on, all the work on the project was done at Glenn Dale, with some of the later seedlings also being planted out at the National Arboretum awaiting selection.

While 400-odd new azaleas on first thought seems overwhelming, they are best regarded as about 12 groups of around 10 to 40 plants each. These smaller groups are based on blooming period—early, early midseason, late midseason, and late—and on habit—low, medium, and tall. In each smaller group there is a large range of colors together with patterns where the flower is striped, sanded, or wedged a color differing from the ground color ("the peppermint candy sticks"), or has a different color throat or margin, or eyes.

Forty Glenn Dales chosen at random work out as follows and illustrate the point:

#### EARLY:

Low—white, 'Cygnet'; pink, 'Refulgence'; Medium—red, 'Red Bird'; pink margin, white throat, 'Caress'; pale rose pink, 'Allure'; purple, 'Viking'; Tall—white, partially petaloid sepals, 'Samite'; pink throat, white margin, 'Dayspring'; red striped white, 'Cinderella'; light red, hose-in-hose, 'Ballet Girl'; pink, 'Modesty'; purple, 'Burgundy'.

#### EARLY MIDSEASON:

Low-scarlet ruffled, 'Wildfire';

*Medium*—white, 'Glacier'; red, 'Galathea'; pink, 'Cathay'; purple, 'Zulu';

Tall—white with red stripes, 'Yeoman'; purple, 'Nocturne'.

#### LATE MIDSEASON:

Low—white, 'Helen Close'; white, frilled, 'Polar Sea'; white, semidouble, 'Carrara'; white margin, red throat, 'Surprise'; pink, 'Coral Sea'; purple, 'Dauntless'; purple or white striped purple, 'Memento';

Medium—white, striped purple, 'Antique'; white, 'Safrano'; pink, 'Crinoline; and 'Louise Dowdle'; brownish purple, 'Kobold'; purple, 'Chanticleer'; purple margin white throat, frilled, 'Boldface';

Tall—very pale pink, 'Grace Freeman'.

#### LATE:

Low—red margin, white throat, 'Aztec'; pink, 'Stunner' and 'Fountain';

*Medium*—red, 'Copperman'; pink, frilled, 'Lillie Maude'; pink, 'Juneglow' and 'Epilogue';

Tall-white, 'Snowscape'.

Roy Magruder, collaborator, National Arboretum, has a special interst in completing the Arboretum's collection of Glenn Dale Hybrids and revising the official descriptions made in 1952 mostly from plants that then had not reached maturity. The problem of accurate descriptions is complicated by the fact that some of the clones are prone to produce sports, particularly those having in their parentage 'Vittata Fortunei' or one of the Satsukis. With some clones, a single plant may produce two different self-colored flowers as well as flowers of different color patterns, such as wedges, stripes, or sanding on a ground of another color.

The Glenn Dale Hybrids meet Morrison's objectives of large flowers (some up to  $4\frac{1}{2}$ " wide), hardy in the Middle Atlantic states area. They are of course hardy further south in the Gulf regions, and many of the plants are grown there. How hardy the hybrids may be north of Washington, D.C., or zone 7 is disputed. Some growers have claimed success as far as New Jersey and Rhode Island. In general the Glenn Dales are as hardy as most Kurume Hybrids.

Back Acres Hybrids—When Morrison retired from government service in 1951, he moved his garden operations from Takoma Park, Maryland, to Pass Christian, Mississippi, on the pecan farm of his friend, Ivan Anderson. There Morrison continued his work with the Glenn Dale hybrids, particularly to the end of producing late blooming clones that had double flowers or flowers with a white or light throat and margin of another, but darker, color. The name of the farm, Back Acres, was applied to these hybrids. The first Back Acres Hybrids were introduced in 1964 through the Tingle Nursery of Pittsville, Maryland. Around 40 selections were made. At the time of Morrison's death in 1966 there were many seedlings on hand, and some tentative selections had been made from them. These plants, it is understood, are in the hands of a Georgia grower and may later appear on the market.

Belgian Glenn Dale Hybrids.—Another off-shoot of the Glenn Dale Hybrids were the Belgian Glenn Dales. Crosses were made in 1947, and after Morrison's retirement the plants were carried on by John L. Creech, present chief of the New Crops Research Branch, U. S. Department of Agriculture, and in charge of its plant introduction work. Some 96 selections were given trials, and of these, five were introduced in 1962: 'Bayou', 'Green Mist', 'Petite', 'Pink Ice', and 'White-house'. They are crosses of a Belgian Indian hybrid and Glenn Dale Hybrid cl. 'Treasure'. Presumably, this group is less hardy than the Glenn Dale Hybrids and would not be suitable in areas north of Zone 7b.

Satsukis.—Satsuki azaleas are a group developed in Japan over a 300 year period and are derived, it is believed, from the species *indicum Sweet, and eriocarpum,* Nakai. It is claimed that a very few are hybrids in which one of the Belgian Indian Hybrids was a parent. In general, the Satsukis are late blooming, average lower in height than azaleas in many of the other groups, are hardy as far north as Zone 7, and are vigorous in their production of sports. Flowers of as many as a half dozen color patterns are not infrequently found on a single plant. They are in general slower growers than most

azaleas, and a few clones are very dwarf or creeping.

In 1938 and 1939, Morrison arranged for the Plant Introduction Section of the Department of Agricultiure to bring in from the Chugai Nursery company and introduce some 53 different Satsuki clones. After his retirement to Pass Christian. Morrison resumed his interest in Satsukis and with the assistance of Kaname Kato in Japan, brought in large numbers of Satsukis and grew them at Pass Christian. With the aid of photographs and descriptions from Kato, Morrison was engaged in determining correct names, transliterations of the Japanes symbols, and descriptions of the plants as grown in the United States. Around 100 of Morrison's descriptions of Satsukis, as grown at Pass Christian, appear in The Azalea Book, 2nd ed. (1965), pages 284-304. With the Japanese, the Satsukis are the most popular group of azaleas, particularly for Bonsai. At the time of his death in 1966, Morrison contemplated a breeding project with these azaleas, a few of which he had used in connection with the Glenn Dale and Back Acres Hybrids, as well as the writing of a monograph on the Satsukis, the only large one in this country, has now been dispersed. It is beleived that it numbered around 200 different named clones and that a grower in Georgia and another in Virginia have some of Morrison's plants. It is to be hoped that ultimately they will appear on the market.

During the course of correspondence with Mr. Lee about this article the Editor raised certain, questions the answers to which he thought would be of interest. The questions reached Mr. Lee after he had prepared the article and he answered them in a letter of March 6, 1968. With the author's permission the questions and answers are printed as an addendum to the article.

#### ADDENDUM

Your letter raises a number of questions. The best I can do in the way of answers is as follows:

- (1) Have any of the clones disappeared? I do not know precisely, but Roy Magruder at the National Arboretum has been able to collect all the named Glenn Dale hybrids except a very few, in order to complete the Arboretum's collection. Roy is out of town until the middle of April, so I can not give you the precise number, but as a guess it was around four or five. In consequence, the number that have disappeared has at most been no more than four or five, and I believe Roy has hopes of locating these.
- (2) Are there some named varieties of Glenn Dales that were never actually distributed? Again I do not know precisely. There are a very few—around a half dozen—that were never formally distributed by the Glenn Dale Plant Introduction station to nurserymen as were the others. However, these were distributed to a few individuals, and I believe Roy Magruder has all of these in the Arboretum's collection. I won't be able to find out with precision until his return.

- (3) Are there any that have developed undesireable traits? It depends upon what you call undesirable. I don't happen to care much for the "peppermint candy"striped flowers, but I find many gardeners who have an especial liking for them. Some plants grow larger than the heights given by Ben in his original descriptions, and perhaps for this reason would not be desirable for the 60x120 ft. lot. Nevertheless, they are fine plants in an appropriate location. As stated in the manuscript, many of the plants sport regularly, so as to have several different flower color designs on the same plant. This makes it difficult to describe the flowers of the plant. But, it is a characteristic that I have found, although to a much less extent, not only in the southern Indian azaleas but even in old Kurumes. The Japanese particularly prize these plants. I really do not know of any Glenn Dale hybrids with undesirable traits as, for instance, poor flowers, or diseases of the particular clone, or unusual difficulty in growing.
- (4) Are there certain varieties which resemble each other so closely that there is hardly need for both of them? The answer to this is probably yes, but as I pointed out in the manuscript many of these plants with similar flowers are plants that have a different habit, or bloom during a different period. It will be two or three years before Roy Magruder's data on the plants at the Arboretum are completed and a fair judgement could be made as to varieties that too closely resemble each other
- (5) What are the varieties that seem particularly desirable to you? I am no good at this sort of thing. Most plants seem good to me if they grow and do a job. However, in the Azalea Book, 2nd ed., pp. 365-368 are a number of azaleas listed by Stuart Armstrong, former president of the American Horticultural Society, as being his idea of the best azaleas. Among them are a very large number of Glenn Dales, classified by color. On pp. 361-363 of the same book are a number of azaleas that I recommended for zones 7, 8, and 9a, and again a considerable number of Glenn Dales are mentioned.
- (6) Would you discuss critically a few of the varieties which you feel would be especially useful? I'm not too sure what you have in mind. If you think it necessary I could mention some with unusual flower designs, some that bloom late and some that bloom early, and some that are low growing, late, are dense, and have branches that sweep down to the ground.

Originally published in Quar. Bull. Amer. Rhod. Soc. 22:66-71 (1968).

<sup>&</sup>quot;Azalea Classics" are articles from in the past which THE AZALEAN staff deems worthy of being brought to the attention of today's azalea enthusiasts.

#### **ASA NEWS AND VIEWS**

#### LETTER FROM THE PRESIDENT

#### DEAR MEMBERS:

At the meeting of the Board of Governors of the Society which followed the annual business meeting, I was elected President of the Society.

In addition to routine operation of the society during the next year, I plan to address several issues:

- Continuing health of The Azalean
- Ensuring a larger society membership
- Having more people active in the national organization
- Promoting and publicizing chapter activities
- Promoting more activities between chapters
- Securing better relationships between the national organization and its chapters.

I solicit your help and ideas on these issues. If you or anyone in your chapter has ideas or comments, please let me know in the near future.

We are anxious to induce growth in our society through active participation by as many members as possible at both chapter and national levels. The Society has about 750 members. Continued growth is necessary for our financial well being, to provide a constant flow of articles for The Azalean, and to enable to pursue a continually meaningful program consistent with our society's objectives. As a reminder, those objectives are, as stated in our by-laws: "to promote a wider interest in and familiarity with its classification, propagation, culture, care, and hybridization by all people; to teach procedures for its propagation and cultivation; to serve as a clearing house to aid the spread of information about these matters; to contribute to the scientific improvement of this species; to encourage the greater use and display of the many forms and varieties of this beautiful plant; and to increase the bonds of fellowship among growers of azaleas." If you or other members of your chapter have an interest in participating in activities of the national society, let me know. Please respond directly to me at:

737 Walnut Avenue North Beach, MD 20714

We tentatively plan to have the 1989 annual society meeting in western North Carolina during the first week of June.

Sincerely,

Robert W. Hobbs President, ASA

#### NOMINATING COMMITTEE

A nominating committed for 1988 was selected by the Board of Governors (BOG) at the Annual Meeting. The purpose of the nominating committee is to prepare a slate of candidates to serve as 1989-1991 at-large members of the BOG. The Chairman of the nominating committee is:

Malcolm Clark 545 South Bennett Street Southern Pines, NC 28387 PHONE: (919) 692-3935

Other members are:

Ruth Amos Gordon Severe

Don Voss

Members should contact the chairman or other members with suggestions for candidates for the five BOG members that will be elected in 1989. Please make your suggestion by October 31, 1988, so that the new members can be elected and installed at the next annual meeting.

#### THANKS, RYON!!

After a decade of dedicated service to the ASA as a Chapter President, Society President, Chairman of the Board of Governors, and a general facilitator and promoter of the Society, Ryon Page has decided to devote more time to a host of things he has been putting off. He plans to be actively involved in many activities of the Society, and an advisor in many more as he steps aside from national society office. In these ways, Ryon's wisdom and experience will continue to benefit the Society. All members owe a debt of gratitude to Ryon for his leadership and for the large amount of time he has donated. Ryon, perhaps more than any other individual, is responsible for where the Society is today.

Thank you, Ryon! Best wishes for your new enterprises.

Bob Hobbs

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#### IN MEMORIAM

#### R. FRANK DOWDLE 1914-1988

If B.Y. Morrison had a "green thumb" by his side, it was Frank Dowdle. Frank was killed in a tragic automobile accident July 9th in Oconee County, South Carolina, while returning to his home in nearby Clayton,

Georgia. What a sad ending for so gentle, modest, and conscientious a person. Frank spent much of his career at the U.S. Plant Introduction Station, Glenn Dale, Maryland. When he first came to the U.S. Department of Agriculture in September of 1935, he worked at the Beltsville Plant Industry Station under famous horticulturists such as Guy Yerkes and David Lumsden, assisting in the azalea breeding that transferred to the Glenn Dale Station and served under the Kew-trained plant propagator, Albert Close. During the war years, Glenn Dale became a propagation center for Cinchona (quinine), and Frank helped with the shipping, in sphagnum moss, of thousands of small Cinchona plants to Central America. At Glenn Dale, he assisted Claude Hope, Henry Gunning, and the famous horticulturist, V.T. Stoutemeyer. Mr. Morrison had put the Glenn Dale azalea project on hold, but after the war it reclaimed its priority at Glenn Dale. Frank became intimately involved in the propagation of the massive distribution of young azaleas to the nursery trade, as well as other routine propagations. In June 1954, he followed Morrison to Pass Christian, Mississippi where he managed the nursery that was backed by Morrison and several friends. Eventually, the nursery failed, and Frank returned to Washington, D.C. in 1961 to become the grounds superintendent at the National Arboretum, where he remained until retirement in the mid 1970's. In connection with the Glenn Dale and Back Acres azaleas.



Louise and Frank Dowdle.

Frank probably was more intimate than anyone other than Morrison himself. It was he who safeguarded the azalea known as 'BYM Special' in the pit greenhouse at Glenn Dale. Frank will be sorely missed as a first person historical resource on the Glenn Dale and Back Acres azaleas and remembered by his friends as a dedicated plant propagator through whose hands so many valuable plant introductions passed.

> John L. Creech Hendersonville. North Carolina

#### **NEW MEMBERS**

Ben Morrison Chapter

Cecil Boyd 206 Severn River Road Severna Park, MD 21146

Robert W. Eby 182 Tam Glade Severna Park, MD 21146

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Myles W. Timko All Faith Church Road Mechanicsville. MD 20659

Ms. Marion Yaglinski 1248 Hunt Club Lane Media PA 19063

Brookside Gardens Chapter

Dennis Michael Beary 1 Rainbowview Court Gaithersburg, MD 20879

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