

## Canadian Reticulata Iris

This is the story of Canadian hybrids being grown commercially in Holland...

Reticulata Iris start to bloom right as the snow is disappearing. Typically that's the last week in March here in Toronto. They last for 3 to 4 weeks and are followed by Juno Iris. It's always a joy to see them appear after a long winter. For me it's particularly exciting to see what new colours or patterns appear for the first time. The Retics you may be familiar with are either blue or purple. The main exception is the bright yellow species *Iris danfordiae* that is said to "shatter" into tiny bulblets after about 3 or 4 years.

I have been hybridizing these treasures for over 25 years. I started off working with named varieties, but soon realized this was a very limited gene pool. I would need plants from the wild with different characteristics if I were to create something interesting. In 1985 and 1986 I went plant collecting in Turkey, traveling 9,000 km over two weeks each time. One of the things I wanted to find was a diploid form of *Iris danfordiae* (the commercial form is a triploid). With the help of a local, and some persistence, I was very lucky to succeed near the end of the first trip. Of particular note was another Reticulata that I collected from near Çat. It too had bulbs that "shatter."

In 1987 I was fortunate to be given bulbs of *Iris sopenensis* by the late Frank Kalich. At that time it was known as *Iris histrioides* var. *sopenensis*. It also has bulbs that "shatter." I made numerous crosses with *danfordiae*. Many were unsuccessful. Of the seeds that were produced, most didn't germinate. The big break came in 1989 when it happened that I made three crosses between *danfordiae* and *sopenensis*. Sixteen bloomed for the first time in 1994 (yes, it takes 5 years to go from a seed to a flowering bulb). They were "just blues," but I knew the crosses were true because their standards had been turned into hairs only 1 to 3mm in width. This was simply the result of normal standards, 7 to 10mm in width, being crossed with *danfordiae*'s standard, which is actually just a bristle.

A lesser indicator that the cross was true was the fact a couple of the clones had a touch of yellow in them. However this was a negative, because it made them look muddy.

At the time it was expected these hybrids would be sterile. Like crossing a horse with a donkey and getting a mule. The cross works but that's it, dead end; you can't go any further. I thought I simply had to make some crosses even if I would knowingly be wasting my time. I told myself that if anything would work, it would be if I intercrossed the 16 clones. So that's what I did.

Another 5 years later the first of these bloomed. To my utter amazement it was white with a touch of blue and yellow. I nick named it 'Starlight.' This fits perfectly because its bud is a very



Figure 1 - 94-HW-1 ('Starlight')

pale yellow, which changes to creamy white when the flower opens.

I later discovered that what had happened was, the blue got turned off, and the yellow got turned off, leaving white. This then allowed an underlying pattern with a bit of blue and a touch of yellow to be displayed.

It turns out that *danfordiae*, *sophenensis*, and the Çat Retic are all  $2n=18$ . Hence crosses between them are fertile. All other Reticulatas are either  $2n=16$ , or  $2n=20$ .

Back in 1997 Wim de Goede and his wife Hanny stopped off in Toronto on their way to California to look for Calachortus species. They were able to see some of my hybrids in bloom. It was Wim who first spoke of my F1 *sophenensis* x *danfordae* clones as "just blues." I understood what he meant -- there are already lots of blues available commercially. He was however interested in testing a number of my other hybrids, so we drew up a test agreement, and I sent him several of the hybrids that he had shown interest in.

It is now eleven years later, and Wim is building up stock of four of those first clones. He is also interested in a couple of others, and is of course testing a few of the most recent varieties. This year I was able to visit him for the first time, and I took in the Lentetuin flower show in Breezand at the beginning of March. Wim's display at the show included three of my hybrids. 'White Caucasus,' which is actually a rare white form of a normally purple Reticulata from the Armenian Caucasus Mountains, was awarded "Beste Bijzonder Bolgewas Klein Formaat" (Best Small Special Bulb).



**Figure 2 - 2008 Lentetuin Flower Show**

Sales should start in two or three years. Initially ten or fifteen thousand will be sold. There is a really possibility this will grow to one million bulbs per year; maybe even six million. These large numbers are possible because there are no other whites available, plus 'White Caucasus' is a very good white. William van Eeden's 'Natascha' is said to be white, but it's actually a very pale blue.

My other hybrids won't sell in nearly as large a quantity, but I'd certainly be happy having twenty five thousand of this and a hundred thousand of that being sold. I'm not expecting to earn a lot of money from them; hopefully just enough to offset expenses. The real reward will be knowing others are enjoying my creations. My interest is in developing the new colours and patterns. I'm happy to let the Dutch, with their ideal growing conditions and excellent distribution system, market them; and to do so in much large numbers than I ever could

Reading this you may think it's been relatively easy to commercialize my hybrids. Actually it's been quite an up hill battle.

Over the years I've had three other growers also testing my hybrids. Two of them have dropped out, and I'm not sure how serious the third one really is. Wim has rejected a couple of clones that I considered quite good and would have liked to have seen introduced on a medium scale. All is not lost. Janis Ruksans will introduce them on a much smaller scale. He lives in Latvia and is well known for specialty bulbs that you can't get anywhere else.

Two of these are: 94-AT-2, a lovely brown, and 'Sea Green' (97-CQ-1) which is a strange, but nice greeny-blue, that changes to blue just as the flowers are finishing. Granted 94-AT-2's brown is not a showy colour, but there has never been a brown before, and this one is quite nice.

I had hoped sales of my hybrids would have started by now and that they would then spark interest in some of my other hybrids. Reality is, it takes more than a dozen years to multiply a couple of bulbs into one hundred thousand. Even then, there are just enough to start sales at a small level, and begin to develop interest in the variety. So even more time is then needed to build up sales.

I have also had a number of my Juno Iris hybrids tested by Dutch Bulb Growers. Unfortunately in the end it has turned out they really weren't that interested. In part this is because they feel there isn't much of a market for them.

It was a treat seeing my hybrids in the field in Holland (only a small percentage were in bloom while I was there). The only drawback was the very strong cold winds that blow at that time of the year. They made taking close-up photos difficult. I can imagine that it would often be impossible to hybridize: the pollen



**Figure 3 - 94-AT-2**



**Figure 4 - 'Sea Green' (97-CQ-1)**



**Figure 5 - Purple Gem in Holland**

would blow away before it could be applied, plus your hands would become lethargic. If I lived in Holland I'd definitely put up windbreaks, as well as cover the flowers to keep the rain off.

Another treat was Wim taking me to see other nursery operations, including a development centre where tulip breeding is done for the cut flower trade. The characteristics of a good cut flower variety are quite different from those of garden Tulips. For example, long stems are needed, as well as buds that colour-up early, so customers can see what they are buying.



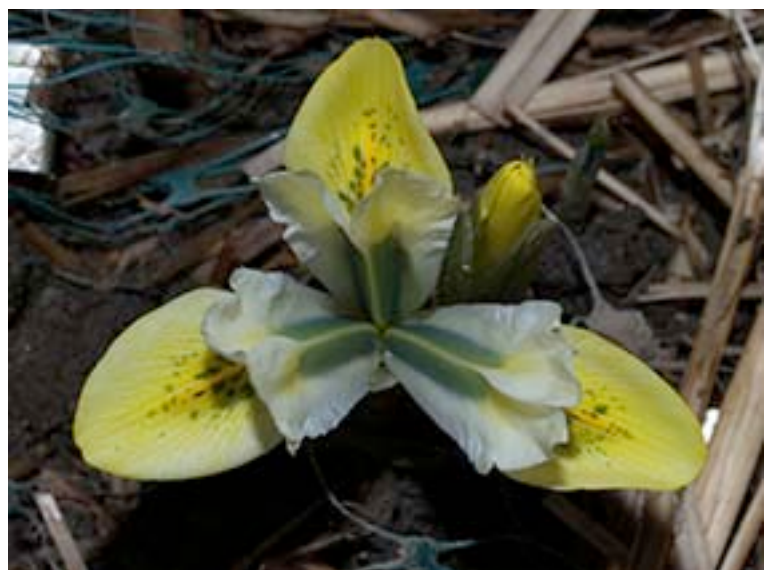
**Figure 6 - Tulip Breeding**

In my case Wim would prefer it if my hybrids were larger. Reality is they tend to be small. This is because both *danfordiae* and the Çat species are small (35 mm fall blade tip-to-tip). *Sopphenensis* is a more typical at 50 mm tip-to-tip. A large *Reticulata* would be over 80 mm tip-to-tip. Also, Wim feels *Reticulata* Iris should have standards. More normal standards do show up in some F2 clones, but it's luck of the draw. The tendency is the standards are further reduced and only 15 mm in length (verses a normal 30 mm), in addition to being narrow.



**Figure 6 - 98-EO-2**

The thing that I'm trying to do currently, is shake up the genes as much as possible so that "hidden" expressions come out. In the first number of years I could categorize my hybrids into: whites; blues; yellows; yellow-blues (which includes greens, browns, and of course yellows with stripes, and yellow with spots); and light spotted blue-green. The later is a pattern that occasionally shows up in a back cross to *danfordiae*.



**Figure 7 - 01-FS-2**

After a few years it seemed like all I was getting was largely more of the

same. A break came when I started to involve the Çat species. One of the things that showed up was a start towards orange. 98-EO-2 is about half way between orange-orange and lemon-yellow.

Another example of what I'm trying to achieve is 01-FS-2, which bloomed for the first time last year. So-to-speak it just popped out of nowhere. I'll need to study it's breeding carefully, and see what it tells me about the types of crosses I should try to be making in 2009.

Do you notice that its standards are "missing?"

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