



## **A x B or B x A in Breeding**

Hybridising is a gamble, with some gamblers being consistently better than others. Generally we have a perceived aim and attempt to enhance the desirable characteristics toward this end, without enhancing the undesirable ones. Hybridising specifically involves the progressive creation, concentration and selective separation of genetic material in the pursuit of colour, form, size, albinism, perfume, or whatever else is desired.

Colour, form, size, albinism, perfume, etc., are amongst the common characteristics that most hybridisers use. However, in this article, I will look into the choice of A x B vrs. B x A.

Recently we flowered about 25 seedlings from a crossing made both ways between Cym. So Bold 'and Bountiful' and a special clone of Cym. Sensation 'Vieux Rose' 4N, that we have now named 'Atlantis', selected by us from a number of colchicine converted clones of Cym. Sensation 'Vieux Rose' 2N. Cym. So Bold 'and Bountiful' is a top showbench brown, vigorous in growth, free flowering and supporting up to 18, 125mm flowers per inflorescence. Cym. Sensation 'Atlantis' is also a strong growing, free flowering plant with 10 - 12 brightly coloured deep rose pink, fully formed, 110mm flowers supported on an upright inflorescence. Both have excellent labellums. The results were most interesting and we registered the grex Cym. Bold Sensation.

Before describing the results, it would be prudent to look briefly at the genetics of hybridising, especially relating to colour. Flower colour is derived from anthocyanins in combination with other pigments and chlorophyll. Different anthocyanins vary in colour from red to yellow to magenta and into the blues. Green in orchid flowers is totally due to chlorophyll. These colouring compounds are found in the cytoplasm of the cell and not the nucleus, and while their production is controlled by the genes in the nucleus, a pollen grain is essentially nucleus, whereas an ovum may be considered as both nucleus and accompanying cytoplasm, and thus there is a potential for variation in progeny depending on which way a crossing is made.

This was what we found with the Cym. Bold Sensation crossing. As shown by the accompanying examples some features predominated where Cym. So Bold was used as the pod parent whereas others predominated where Cym. Sensation was used as the pod parent. In general with Cym. So Bold the flowers were larger, exhibited the classic award shape to a greater degree and were in the browns and red browns like the So Bold's. With Cym. Sensation, two patterns developed with two flowering times. There was an early flush around August where the flowers were very similar in form and colour and dominated by the Sensation influence and a later flush in October where the flowers were of much darker colour in reds and browns. We also flowered Cym. Kirby Lesh made by using both Cym. Pink Champagne and Cym. Red Beauty as the pod parent and while some were considerably patterned and others single coloured there was no positive correlation between the patterned ones and Pink Champagne.

It has been our impression from past cursory observation that if you are looking for predominance of colour, then use that coloured parent as the pod parent. However, a number of crossings and reverse crossings would need to be made and significant numbers of seedlings of each flowered before definite statements could be made. A number of hybridisers must have flowered large batches of seedling and made their observations and I would be interested in their impressions. If anyone has impressions or statistical evidence on A x B vrs B x A please let me know, and we can continue this line.

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