1995 Retic & Juno Bloom

By Alan McMurtrie

This report was written primarily for all of the people that I correspond with. It seemed to make sense to stop and write a single report that could be sent to everyone. Once I started putting the report together, it seemed like a good idea to go just a little bit farther and make it available for publication by the Canadian Iris Society and SIGNA (Species Iris Group Of North America). I mention this only because there may be bits and pieces that are a bit jumpy if you're not familiar with what I'm writing about. The trade off is of course: time vs. completeness. Unfortunately I have less spare time than I did 2 years ago, with the result being that somethings don't get done, and others take longer to complete. For CIS and SIGNA readers this report would fall into the first category if I didn't limit my scope to what you are reading now.

Bloom 2 weeks earlier than "normal"

The very first plant to bloom here each year is Galanthus *elwesii maximus*. Due to the milder winter it bloomed earlier than ever this year. This was followed by some reasonably cold weather (down to -9°C [only for one morning], and -2° to -3°C on the following mornings; with daytime temperatures above freezing). I had thought that it was a very hardy and robust plant, but the prolonged cold weather, perhaps in combination with several freeze-thaws, damaged the above ground plant tissue and rot set in. I hadn't realized that this might happen, otherwise I would have done something about it. In late March I dug up the bulbs and threw away most of them because they were clearly diseased: the rot had spread from the leaves down into the bulbs. It had been quite a good increaser here in Toronto. I hope I've managed to save one or two bulbs. I wish now that I had covered them with straw rather than actually taking the covering off in order to let the light on the leaves and allow me to enjoy the flowers. A few Crocus *korolkowii* were also affected. They similarly bloomed very early and the flowers were damaged by the weather, but only one or two bulbs of perhaps three varieties had rot. The other bulbs were all fine. Only the flowers had been affected, and not the leaves.

I should point out that Galanthus *elwesii maximus* usually comes up through the snow without problems, but this is typically in early March, not early February as was the case this year.

Several of my Juno *magnifica*s in a south facing location which receives full sun developed rot in their leaves/stem after the cold snap. One *kuschakewiczii* beside the *magnificas* had its flower bud zapped along with the immediate surrounding leaf tissue. Other *magnifica*s that were not as far along (in other parts of the garden) were not affected. It is quite likely that the rot is due to flower buds rotting, as I believe Daryl Probst mentioned happens with Evansia Iris. I stopped the rot from spreading by first removing any material that was badly rotten, and then putting Gypsum on the affected tissue in order to dry it out.

Reticulatas

The earliest Reticulata Irises to bloom here were my *histrioides* var. *sophenensis* x *danfordiae* hybrids. One started just prior to March 12 (under straw mulch), with a number opening on March 12 itself (the soil around them was still frozen). This is **two weeks** earlier than "normal", and it's about two weeks earlier than they have ever been here (in the past 12 years).

These hybrids are continuing to do well, and they again have quite a good seed set. As you would expect, after last year discovering that they would set seeds, I used them substantially in this year's crosses. In case you weren't aware of it, I'll point out that they should be sterile!! *Histrioides* var. *sophenensis* is 2n = 16 or 20, and the diploid form of *danfordiae* is 2n = 18. So the progeny should have 9 from *danfordiae*, along with either 8 or 10 from *histrioides* var. *sophenensis*. [Note: *histrioides* itself is 2n = 16, but *histrioides* var. *sophenensis* has a look of being a form of Iris *reticulata* (2n = 20), not *histrioides*.] [Ed. we now know *sophenensis* is a species unto itself with a chromosome count of 2n = 18]

I am very interested to see how successful use of their pollen is (percentage of takes). I'll know that after the pods ripen, and once I get information about the successful and unsuccessful crosses entered into my computer database.

Incidentally, one of the darkest progeny bloomed this year. When it's bud first showed colour the falls appeared to be charcoal grey! After being open for a day or so its colour was more of a dark brown-blue. The style arms were mid-blue in colour.

I'll repeat my comments from last year about the *histrioides* var. *sophenensis* x *danfordiae* hybrids for those of you who missed it (it was published in the 1994 British Iris Society YearBook):

> My first hybrids involving diploid Iris danfordiae bloomed this spring! Sixteen from three crosses with *histrioides* ssp. *sophensis* as pod parent opened [I'm now up to 29 clones from four crosses]. They were all from 1989 crosses. They didn't germinate until 1991, so 1994 is their fourth year of growth. They aren't nearly as striking as Katherine Hodgkin, but they are nice. Interestingly, most only contain a very small amount of yellow. The shade

of blue varies between them from light greyed blue to medium blue. One telltale mark of their *danfordiae* heritage is faint wide greenish-yellow ribs on the back of their style arms; most, but not all of the *danfordiae* hybrids had this. Standards range in width from 0.3 mm to 3.0 mm; all being 2.0 to 2.5 cm in length. Typical I. *reticulata* standard width is 7 to 10 mm. Each of the three crosses were fairly consistent in their standard's width: in one case all 7 plants had approx. 0.3 mm widths. In one plant, the style arm lobe area was quite wide, as typical of danfordiae. Fall blade width varied from 10 mm to 14 mm.

One plant had a reasonable amount of yellow on its fall blade. The effect was a greenish, dark bluish, grey: 89-AC-4. I had of course hoped for more striking effects -- however, this is a start.

I had a number of new Reticulata hybrids bloom this year. Of particular interest was one from Çat (~34 km south of Erzurum) x *danfordiae* (my diploid form). It was a dark red with a purple influence. In the white area in front of the fall blade's ridge was some yellow-orange. The flower was small in size, just like it's *danfordiae* parent. It didn't set any seed. (Note: the Çat Retic is not a very good plant. Brian Mathew collected a form from further south {BM11026} that is much better. It too is dark red, and its bulbs shatter, but it is a better doer and has a bit larger flowers with fall blades that stay open instead of curling under).

Small flower size is of course not a good characteristic from a commercial point-of-view, since the flowers aren't very showy from a distance -- you have to get up close to see them properly. This is the case with the diploid *danfordiae* that I collected. Its flowers are quite small. The key point as always though, is how well a plant does. If it's a good grower then it should be used in hybridizing!

A *hyrcana* x *danfordiae* hybrid also bloomed for the first time. It was grey-blue in colour, with a fair amount of white beside it's yellow ridge. A few dots of dark grey blue were scattered in the white area and on the ridge. As you might picture, it wasn't all that showy. It didn't set any seed.

One other new hybrid was particularly interesting in that its colour was clearly a mix of red tones and blue tones. You could see both in it. It also had a striking yellow ridge, with the yellow extending significantly beyond the sides of the ridge. This area would otherwise have been white.

I have a number of bulbs of Janis Ruksans' Iris *hyrcana* Thalish. They include some light forms and dark forms (both with white pollen), plus a third form with orange pollen. I have not yet separated out the different forms, but I do separate them for hybridizing purposes. For each cross that I make with the Thalish pollen I mark on the tag whether it was with the white or the orange pollen, and if white pollen, whether the flower was light blue or dark blue. If Thalish was the pod parent I similarly mark down on the tag what the parent's characteristics are. In the past I have done at least one cross between Thalish plants with different pollen colours just out of curiosity to see what the progeny are like. I would have thought that a given species would have either a uniform pollen colour, or a range of colours (eg. between white and orange). Perhaps the bulbs with orange pollen were from a different colony than the ones with white pollen.

Iris *hyrcana* Thalish seems like it should be a good parent, but surprisingly it hasn't done as well here, as I think it should. Hopefully its progeny will show hybrid vigour.

Janis' Tbilisi Reticulatas are fairly interesting. I was glad to find some variation in them. They ranged from somewhat small, with light standards and styles, through to a darker larger form. I actually was most interested in the ones with the lighter standards and styles because I'm interested in creating ameona hybrids (ie. having white standards, with coloured falls). The dark red form is similar to other Reticulatas that I have, and is a colour that for my hybridizing, I want to break away from.

There was one bloom on the Armenian Caucasus Alba Retic this year as expected. It looks like I'll have 5 bulbs at the end of this season's increase, with two, possibly 3 of these being bloom-sized. It is one of the last Retics to bloom, which makes it difficult for using it's pollen since most Retics have either finished, or have already been hybridized.

87-BN-1 & 87-BB-1 had 16 and 21 flowers respectively. Surprisingly none of the bulbs had double flowers. Based on bulb size I had been predicting in each case 1, possibly 4, with double flowers. Last year they had 2 and 5 double flowers respectively (as shown below).

Bloom:	1992	1993	1994	1995
87-BN-1	1	4	11 (9 bulbs)	16
87-BB-1	1	5	16 (11 bulbs)	21

Last Fall I had 31 and 42 bulbs of all sizes respectively. A quick count of leaves (and thus minimum number of bulbs) shows 48 and 73 respectively (the count for 87-BN-1 is higher than expected). I am intending to a careful measurement the bulb clusters once the bulbs mature, and match each up with it's original parent bulb that had been measured last fall. I

had done similar measuring and comparison last season. There were a few discrepancies when I later analyzed the results. I plan to avoid these by doing a more thorough analysis this year; including the preliminary counting (of leaves and clusters), that I just completed. It appears that a couple of last year's bulblets may not have come up. They had specifically been planted close to the soil surface to ensure they would be able to get their leaves above ground. The key point, is to gain a clear understanding of exactly how well the bulbs are doing.

I specifically made an effort to use fertilizer during this growing season in order to see if I can get bulb size up (it had been down a bit from the previous year). In particular I want to boost the rate of bulb production.

One section of my garden has had a lot of Reticulatas wiped out in it over perhaps the past two years -- there are almost no leaf fans in the area. This is in contrast to Retics which have been in another bed for a longer period (and left undivided), which still has lots of leaves. I had thought this second spot had reached an equilibrium a couple of years back, but this year bloom was down significantly (I'm interested to see what happens next year).

Clearly disease of some sort has struck the first bed. Retics beyond immediately beyond the affected area are doing quite well. I'm wondering if the disease will spread, or whether its finished taking its toll. I'll likely keep Retics out of the area, though I might try a few of my less striking hybrids there, just to see what happens. This problem certainly enforces the idea of keeping special clones in at least 2 separate spots in the garden.

In home gardens we want to be able to plant Retics and just leave them alone. We expect them to do well year after year, just like most Tulips, Daffodils, Chionodoxa, Scilla, etc. Occasionally I do find that some Tulip and Daffodil varieties die out in my garden. If that happens I don't buy them again. In my case I grow too many plants to be able to give them all special attention. In addition, I have only so much garden space [cram packed with plants], and limited hobby time. There is just no way in the world that I can rotate my plants, as commercial Dutch Bulb Growers do.

Junos

After such an early flowering of the Reticulatas (starting March 12 vs. March 24 last year), we were "back on track", with *willmottiana* (true) starting April 29 (vs. April 28 last year). This "catch up" was accomplished by cool temperatures (typical daily highs of 10 to 15°C). It was only at the end of April that temperatures got close to 20°C. That cooler trend continued all through May, allowing the Junos to last a couple of days longer than normal. As is typical, *nicolai* and *stenophylla* had finished by April 29, and *rosenbachiana* and *galatica* were on their last couple of days of bloom.

Seeds of "*kuschakewiczii*" bloomed this year and turned out to be *willmottiana*. The seeds were from a Russian source. 9 bloomed, along with about 12 other *willmottiana*s (true) that originated from 3 different sources. The form from Kew is the best overall from a shading point-of-view (gorgeous powder blue). Two darker forms (one is a seedling, and the other was in with bulbs from Janis Ruksans {1993}) are quite nice. A single bulb from Janis in 1992 bloomed for the first time and it had a higher bud count (5) than is typical (3-4).

Several Juno *rosenbachiana*s from Janis Ruksans (purchased in 1994), bloomed along with my original ones from Dr. George Rodionenko. The ones from Dr. Rodionenko are more rose coloured on their style arms and standards. Janis' styles and standards were close to white. One of the distinctions between *rosenbachiana* and *nicolai* is that *rosenbachiana*'s pollen is white, where as *nicolai*'s is bright yellow. *Nicolai* additionally has two strong stripes on its style arms, and it has markings above its dark red fall blade.

The back ground colour of *nicolai*'s style arms, etc. is typically white (off white through to pure white). Occasionally it is noticeably on the yellow-side.

Two *rosenbachiana*s from Janis (purchased in 1993) bloomed last year and were wholly red. In that respect they almost seemed like they were a different species. I compared them to George Rodionenko's *rosenbachiana* as well as to *nicolai* and found them to be tightly related. They probably are indeed just colour forms of *rosenbachiana*. One had white pollen, while the other's was very pale yellow, prompting me to wonder if they might possibly be *rosenbachiana* x *nicolai* hybrids. I expect such a hybrid would have a different look.

Apparently the two "red *rosenbachiana*" from 1993 were from Tovilj-Dara, where as the 1994 ones are from Harangon. I wish that I had gotten more of the Tovilj-Dara plants! I say this only because they are different from what I consider to be the typical *rosenbachiana* --> ie. the Harangon form. It also turns out that nearly 100% of the commercial stock of the Tovilj-Dara collected bulbs were destroyed this winter by water rats. It will probably be quite sometime before material is recollected from the area.

Nicolai, *rosenbachiana*, *baldschuanica*, etc. are relatively young species compared to each other. *Bucharica* and *magnifica* are much older species.

One of the commercial forms of *aucheri* that I have growing in sandy loam soil didn't bloom. There are 11 bulbs and they are growing in spots that I consider to be ideal for Junos. Several of the bulbs did bloom last year. My other *aucheri*s bloomed, but their numbers were less than normal.

A Leylek *aucheri* clone that is a good increaser bloomed for the first time (doesn't say much for the clone's overall performance). It was dark blue. I now have 10 bulbs of it, all in a single clump.

Bloom has returned to "normal" on my *caucasica*s. The fact that some *caucasica*s were kept drier that others last summer doesn't seem to have made much difference to their bloom this year. Interestingly the *caucasica*s in sandy soil continue to do fairly well. There has been some loss of plants (and a small amount of increase). Plants in sandy loam soil are proving to have mixed performance results. Ones in soil invaded by tree roots, still have never bloomed. It's been 6 years that they've been in that location. In two other spots without tree roots, performance has been a bit better, but not exceptional.

As Janis Ruksans has found, *kuschakewiczii* is proving to be more difficult than *orchioides*. *Kuschakewiczii* seems to do well in sand, but for unknown reasons it does well for a couple of years and then dies out. Two bulbs had been doing quite well for several years and then they died out. Now I've lost another 6 or more that had been doing quite well somewhat near that same spot. They were planted there prior to my loosing the first two, but seemed quite happy. Six *orchioides* right beside the *kuschakewiczii*'s that were lost are still doing okay. (I still have kuschakewiczii growing in a number of other beds.)

One bulb of "*orchioides*" from a Cech source bloomed this year. It was unlike any other Juno that I know. The plant had a single flower (this is probably not typical). It was light grey in colour, with an almost non-existent yellow blotch. The crest was smooth-topped and a bit wavy. It was widely winged.

Almost all of my *vicaria*s are poor increasers. They do increase, but very, very slowly. Only the clone obtained as "*kopetdagensis*", increases reasonably well. I am a surprised this is the case. Perhaps I need to fertilize my bulbs better and give them some chalk (something that I have never tried). I have some growing in coarse sand, and some in good sandy loam soil.

The following slightly indented text is from a letter I wrote to Janis Ruksans

> Your "*graeberiana* - White Fall" opened on May 6th. Out of the 7 plants I bought from you 2 are true *graeberiana*, and the rest are the same plant that I bought from Potterton & Martin as "*willmottiana*" (which I refer to as *willmottiana* hort.). [They sold it between 1989 and 1992, inclusive.] I believe this is a *graeberiana* x *magnifica* hybrid (or the reverse). You can tell it from *graeberiana* by: a touch of yellow at the end of it's crest; the fact its anthers have next to no pollen; and by the fact that mature plants are much larger than those of *graeberiana* (true). The bit of yellow at the end of its crest should be enough to make a clear identification. I now have over 60 bulbs of this plant (prior to this year's increase).

Additionally: I am very curious to know *willmottiana* hort.'s real origin. In some ways I wonder if it is a natural hybrid, but I really don't think so. It is quite likely that the same hybridizer also created the *bucharica* x *aucheri* plants (actually *bucharica* x *warleyensis*), the '*graeberiana* Dark Form' (which is actually an *albomarginata* hybrid), and possibly Edmundas' "*willmottiana*" detailed below.

> Your "*graeberiana* - Yellow Fall" is a sterile hybrid (no pollen). It is very similar to the plant that I got from Frank Kalich (now deceased) back in 1984 as being from the Kara Kum Desert. Many years ago I believed that it was a hybrid, however the only mysterious point is that Frank said he got it directly from Russia: from the Bishkek (Frunze) Botanic Garden (presumably from Dr. Tkachenko, who was Frank's contact there). I can only wonder if it might be a natural hybrid. Originally I had no idea what the parents of it might be, but I would guess they are *albomarginata* x *bucharica*. I tried closely comparing the Kara Kum desert Juno to your "*graeberiana* - Yellow Fall". They are only just slightly different. You would think that they could be progeny from the same cross.
>
> I doubt very much that anyone at the Bishkek Botanic Garden was into hybridizing Junos. However in 1991 I got a bulb of what was suppose to be *bucharica*. It turned out to actually be *bucharica* x *orchioides*. That particular cross is an easy one to make, and I certainly wouldn't be surprised to hear that hybrids were either found in the wild, or created naturally in the botanic garden.
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> Your *orchioides* 'Bicoloured' is clearly *bucharica*. I am a bit surprised you are calling it *orchioides*. Perhaps you refer to it as *orchioiodes* because it is sort of semi-winged. Even though descriptions of *bucharica* may refer to *bucharica* as having parallel fall margins (hafts), it can indeed have these semi-wings to the haft. Enclosed is a picture of one of my other *bucharica*s which is semi-winged. This particular clone also has extremely long ruffled style lobes, and "wide" standards. My hort. form of *bucharica*, which I obtained from Bruce Richardson here in Canada (he had been growing it for many years), is very similar to your plant, except without the semi-wings.

Your *orchioides* 'Yellow' is also without question *bucharica*. It is a very lovely wholly (ie. completely) yellow form of *bucharica*. I have two bulbs of a similar wholly yellow *bucharica*. I hope your plants multiply well, because they are very beautiful. I've had my other wholly yellow *bucharica*s for 4 years, and I still have only two bulbs. I will be wanting to get more of this Juno from you.

I got a few Junos from Edmundas Kondratas last fall. He sent them in exchange for some Siberian Iris. One was labeled "*willmottiana*". I doubted at the time that it would be *willmottiana* simply because its bulbs were too big. I thought they might be the *willmottiana* hort. Instead they turned out to be a completely different hybrid, with one parent clearly being *albomarginata*. It's quite showy: medium blue (like *albomarginata*), with a large orange blotch on the fall blade. The blotch's oranginess changes to yellow with age. The orange blotch is fairly wide but doesn't appear to interfere with the surrounding blue (the blue and orange do in actual fact mix, but only up near the ridge; at the top of blotch). The only Juno I know of that can have an orangish blotch on opening is *magnifica*; presumably then, *magnifica* is the second parent (specifically a clone with a wide blotch). Some of the plants were very slightly different shades of blue, so it would seem the bulbs actually include several progeny from the same cross.

One other plant of note from Edmundas was a new form of *bucharica*. It's petal shape and flower colouring are slightly different from other *bucharica*s that I have. In some ways it seems a bit cleaner than other forms; at least that's the impression I got from looking at it. I now have about 10 distinct forms of *bucharica* - each quite lovely in their own right.

Miscellaneous

Forms of a species from different populations in the wild can have different characteristics. It is particularly unfortunate if you buy less hardy forms since they will do poorly and possibly die out. I can certainly appreciate the difficulties associated with asking someone to collect plants for you and not knowing what you are going to get: which species (something new and exciting, or just something common that you already have lots of), what size of bulbs, number of bulbs, and the price that will be charged for them. With out a doubt the best thing is of course to do the collecting yourself; but that certainly isn't always possible.

Actinidea *kolminika* (hardy Kiwi fruit) are again producing a large number of flowers, while *arguta* varieties still don't show signs of having any flowers. The plants are now 6 years old. The majority of my plants are *arguta*s.

Species Symposium

The Iris Species Symposium in St. Louis was excellent. For me, the highlight was meeting Dr. Rodionenko.