

Reticulata Notes 1992

ALAN MCMURTRIE



In part, this is a follow up article to one that I wrote for the 1986 *Year Book* entitled "Have You Ever Thought of Going to Turkey?" and "Reticulata Notes 1991" which was published last year. The first article gave an overview of my travels in Turkey, and focused on an afternoon adventure that led to finding a diploid form of *Iris danfordiae*.

Last year I focused my attention on Reticulata species. Now I will look in more detail at the culture of these miniature bulbous irises here at home in Toronto. One thing I will not be covering though is pot culture, however, I do want to say a few words about it before I go on. This is an area in which I do not have a lot of experience, and what I have had, has been disappointing. The British Iris Society *Iris Guide No.1 – Reticulata Irises* covers the topic fairly well. One of my problems has been that the bulbs wither away after blooming. Here in Canada, the ground remains frozen solid from the end of November until the end of March, so we are not offered the luxury of being able to plant the bulbs outdoors after they have finished flowering.

I believe my main problem has been over-watering. Recent experiences with Junos indoors has made me conclude that it is best to simply set the pots on a tray and pour water into the tray once every seven to ten days. Water should never be poured into the pots. The pots should always be watered from the bottom. The amount of water should be such that the surface of the soil does not show any signs of becoming wet, and there should be about seven days interval between waterings. I am looking forward to trying some Reticulatas indoors with this treatment this coming winter.

Culture

Let me begin by saying, "I can't grow Reticulatas." What I mean of course is that I cannot grow them as well as they should be grown. Oh to live on the dune sands in The Netherlands. Reluctantly, I have come to the conclusion that conditions here in Toronto are not as good as I had thought and hoped they were. Reticulatas do of course survive without much difficulty, it is just that they do not necessarily bloom every year. It can take two or three years before some varieties bloom again. One in particular that comes to mind is 'George'. A large clump of bulbs bloomed the year after they were obtained, then again two years later, and if they bloom next year, as I expect they will, it will be a further three years. In contrast though is *Iris hyrcana*, which has always had good consistent bloom.

When I first started growing Reticulatas I thought they all required the same conditions – a sign of my ignorance. Now, several years later, I am slowly becoming aware of their different needs. What it comes down to is really a process of trial and error. If a variety is not doing well where it is, I look around the garden for a spot where it might do better. What I am looking for is one of the many little micro-climates that we all have in our gardens: a spot that is more shaded; another spot that has better drainage;

a location that tends to be quite dry because of invading tree roots; a spot that tends to stay a bit moister because it gets watered semi-regularly; etc. If the right micro-climate does not already happen to exist, then one can be purposely created to meet a given need. For example, building a hut that is covered to keep rain out during the summer for *Oncocyclus Iris* as well as for moisture-sensitive Junos.

All the beds in my garden are raised about 20cm above the surrounding lawn, with the exception of a bed for water-loving *Iris*. Part of the reason for raising the beds is the fact that the underlying soil is clay. The easiest method was to remove the grass to a 5cm depth and then dump soil on top of the clay. Sandy loam was used for most beds and filled in to 20cm above ground level. A benefit of raised beds is good drainage, which is something needed by most *Iris*.

Generally I grow my Reticulatas in coarse sand, partly because the bulbs are much easier to dig, and it is easy to sift through the sand to see if any were missed. Additionally, the bulbs come clean right away, which makes them easier to handle. Also, I looked at it originally that since the sand provides very good drainage I probably could not go wrong; I could always move the bulbs later if slightly different conditions were needed.

When a few Reticulata varieties started to show signs of not doing as well as others (in the case of 'Natascha', almost dying out), I looked around for another site to try. I chose a sandy loam bed at the back of the garden. The lawn there tends to be quite wet in spring, but I felt the raised bed would eliminate any possible problems. I started by testing 'Natascha'. The results were only so-so, but did not seem to be any worse than they had been in the sand. I then tried a mixture of named Reticulatas. They seemed to do quite well, in particular 'Cantab' and 'J. S. Dijt'. About two years later (1986), I moved those bulbs to make room for the Reticulatas I had collected in Turkey, plus some bulbs of *Iris hyrcana*, 'Natascha', 'Gordon', *I.kolpakowskiana*, etc, and what may be 'Cantab' x *I.danfordiae*. I was expecting that overall the bulbs would do well there.

The results were fatal in several cases: *Iris* 'Cantab' x *I.danfordiae* died out soon after flowering (it does fine in sand). *I.hyrcana* was gone within two years, as was 'Natascha' and another white that William van Eeden refers to as "white with yellow mark" (from the same breeding as 'Natascha'). Other varieties survived and bloomed, but they certainly could have done better; none showed the increase that the 'Cantab' and 'J. S. Dijt' bulbs did.

Last year I came to realize that the bed at the back of the garden tends to dry out sooner than other beds up near the house. The other beds are not as moist in early spring as the back bed, but they are probably superior since they provide moisture more evenly over a slightly longer period of time. Last autumn I moved the majority of the Reticulatas from the back bed to one of the sandy loam beds closer to the house. I also moved a few bulbs of 'George' to the same spot to see how they would do.

Bloom was sparse, but that was to be expected since it reflected the condition of the bulbs in their previous location. Of key interest is the fact that at the end of this year's growing season, the bulbs appeared to be relatively

large in size. I expect good bloom next year, and even slightly better bloom the following year when some of the smaller bulblets will then be up to bloom size. Bulbs of 'Katharine Hodgkin' did quite well in this location.

In Toronto, the Reticulatas start off at the beginning of April, usually with the diploid *Iris danfordiae* and *I. hyrcana* competing to see which will bloom first. We can get the odd fall of snow in early April, which makes for beautiful pictures of Reticulatas poking up through the snow. April tends to be a cool wet month, though last year's temperatures were over 30°C for a week at the end of the month. Overall, bloom start and end can vary by a week or more from one year to the next. Weather, specifically temperature, is the main factor affecting this.

Within three and a half weeks all of the varieties have finished blooming with the exception of *Iris pamphylica*, and it will be another full year before they come up again. Fortunately, their passing is quickly offset by other wonders of nature such as the Junos, Arils, Dwarf Bearded Iris, etc. Reticulata bloom can be extended by planting a given variety in both a sunny location, and a shaded spot. As the flowers in the first location are finishing, the ones in the second spot are just starting. Depending on outdoor temperatures, this could add about a week to the overall Reticulata bloom period. Mulch, if thick enough, can also delay blooming. Care should be taken to remove the mulch as soon as the ground below starts to thaw out, otherwise you may find a few leaves chewed off by bugs who thought you were kindly providing them with a snack, or worse, you may discover the flowers have already bloomed under the mulch. This is slightly different from the handling of mulch around rhizomatous Iris, where the goal is to prevent heaving. In that case, the mulch must be left on until the normal night-time temperature stays above freezing.

By the beginning of June it gets quite hot and dry, with daily temperatures reaching over 30°C. About the first week in June when the Tall Bearded Irises are just beginning to bloom, the Reticulata seed pods start ripening. It is also about this time that their leaves start to die down.

In The Netherlands, Reticulata bloom starts in early March and lasts into April. This year the early varieties came into full bloom about March 10th, which is about three weeks earlier than in Toronto. The bulk of the late varieties lasted until April 4th, with a few flowers continuing later. In effect, in The Netherlands the bloom season can last almost six weeks! In 1986 a few flowers were still in bloom on April 29th. The bulbs are usually dug up in early June while still in growth.

Flowering time can vary significantly from year to year since one winter can have two months with temperatures below freezing and another can have hardly any. Also, flowering is affected by how late the bulbs are planted and whether they were stored warm, which would retard the bulbs, or allowed to cool prior to planting. This year in The Netherlands there was no frost until February, then there was three weeks of -10°C at night and -3°C to -5°C during the day without any snow cover. Remember too that the bulb growing area in The Netherlands has a sea climate.

William van Eeden mentioned that his bulbs are planted mechanically in open fields. As a result, the bulbs may be upside down, on their side, or

right side up, plus they are subject to the full forces of the weather.

It would seem then, that what Toronto lacks in particular compared to The Netherlands, is a long growing season – long enough for bulbs to get up to bloom size. Of course, conditions in the wild are not ideal. Generally from what I saw in Turkey, only a small to moderate percentage of Reticulatas and Junos bloom in any given year; this is in spite of the bulbs having evolved in those locations. We want and expect that the bulbs will do well in our gardens year after year – a very tall request!

1992 weather was certainly quite strange. Here in Toronto Reticulata bloom was quite good, though on the whole between one and two weeks behind last year. Actually I was quite surprised to find that my 1987 hybrids bloomed before the species and named hybrids really got going. This may possibly be explained by the fact that their location gets rather more morning sun than the locations of my other Reticulatas. Temperatures tended to be below normal, but their flowering pattern generally followed that of recent years. In mid-June, however, it got so cold that I had to have my winter jacket on outside (this at a time when in other years the temperature is over 30°C!). There were several days when night-time temperatures were just above freezing. For the Reticulatas that still had green leaves this was quite helpful since it gave them a slightly longer growing season. For the others whose leaves had already died down, it did not make any difference. Temperatures continued to stay below normal with a higher number of rainy days than normal. Apparently, for Toronto, July was the coolest it has been in 104 years. Normally the grass is brown in July and August, but not this year, it stayed a healthy green.

Overall, Reticulata bulb increase has been good in 1992. My 1987 hybrids have done extremely well, with a number having very large 9cm (circumference) bulbs. This compares with species and named hybrids being about 6cm maximum, usually only 5cm. In one case, though, a couple of 'J. S. Dijt' were 7cm maximum. They were in a bed at the front of the house, and happened to be planted 15cm deep (a bit on the deep side). A spot check of several varieties, including one in multiple locations, found that bulbs planted in sand were much smaller than those in sandy loam. Since I did just a spot check I cannot say whether it was true of all varieties. I was disappointed to find only small bulbs of 'Jeannine' where one had bloomed this spring. Only two 'Katharine Hodgkin' bloomed, one of which had been loaned to a botanical artist. I had expected more would bloom, but then I had not checked all the bulbs last autumn, only a couple. It was a case of inflated expectations on my part. The first three or so 'Katharine Hodgkin' bulbs I checked this year were slightly diseased, so I was quite dismayed. However, on checking further I found the other bulbs were in quite good shape. A couple will probably bloom next year. 'George' is doing well in sandy loam, but there were no large bulbs. One bloomed there last year. A couple bloomed this year in coarse sand.

In some respects it is frustrating and disappointing because you want your Reticulatas to do well, and you believe that in many cases you are giving them the best conditions that you can. Truth is, if a variety is weak, it's weak! Certainly weak in terms of your environment. The only thing to do

is to breed for hardier hybrids, and let the weak ones die out – a harsh reality. With seedlings, I do not mind them dying out as I am raising hundreds, and I do actually want the weak ones to die out! Hopefully, through all the effort I am putting in, some are proving very hardy and will survive.

It is interesting to note that in at least one form of the species *Iris reticulata*, the ovary is between 4-7cm above ground, which is somewhat similar to both *I. kolpakowskiana* (4-8cm) and *I. pamphylica* (from 5-8cm, to as high as 10-13cm)¹. In the majority of cases however, *I. reticulata*'s ovary sits between ground level (or just slightly below) and 3cm, which is just like *I. bakeriana*, *I. danfordiae*, etc. In one form of *I. bakeriana*, and one of *I. histrioides*, the seed pods can be found just below ground level.

Once seed pods start to ripen they need to be checked daily so they can be collected before insects (ants) get the seeds. In addition, since the pods sit partially in the ground they can sometimes be found starting to rot about the time they should be ripening. An alternative is to collect the pods early, while they are still green. In this case it is especially important to put the pods in a well ventilated location to finish ripening off. One way of handling green pods is to put them, or the shelled seeds if you think they are very close to being ripe, into a piece of ladies' tights. Little bags made from tights to hold the pods can be hung up in the garage until you are ready to plant the seeds.

Iris histrio ssp. *aintabensis* seed pods are always totally underground. This makes them one of the most difficult to collect. It is too bad that the pods do not rise several inches above the ground in the way crocus pods do when their seeds ripen.

I have not done much experimenting with bulb planting depths, except for the commercial *Iris danfordiae*. One year I planted a batch of 100 bulbs in coarse sand at depths ranging from 7cm to 20cm. I did not observe any significant difference in the amount of bloom, or the degree to which the bulbs shattered. Normally I plant my Reticulatas between 10cm and 15cm deep (in sand) for large bulbs, less for smaller bulbs, and only about 2.5cm deep for bulblets. In the wild I found bulbs growing at a depth of 6cm in loam.

Over the course of a couple of years, Reticulatas will move to the depth that is best for them. This can be understood by the fact that seeds planted just below the surface of the soil end up several centimetres deeper when they become bloom-sized bulbs. If one examines seeds that germinated recently the resulting bulblets will be found at a depth of 2.5cm. After two years the bulblets can be found at a 4cm depth. The bulbs have roots that contract to pull the bulbs down, or expand to push the bulbs up. These contractile roots also exist on other bulbs such as the Junos.

People tend to speak of bulbs propagating by division. Strictly speaking Reticulata bulbs do not divide or split. We get that impression when we examine the bulbs at the end of the growing season because we find several bulbs pressed up tight against each other, so tight that the surfaces where they touch are flat. This gives the impression that the original bulb split into

¹ By maturity, these have increased to as high as 7-11cm (one *Iris reticulata* clone); 6-10cm (*kolpakowskiana*); and in *I. pamphylica* typically from 7-10cm to as high as 16-19cm. In most cases pods of *I. pamphylica* actually hang down by maturity.

the bulbs that we find. What actually happened was that the original bulb was used up in putting up its flower and leaves. During the growing season new bulbs form within the base of each leaf. If you were to check near the end of the growing season you will find the leaf physically attached to the top of the bulb. Typically, each original bulb will yield two or more new bloom-size bulbs, with some varieties yielding more on average than others. As the new bulbs grow, they push against each other as well as the surrounding earth. Given the relative densities of the materials involved, the net result is the flat surface where the bulbs contact.

As we watch a bulb's flower and leaves emerge from the ground it is interesting to realize that, for each leaf, a new bulb will form. Within a given variety you may notice some leaves that are smaller than others (cross sectional area and length). Understandably, those leaves will yield smaller bulbs than the others.

A similar process occurs for bulbs that are not large enough to flower (ie. that do not have enough stored energy to put up a flower). If a bulb is of reasonable size, it will increase to two new bulbs, or one bulb with some bulblets. If a bulb is small it will simply increase in size. Of course, all of this assumes the bulb is being grown under good conditions. If it is not, the bulb will use up its stored energy to put up its leaves, and will be lucky just to generate a new bulb of the same size as the original one.

If a bulb is large enough it will produce two flowers. You may not find this happening in your garden, but very large bulbs from the Netherlands will often produce two flowers. The bulbs I am referring to are larger than those you normally buy at nurseries.

In addition, we usually find small bulblets at the base of the main bulbs. The number and size of the bulblets varies from variety to variety. 'George' and 'Katharine Hodgkin', for example, usually have a couple of nice large bulblets which clearly are good starts for propagating more bulbs. *Iris danfordiae* and *I. histrioides* have so many small bulblets that people speak of the original bulbs as having shattered. In part, the word "shatter" is used because even the largest of the bulbs is normally too small to bloom the following year. In the Netherlands, however, because of the ideal growing conditions, the largest of the bulbs are bloom size, so shattering is not really a problem.

Frank Kalich wrote "I learned that it took three years for *Iris danfordiae* etc. to get back to bloom size. Consequently I bought several dozen of each in three successive years. That way I always had one crop in bloom."

William van Eeden commented: "I have noticed with varieties that form lots of rice grain bulblets such as *Iris danfordiae* (commercial form) and *I. histrioides*, if they are left in the ground and the main bulbs survive, the rice grains will not come up. When the larger bulbs die out due to illness or other causes, then the rice grains come up. It is only a matter of survival."

Obviously if the bulblets are handled properly they can be used to help propagate a given variety. All that this requires is to remove the bulblets and plant them closer to the soil surface. At deeper depths they simply die out because they are not strong enough to get a leaf up through the soil. If the leaf cannot reach the sunlight, the bulblet is unable to replenish the

energy it used to push up its leaf, and hence perishes. If it is able to reach the sunlight the bulb can regenerate and grow stronger, eventually building up to a bloom-size bulb. William van Eeden mentioned that in The Netherlands it takes "at least two or three growing seasons" for bulblets to attain bloom-size bulbs.

If the main bulb dies due to illness, the hollow space where the bulb had been is an easy path for bulblets to send their leaves to the surface. Thus, in spite of the depth, when the main bulb dies bulblets are able to get their leaves up to the sunlight.

Ideally, all of your bulbs should be replanted every three years or so – this includes tulips, crocus, etc. What we would really like, specifically for common varieties, is simply to plant the bulbs and leave them. The reality is, however, that the bulbs multiply and eventually crowd each other so much that they do poorly. It is a love-hate situation. We love to see the bulbs multiplying because it means they are doing well, and because we will have even more to give a nice showy display. We hate the reality of having to do maintenance, since what we are really interested in is simply having the flowers and enjoying their beauty, not propagating them.

Culture summary

My experience of Reticulata species and hybrids in Canada is the result of a lengthy and ongoing interest in growing and studying these bulbous Iris. This summary reflects the requirements which I believe are needed to achieve success, and gives particular reference to some of the varieties which I grow.

Sand versus loam. Some varieties of Reticulata do well in one medium, but not the other. Generally, a loam that is on the sandy side is best. Most varieties produce smaller bulbs in sand compared to those in sandy loam. For Reticulatas to do well, it is important to ensure that the soil does not become compacted.

Moisture. Reticulatas do best in an area that is kept slightly moist over a long period. The idea is to give them a long growing period. Although Reticulatas like moisture in the spring, it is best not to let them get too wet.

'Cantab' and 'J. S. Dijt' do well in a slightly wet position which dries out in the summer. 'J. S. Dijt' also does well in sand.

Iris hyrcana does well in coarse sand, but died out in sandy loam that was wet in early spring. 'Pauline' also does well in sand.

'Natascha', even though it comes from 'Cantab' parentage, needs a dry location. I lost quite a few bulbs that were in sand. It is a candidate for being dug up and stored after its leaves die down.

Iris winogradowii does well in a sandy loam that is not allowed to get completely dry. Try planting it in a bed that gets semi-regular watering.

Potterton & Martin's *Iris reticulata* Armenian Caucasus Form does well in a moist sandy loam, but it does not like to be too wet.

Iris histrioides sopenensis does well in sand and sandy loam.

Iris histrioides 'Major' does somewhat poorly in sand. I believe it would do better in slightly moist sandy loam.

Iris 'Katharine Hodgkin' does best in sandy loam that is slightly moist

during the growing season. However, it does not do well if it is either too wet or too dry in spring.

In conclusion

As stated in this article I have written of my interest and experience of growing Reticulatas in Toronto, and of course appreciate that you may well enjoy a very different environment. If you are interested in growing these bulbous Irises I trust that you will benefit and profit from the foregoing. I would encourage you to try some of these miniature beauties yourself and you will find that the beauty they bring to colour our spring days is very worthwhile.

(In Britain, Reticulatas normally bloom from February to April. Ed.)

Irises from Wisley 1993

RAY JEFFS

Next autumn two groups of irises will be lifted at Wisley after their periods on trial. They are the Tall Bearded and the Sibiricas, so members in Britain will have the opportunity of acquiring some of these varieties. These irises are made available by their senders and are sold to benefit BIS funds, and I am very grateful for their generosity and the help given by the Wisley trials staff when it comes to lifting. Many recently joined members who do not know what is available should take the opportunity to make selections when they visit the Early Summer Show at Wisley on June 5th and June 6th 1993. However, if you cannot get to see them, here is a note about some of the varieties which could be available.

Let us start with the Tall Bearded. Several British and American Dykes Medal winners feature in the trials and these are indicated as (DM). Of the whites, 'Snowy Owl' (Blodgett), is a fine big flower on a well branched stem, whilst 'Snowhill' (Taylor), is a rather smaller flower but with a nice red beard, and is a splendid grower. Light blues include the beautiful 'Sullom Voe' (Dodsworth), unique in its pure colour, the ever popular 'Jane Phillips' (Graves), which is a classic iris and 'Gilston Gwyneth' (Fletcher). This last has a blue flush on a lighter ground and is very tall, so staking is required. In deeper shades of blue 'Blue Luster' (Brown), is reliable and still a worthy iris, as 'Roman Emperor' (DM) (Dodsworth), which has the advantage of flowering late in the season. 'Titan's Glory' (DM) (Schreiner), is a dark blue of fine quality and growth, as is 'Matinata' (Schreiner), one of its predecessors. 'Deep Pacific' (Burger), is very useful as it is rather short and very stable in windy gardens.

There are no blacks in the trial at present and only two reds. 'Red Rufus' (Taylor), and 'Red Kite' (Dodsworth), the first is brighter than the second which has much the better flower. Plicatas include the unusual 'Nampara' (Nichol), brown on yellow, 'Dancer's Veil' (DM) (Hutchison), violet on white, and 'Stepping Out' (DM) (Schreiner), dark violet on white and one of the world's greatest irises. Bitones are always popular and 'Gay Parasol'