

An Intersectional Point of View

APS Bulletin Number 335

September 2005

by Don Smith

Intersectional Peonies with Flare

Prominent basal flares are a common and delightful characteristic of the tree peony group. This characteristic is most beautifully displayed by the species *p. rockii* or any of its various closely related varieties such as ROCK'S VARIETY or JOSEPH ROCK. In recent years, *p. rockii* has been used extensively in China to create a plethora of new and beautiful flared tree peony hybrids known collectively as "Rockii Hybrids". These new hybrids are now available in a wide range of colors, but as a group are characterized by their extra large and very prominent "rockii" flares. Many examples of these new hybrids can be found in the new book **Chinese Flare Mudan** (ISBN 7-5038-3968-6).

Flowers with flares are also a common occurrence in the intersectional hybrid group. Overall, nearly 2/3 of my hybrids have flowers with basal flares. In many cases these flares are small and lightly colored and, therefore, barely noticeable (21%). More often (42%), they are medium to large and thus are much more prominent. Rarely, however, do these flares approach the size and prominence of those displayed by ROCK'S VARIETY. As a result, I have long wanted to transfer the *rockii* genes for these flares into the gene pool of the intersectional hybrid group. I have tried for many years to accomplish this transfer by using pollen from *p. rockii* and numerous *rockii* hybrids on the *lactiflora* variety MARTHA W. As with my many attempts using pollen from various *suffruticosa* varieties on MARTHA W., these efforts have failed to yield any seeds.

In 1999, I decided to try a different approach to introduce *rockii* genes into the intersectional hybrids. Creation of new and improved hybrids often involves finding ways to breakdown or break through or somehow get around any number of difficult fertility barriers which frequently stand in the way of significant progress. This new approach was initiated as part of a larger shift in my overall breeding strategy directed towards reducing the amount of *lutea* influence in my intersectional progeny. To accomplish this goal I began using pollen from a number of registered and unregistered *Daphnis* advanced generation *lutea* hybrids. These were primarily backcross hybrids (BC1) with a 3:1 mix of *moutan* to *lutea* chromosomes. In addition to reducing the *lutea* influence in my intersectional progeny, this approach also provided an opportunity for an indirect or "back door" way of trying to introduce *rockii* genes into the intersectional group. Generally, the 3:1 backcross hybrids are much less fertile than the more usual advanced generation hybrids (those with a 1:1 chromosome ratio) such as GOLDEN ERA. Nevertheless, some of these hybrids do exhibit useful fertility and over the last five years, numerous seeds were obtained from several of these rare *Daphnis* hybrids. From these various seeds about a dozen plants have grown and survived. Of the three BC hybrids that produced

intersectional progeny, ZEPHYRUS and an unnamed and unregistered hybrid, D-67, were the most effective parents, each producing about a half dozen hybrid plants.

The parentage of ZEPHYRUS is SUIHO-HAKU x F2A. It has excellent semi-double-double flowers with large dark flares. The pedigree of D-67 is F2B x CHONI. Although the flowers of D-67 are completely unremarkable, it was the parentage of this hybrid that was especially intriguing to me. CHONI is a plant grown by Bill Gratwick that can be traced to seed first collected by Joseph Rock from a plant found in the garden at the Choni lamasery (i.e., monastery) in Gansu, China where Rock lived for a year in 1925-26. This plant has been described as having single mauve flowers with large flares. There has always been some uncertainty concerning the identity and origin of this plant, but there is little doubt that it is closely related to ROCK'S VARIETY and may even be the true *p. rockii* species. At a minimum, it is no less than a *rockii* hybrid. Fortunately, the exact details of this plant's origin are unimportant, since one fact is quite clear; CHONI has flowers with *rockii* type flares and thus must carry the genes for the big, beautiful flares that I am trying to transfer to the intersectional group. I had no information concerning the fertility of D-67 or other similar *Daphnis* hybrids and to my knowledge this plant had never been tried as a parent in the intersectional cross. However, based on my experience with various other *Daphnis* backcross hybrids, I figured my chances were about 50:50 that its pollen would produce some seed when used on MARTHA W. In the final analysis, I felt this approach gave me the best chance for success and thus I forged ahead with a wheelbarrow full of hope and optimism.

As mentioned earlier, D-67 did prove to be reasonably effective as a pollinator and I now have 6 intersectional hybrids from this rare *Daphnis* BC hybrid. One of these plants bloomed for the first time last year and displayed several large single flowers with huge plum colored basal flares that closely resembled those of ROCK'S VARIETY. This year it bloomed for the second time with close to 30 blooms and was a strong contender for both the prettiest flower in my garden as well as the most outstanding plant. The flowers start out very light yellow heavily flushed with deep lavender pink when first open, but quickly fade to creamy white with a broad, pink picotee edge and a bold and beautiful center featuring big, broad (1 1/4" long x 3/4" wide) dark plum flares. This plant has the Seedling Identification Number (SIN) IC-99-17 and the Garden Location Number (GLN) R5P17 and its flowers were greatly admired by numerous visitors at the APS flower show this year in Portland, Maine. I am now anxiously waiting for the remainder of these interesting new hybrids to bloom over the next few years. With a little luck, three more of this group should bloom next season. In addition, I believe a few of the Zephyrus progeny will also bloom next year as well. This unique group of intersectional siblings could also produce some very exciting new hybrids. Overall, it looks like 2006 could be another very interesting year for my intersectional breeding program.



Unnamed Smith seedling R5P17

As an interesting final note, I recently came across photos of F2A and F2B on the website of Walter Good (www.paeonia.ch/portrate/Nasso4e.htm). It has been widely reported over the years that both of the Saunders F2's have flowers that are quite unremarkable, which is to say, they have very ordinary single flowers with little or nothing special to recommend them. Since I have not seen either of these plants or flowers first hand, I will not argue with this overall representation of these plants. However, based on these reports, I was a little surprised by the photo of F2B. It shows a rather pretty bright yellow single with relatively large, prominent, dark red basal flares - not spectacular by any measure, but definitely not unattractive either. Assuming this is an accurate picture of F2B, this would indicate that both parents of D-67 have rather large, impressive flares. This being the case, I am now quite convinced this variety has the potential to produce other unique and exciting new intersectional hybrids. I can hardly wait for the other siblings in this group to bloom.