
SEARCHING FOR THE NATIVES

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I am continuing to make a few evergreen azalea crosses using the hardier plants here, such as some Lanny Pride selections, Schroeders, and some species that have not been used much by others that offer promise for small size and adaptability to cool summers and cold winters. These are: *R. kiusianum*, *R. serpyllifolium* and *R. tschonoskii*. All three of these have small flowers, but can produce floriferous hybrids. By contrast, most of the current evergreen azalea hybrids available have been developed with *R. kaempferi*, *R. yedoense* var. *poukhanense*, *R. sataense*, *R. indicum*, and other species listed in the table on page 52.

If you have never hybridized azaleas, you will find Chapter 12 by August Kehr in Fred Galle's book *Azaleas* on hybridizing most interesting and helpful. There is a wealth of information on only ten pages in this chapter. In the same book, Appendix C, there is a brief article on the "Inheritance of Flower Color" by J. Heursel which includes information on the probable fertility of double and single flower parents. For example, he found that:

Female hose-in-hose x male
single flowers usually will not
produce seed.

It is therefore necessary to use a single flowered azalea as the female parent crossed with male hose-in-hose in order to produce seed. Knowing this will save you a lot of time making crosses.

All hybridizers have their own goals for making crosses. Whatever your goals, you will learn interesting things about azaleas when you make the crosses and grow the seed to blooming size plants.

George Ring has been a hybridizer of rhododendrons and azaleas for over 30 years. A Civil Engineer, he is retired from the US Department of Transportation and from the Research Board of the National Academy of Sciences. He is a Past President of the American Rhododendron Society. □

This evening we shall travel with the Middle Atlantic Chapter ARS as we explore for native azaleas in the eastern United States. I hope to give you all a view of the species we have explored for and a taste of the trips we have taken up to this point in time.

The goals of our Native Azalea Study Program are to give us a better understanding of our azaleas and to produce a definitive slide program on all of the eastern native azaleas, which will be offered to other groups and organizations for their use. The program will be completed for the ARS Eastern Regional Fall Meeting at Williamsburg, Virginia in 1999.

By investigating the natives in their natural habitats we hope to understand where they grow, how they grow and especially their genetic diversity. This will be useful in helping us grow the natives in our gardens and perhaps give us information and plants to create better hybrids for our growing conditions.

Our trip this spring to investigate *Rhododendron canescens* and *R. austrinum* led us to southeast Mississippi, south Alabama, south Georgia and the panhandle of Florida in the last week of March. This year we were perhaps a week early because only about 25% to 33% of the plants we saw were in full bloom, and the rest were in opening bud to tight bud. This again impressed upon us our belief that by proper selection of different clones of a species, one can have a long period of bloom of many species.

Generally, we found *R. canescens* growing near water and sometimes at sites that must flood for short periods of the year. Flower color was mostly pale pink with a deeper pink tube but we did find some pure white clones. I was impressed by the large number of flowers in the truss of *R. canescens* and its tall graceful habit of growth, both characteristics which it seems to pass on to its hybrids, in my experience. The most unique *R. canescens* we saw in a cut-over woodland west of Tallahassee, Florida, was a plant with a white ball truss of fragrant flowers that at a distance resembled a viburnum.

R. austrinum seems to like more dry sites and can often be found on the bluff of some of the larger rivers, although at times we found *R. austrinum* and *R. canescens* growing and blooming side-by-side. The best blooming stand we saw was in Torreya State Park in Florida on a high bluff overlooking the Apalachicola River. Torreya State Park contains a very interesting selection of native flora and is well worth a visit. Again the genetic diversity of *R. austrinum* was very interesting in the yellow to gold flower color, with and without red to pink color on the flower tubes, and in the flower size and plant size. We agreed that the most interesting *R. austrinum* we saw was one that had us standing on our brakes when we saw it on the side of the road. From a distance it was a deep coral color and closer inspection showed it to be deep coral red in bud that opened and faded to an apricot shade with coral tubes, again found in northern Florida.

Our search for *R. periclymenoides* (Pinxter-bloom) has been in Virginia, West Virginia, and Maryland. It superficially resembles *R. canescens*, but prefers dryer woods, higher lands and generally has a more northern range. It seems to pass a greater range of flower shades, white to pink (pale and deep) to lavender pink, and sometimes (rarely) upon opening the flower has pale yellow blotch. It can be differentiated from *R. canescens* by the use of a hand lens

when viewing its flowers. *R. canescens* will have **hairs with glands** on its flower tubes while *R. perclymenoides* generally has **hairs without glands** on its flower tubes.

R. atlanticum has become one of my favorite species, because of its toughness. I have seen it come back and bloom after being bushhogged, burnt and even after herbicides have been sprayed on it (it takes some four to five years to recover and start blooming from this). It is a dwarf, very fragrant azalea that is extremely stoloniferous. I remember seeing several clones intertwining and blooming in a multiple colored patch of flowers that extended for a quarter of an acre or more. Standing in the middle of such a patch was like standing in a perfume factory.

R. atlanticum flowers occur mostly in shades of white to pale pink. The pure white will sometimes appear cream in bud, while the pale pink clones have deeper pink buds that upon opening fade to pale pink or white.

R. prinophyllum is another very fragrant azalea that we have studied in the mountains of Virginia and West Virginia. Perhaps our favorite spot to see *R. prinophyllum* is Dolly Sods Wilderness. Its flower color ranges from pale pink to deep pink, and we have seen a few individuals with a faint yellow-gold blotch. The greatest variation seems to be in flower size and shape.

Most of the *R. viscosum* we have observed has been in the coastal plain of Virginia in low swampy woods, although we have seen occasional specimens of the mountain version of *R. viscosum* in western North Carolina. Almost all individuals have been pure white with rare individuals having a pale pink tube. The greatest genetic diversity of this species seems to manifest itself in its bloom season having a bloom range from May to September or past.

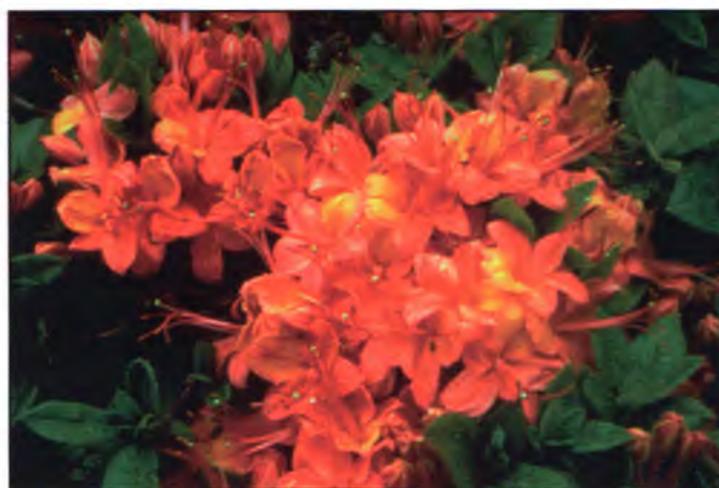
The pure white azaleas that we find in the mountains of the southeast have



R. calendulacum Jane Bald Roan Mountain



R. arborescens hybrid Gregory Bald



Azalea hybrid Gregory Bald

Photographs by the author

generally been *R. arborescens*. It is easy to separate from *R. viscosum* because of the perfectly smooth stem of its new growth. Its fragrant flowers are white with contrasting red stamens and style. You will find some with a yellow blotch and many with pink buds and a certain amount of pink streaks in the flower. Its attractive foliage can vary from deep green to a slight blue-green. It is found near water, either along high mountain rivers and streams or near springs where its roots can get to water.

The flame azalea or *R. calendulaceum* is one of the world's most beautiful flowering shrubs. Our favorite spot to see *R. calendulaceum* in the wild has to be the highlands of Roan Mountain on the North Carolina-Tennessee border where for some reason the quality of the flowers seems to be the best I have seen in *R. calendulaceum*. Its flowers range from yellow to gold, to orange to red and various combinations of these colors. Some of our favorites are what we call "the changeable" flowers that start pale yellow, change to pink and fade to red. There is a real genetic diversity in bloom times of this species, and it would be easy to have a different individual of *R. calendulaceum* in bloom in one's garden over a period of a month or more by careful selection of different clones.

R. cumberlandense is closely related to the flame azalea *R. calendulaceum*. It is a diploid whereas *R. calendulaceum* is a tetraploid (the only tetraploid member of the section Pentanthera). *R. cumberlandense* usually blooms later and tends toward deeper orange-red and red than does the flame azalea and is found in the Cumberland Mountains and Plateau. But it can be hard to separate where it occurs with the flame azalea at high altitude in eastern Tennessee, western North Carolina and northern Georgia. In these areas similar looking plants will take some study with a hand lens (generally *R. cumberlandense* has eglandular pedicel and sepal margin while *R. calendulaceum* will generally be glandular (reference 1)) to separate.

The most fascinating azaleas we have seen in our trips are the natural hybrids that occasionally occur. We have visited three swarms of our native azaleas: Gregory Bald in the Great Smoky Mountain National Park; Copper Bald in western North Carolina, and Audra State Park in West Virginia and have seen other scattered hybrids in our travels.

The hybrid swarm of azaleas atop Gregory Bald (4,949 feet) has become world famous among people who admire our native azalea and has been visited by such as Dr. Henry Skinner, Fred Galle, Dr. August Kehr, Peter Cox and many, many more. It is a grassy summit fringed by scrub trees and contains thousands of azaleas, both in thickets and as free-standing plants covering about 15 or more acres.

The flowers range from pure white with yellow to gold blotches, pale yellow to golden yellow, different hues of salmon to peach pink, some with deeper blotches, a full range of hues and tones of orange with striking gold blotches, light to deep reds, strong vivid purplish reds, pale fuchsia with gold blotches, deep pinks, medium pinks, pale pinks with and without blotches (reference 2).

This swarm is said to involve up to four species (*R. cumberlandense*, *R. arborescens*, *R. viscosum* and probably *R. calendulaceum*) which have crossed and back crossed probably since the late 1920's when the land was given to the National Park Service.

We were introduced to Copper Bald by Mr. Ed Collins of Hendersonville, North Carolina, who was doing a detailed study of this hybrid swarm. He has found *R. arborescens*, *R. cumberlandense*, *R. viscosum* and *R. calendulaceum* present on this mountain top. The hike to Copper Bald is much shorter and easier than Gregory Bald but the search for azaleas is harder, because the bald has been overgrown with trees and brush. We were there early in the 1997 season, and saw only the

early blooming varieties which were hybrids of *R. arborescens* but this area contains a range of flowers like the Gregory Swarm.

The most recent swarm we are studying is in Audra State Park where *R. calendulaceum*, *R. periclymenoides*, and *R. arborescens* have been found. Doug Jolly of Flatwoods, West Virginia introduced us to this beautiful hybrid swarm on a low ridge overlooking the Middle Fork River. Doug has just begun to study this swarm, but has found many plants with *R. calendulaceum*-like flowers in shades of apricot, rose, pink and combinations of these and *R. periclymenoides*-like flowers in pinks and white with prominent gold blotches.

I would urge all of you to get out and look at our native azaleas, especially the populations that may be close to your homes. It is a very enjoyable and informative pastime but be warned it may become an addiction. I have climbed to Gregory Bald five times and Roan six or more times. All of our members have been giving our favorite azaleas nicknames and considering them old friends that we like to visit each time we are in the area to check on their well being and health. So get out and enjoy!

REFERENCES

- (1) Kron, Kathleen A., 1993. *Edinburgh Journal of Botany*, Vol. 50, No. 3.
- (2) McLellan, George K. and Sandra McDonald, Spring 1996, *American Rhododendron Society*, Vol. 50, No. 2.

George McLellan's garden has been twice featured on the Virginia Garden Tour and included on the Gloucester Daffodil Tour, and has been described as "one of the loveliest in America." He has hosted numerous plant societies and actively participates in the American Rododendron, Camellia, Azalea, Holly, Virginia Native Plant, and American Rock Garden Societies, and the Southern Appalachian Conservancy. □