

(3) *Thoughts on Azalea Hybridizing* by Donald W. Hyatt

Hybridizing Goals –Hardiness

A primary goal for many azalea hybridizers has been to improve winter hardiness. Achieving that goal, however, has not always been straightforward. Two of the hardiest species known to date are *R. poukhanense* (*R. yedoense* var. *poukhanense*) and *R. kiusianum* and they have figured prominently in many hardy hybrids. Although both can withstand significant cold, they have some drawbacks. They have sparse winter foliage and their dominant purple genes are problematic for hybridizers since it can take many generations to get colors other than purple in the progeny. Perhaps the hardiest hybrid to date is Orlando Pride's 'Pale Lilac' (*kaempferi* x *poukhanense*). It has bloomed in Ontario after winter temperatures of -31° F (-37° C). [3]



'Elsie Lee', a Parent of Many Hardy Hybrids

It is often wise to build on the success of others, and this is true with hybridizing. One azalea hybrid that has been very successful in producing many hardy hybrids is the semi-double lavender, 'Elsie Lee' ('Desiree' x 'Gable's Rosebud') by Tony Shammarello. 'Desiree' is a single white and 'Gable's Rosebud' is a compact double pink, and even though 'Elsie Lee' is purple, it has some hidden strengths. The plant is hardy with good winter foliage and its flowers are fertile in both directions. Not only can it pass those traits to its progeny, it can also produce seedlings with colors other than purple in a primary cross. For instance, Schroeder's blush

pink, 'Eliza Hyatt,' came from the cross ('Elsie Lee' x 'Robin Hill Frosty'). The cross of ('Elsie Lee' x *R. kiusianum*) produced a very hardy pale pink with a deeper edge called 'Al's Picotee.'

Foliage: Leaf Color and Retention

Since the flowering season lasts but a short time, gardeners are interested in the year-round landscape effect of their plants. Quality foliage is very important! There are many different leaf types in evergreen azaleas, and this offers many options for developing unusual foliage forms.

Azaleas with persistent, glossy evergreen winter foliage like 'Glacier' and 'Dreamsicle' are preferred to plants with sparse winter foliage like *R. poukhanense*. Gable's 'Stewartstonian' has excellent dark winter foliage, as does the Vuyk hybrid 'Johanna.' A descendant of 'Johanna,' Hachmann's 'Marushka,' is highly prized in Europe



Foliage of Hachmann's 'Marushka'

and in my opinion holds the current standard for foliage quality. Its glossy leaves turn to a deep, burgundy-chocolate color in winter, which makes a striking display on a very compact plant.

Azaleas with variegated leaves like 'Red Lustre' and 'Girard's Silver Sword' are popular but such plants may not be useful in hybridizing if that characteristic is not passed to the progeny. *R. stenopetalum* var. *linearifolium* with its long, narrow leaves does offer potential as a parent for new leaf forms, though. That lacy foliage in the garden provides a very lovely soft texture, and I think we should try to use it more in breeding to produce hybrids with that similar foliage but ones that have showier flowers in different colors and plants with improved hardiness.



R. stenopetalum var. *linearifolium*

Dwarf and Compact Plant Habits

Some evergreen azaleas like 'Dream' and 'Corsage' become huge, so without constant pruning they can quickly outgrow a small garden. Most homeowners prefer plants of modest stature that do not require so much maintenance. The hardy Back Acres hybrid, 'Bouffant' ('Dream' x 'Gunrei'), is a much more compact plant than 'Dream' and has large flowers of soft pink and never seems to need pruning in my garden. George Ring's 'Fairfax' is another excellent compact hybrid with huge flowers of pale pink and white.

Dwarf azaleas are useful in hybridizing, but commercial nurseries rarely carry them due to the time required to produce a marketable plant. George Ring raised a very dwarf *R. kiusianum* from seed that was only 8 inches tall (20cm) after 25 years. Other slow growing azaleas include the Beltsville Dwarfs, 'Leprechaun' and 'White Elf', and many Satsukis including 'Kazan' ('Rukizon'). Those could be useful as parents.

R. nakaharae and *R. kiusianum* are proving to be good parents for reducing the stature of many modern hybrids. Crosses using these two compact and hardy species are producing some excellent new hybrids in Europe. [2] Glendoick's white flowered 'Panda' is a primary *kiusianum* hybrid and 'Squirrel' is a primary hybrid with *R. nakaharae* and has red flowers.

Double Flower Forms

There are many flower forms in evergreen azaleas, but doubles are extremely popular. 'Anna Kehr', 'Secret Wish', and 'Sandra's Green Ice' are all known for very high petal counts. 'Caitlin Marie' is a very double deep pink Joe Klimavicz developed from the cross ('Elsie Lee' x 'Satellite').

Hybridizers are seeking a hardy azalea that has double white flowers edged in red like 'Leopold-Astrid' or 'Cabaret,' but those are far too tender for most azalea gardens. Bob Stewart's 'Ashley Ruth' has semi-double white flowers shading to a rose pink



'Secret Wish'

at the edge. Harry Weiskittel's 'Marshy Point Fancy Pants' has double blush-white flowers bordered in purplish-red and it has glossy dark green leaves. Breeding for doubles can be problematic, though, since some plants may be sterile because those extra petals are frequently just deformed flower parts. Some doubles may not have viable pollen or a functional pistil.

Petaloid and Spider forms

An azalea flower form gaining popularity is the strap-petal, or "spider" type, where the corolla is separated into distinct petals. The popular lavender spider, 'Koromo-shikibu,' has been used frequently in hybridizing. A Maryland hybridizer, Dave Wagner, did some breeding with 'Koromo-shikibu' and produced some nice strap petal forms. He gave me permission to introduce a white selection he exhibited in our flower show. We called it 'Wagner's White Spider' but it has been sold as 'Koromo-Shikibu White'. It has airy, delicate blossoms of pure white and good plant habit. Although there are some other strap-petal whites in the trade including Dodd's 'Primitive Beauty' and the Switzer's 'Nannie Angell,' I feel 'Wagner's White Spider' is the best so far.



'Wagner's White Spider'

Buck Clagett's 'Tina's Whorled' is a slightly deeper, reddish purple version of 'Koromo-shikibu' and it is quite nice. 'Walter's Pinwheel' (*R. nakaharae* 'Mt. Seven Star' x 'Koromo-shikibu') has strap-like petals in pinkish lavender on a compact, mounding habit. Other spider types include the reddish-orange 'Polypetalum,' and several Satsukis including 'Shiryu-no-homare,' a purple with unusual curled foliage.



Hyatt hybrid: 'Cardinal's Crest'

Interestingly, strap-petal hybrids can arise when neither parent shows that tendency. I made a cross of (*R. nakaharae* x 'Anna Kehr') which produced the compact double pink I expected and named 'Ginny Grina.' It also produced a plant with red petaloid flowers that I call 'Cardinal's Crest.'

Striped and Bordered Flowers

Some evergreen azaleas have flowers with stripes or sectors of contrasting color that can add significant horticultural interest. This tendency is common among many Glenn Dale hybrids, especially those having 'Vittatum' as a parent. The trait is also common among many Satsukis.

The Glenn Dale 'Cinderella' ('Vittatum' x Louise') has white flowers striped with red. 'Satrap' is a different sport from the same plant, but has light red flowers with an irregular white border. Neither form is stable, though, and either one can revert to the other, or even throw a solid color red sport as well. The problem with such highly variable forms is one must be very careful to select propagation material from the desired flower form.

Azaleas flowers where the corolla has a contrasting border color are also very popular and can arise from crosses using parents showing that tendency. The Satsuki 'Shinnyo-no-tsuki' was used to produce several bordered Glenn Dales like 'Martha Hitchcock', 'Luna', and 'Welcome.' Bordered flowers can arise as sports from other forms, especially among azaleas with stripes or colored sectors. Bordered flowers are common among Satsukis, such as 'Kingetsu' and 'Meicho.'

Flower Color – The Perfect Red

Some nurserymen are still looking for the perfect red azalea, but and I am not sure we are there yet. The ideal plant would have compact habit, large flowers, superb foliage, rock hardiness, and a pure, bright red color. 'Ward's Ruby' and 'Redwings' are great reds but too tender for colder gardens. 'Stewartstonian' and 'Girard's Hot Shot' are hardy but have too much orange in the red. 'Hino-crimson' is one of the most popular reds in the eastern United States but its single flowers are rather small and uninteresting and 'Hino-degiri' has too much blue in the color. 'Vuyk's Scarlet' and 'Johanna' are old Dutch hybrids and seem to be gaining in popularity. Some very deep reds being used in breeding today include 'Midnight Flare' and 'Karafune.' Perhaps we can cross those with hardy doubles to get the perfect red.

Of course, the most illusive flower color in evergreen azaleas is yellow, and we have much farther to go to reach that ideal. I will discuss that in more detail in a separate article.

Extending the Season of Bloom

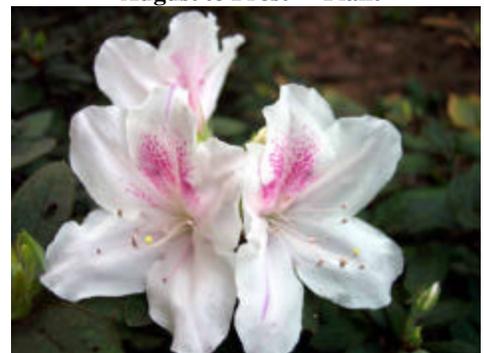
Perhaps one of the most prominent successes for any amateur hybridizer is the story of our own Buddy Lee and the Encore® azaleas. They have become among the most popular azaleas in gardens centers all across the southern states and we applaud Buddy for his work.

A common parent in Buddy's hybridizing program was *R. oldhamii* 'Fourth of July,' a species that tends to throw off-season flowers. William R. Brown at the Louisiana Agricultural Experiment Station had experimented with repeat-bloom azaleas using *R. oldhamii* and other fall blooming azaleas. [1] Buddy has now succeeded in creating a race of azaleas that are reliable rebloomers in climates where summers are warm and the growing season is long. Not all of them re-bloom in northern gardens with shorter growing seasons, but Encore® Autumn Rouge ('Conlea'), a deep rose pink with double flowers, seems to be one of the best performers in the western suburbs of Washington, D.C.

There are other azaleas like 'Opal' and *R. kaempferi* 'Indian Summer' that are reliable rebloomers for us in more northern gardens. Perhaps we should be using them as parents for repeat bloom. There is another very interesting plant derived from 'Mucronatum' by the late Dr. Marion B. Matlack of Virginia. This azalea blooms on the new wood, as soon as the flower buds are formed. It seems to be the



'August to Frost' – Plant



'August to Frost' – Sport

best summer and fall bloomer in the Washington, D.C., region with large white blossoms start opening in August and continue until terminated by a freeze, hence the name, 'August to Frost.' The plant is hardy, but unopened buds are usually killed during the winter so there is no spring bloom. 'August to Frost' has thrown several sports including a purple selection and a white with red blotch.

There is still much unrealized potential in the evergreen azalea. Through hybridizing, we should be able to develop plants with exciting new foliage forms, variations in plant habit, new flower shapes, unusual colors, improved hardiness, increased fragrance, and extended blooming seasons. Unless we make the crosses though, and grow out lots of seedlings, we may never know what secrets are hiding in the genes of these marvelous and versatile plants.

Bibliography

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[3] Weagle, John; "Hardy Evergreen Azaleas for Coastal Nova Scotia", draft for The Rosebay, Newsletter of the Massachusetts Chapter ARS, 2004.

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