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# THE SIBERIAN IRIS



THE SIBERIAN IRIS

Fall 1978

Volume 4, Number 8

INDEX

	Page
Officers, Board and Committee Chairmen . . . . .	2
President's Page . . . . .	3
Auction Report . . . . .	4
Bugs--Good and Bad . . . . .	5
I. A New Minor Pest and What to Do About It--Sarah Tiffney . . . . .	5
II. Experiments with <i>Pratylenchus Penetrans</i> --Currier McEwen . . . . .	8
III. And Finally, A Good Insect!--Sarah Tiffney . . . . .	11
The Atoll Pattern--Bee Warburton . . . . .	12
A Fun Project--Joan Cooper . . . . .	14
Pied Beauty--Gerard Manley Hopkins . . . . .	15
A Note About the Small Ones--Currier McEwen . . . . .	16
News Notes From New Zealand, February 1978--Lucy Delaney . . . . .	19
Registrations and Introductions 1977 . . . . .	20
Back Talk--Peg . . . . .	22
Obituary . . . . .	24



The Siberian Iris is published semiannually by the Society of Siberian Irises. Editorial and Publication offices are at 235 Koehl St., Massapequa Park, N.Y. 11762. Deadlines are February 15 and September 15; but earlier receipt of materials is desirable. Black-and-white photographs and drawings are welcome; please put name and address on the back if you want them returned. Reprinting is by permission of both writer and editor.

'Dues due' notice appears on the back cover with the address; in some cases where dues have been paid this occurs because of the unavoidable time gap in passing the news along; disregard the notice.

Dues are: Single Annual, \$2; Triennial, \$5; Family Annual, \$2.50; Triennial, \$6. Membership is open to members of AIS in Canada and the United States, and to all iris enthusiasts elsewhere.

Back issues \$1, 1970-78; \$1.50 pre-1970; Check List \$2.75, Judging Standards \$1. Checks payable to Society for Siberian Irises to address above.

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The editor wishes to apologize to anyone who sent mail to Mr. Wadekamper which was returned for address correction. The Editor's mind slipped a cog last spring in typing the Zip Code. She has been reprimanded by the P.O.

THE PRESIDENT'S PAGE

Julius Wadekamper

It was an excellent year for Siberian Irises here in Minnesota, and from reports I received around the United States, it was equally good elsewhere.

Dr. McEwen is preparing a handbook on Siberian Irises that promises to be a tremendous help to all those interested in Siberians. It has been delayed slightly to make it a truly complete booklet. I know you are looking forward to receiving it.

Of course the Check List has been published and is available to all who want to purchase it. Write to Peg Edwards for a copy (see Page 1 for details). Peg was the editor and she and her committee have done an excellent job.

The Nominating Committee has been completed. It consists of Steve Varner as Chairman, Dr. McGarvey ex-officio member, and two members appointed by the Board of Directors. They are Peg Edwards and Jayne Ritchie. Officers now serve three years. The committee therefore will be working for a new set of officers to take office on January 1, 1980.

Our meeting in San Jose was ably conducted by Jayne Ritchie, and we had excellent attendance.

I believe our membership problems are almost all solved. It took some doing, but things are getting into place very fast now.

The June issue of *Flower and Garden* carried an article on Siberian Irises and listed my name and old address as a person to contact for more information. I was swamped with letters asking for information on Siberians. You will note the Publicity Chairman spot is still open. Isn't there someone interested in promoting Siberians, who would be good at publicity? I am sure that we could increase our membership and that of AIS greatly if people only knew that we existed. Here is a splendid opportunity for someone who is dedicated and wants a job to do that is very rewarding. Please write me if you are the least bit interested!

Our upper midwest auction planned for the Minneapolis area fell through at the last minute this year. However, we have heard that the Massachusetts auction was a great success and we promise you we'll be back next year as strong as ever.

Have a good winter, and I hope to see many of you in Huntsville next May where we should also see some excellent Siberians.

Sincerely,

-----  
*Julius*

AUCTION REPORT--Massachusetts

The annual Apogon Auction was held this year on August 27 at the home of Bee and Frank Warburton. The morning program, illustrated with slides, covered various lines of breeding in Siberians and Japanese by Dr. McEwen and Prof. McGarvey. Quite a few of the slides showed irises to be sold at the auction in the afternoon. There was discussion of various aspects of growing and breeding, with some attention being given to the smaller Siberians. It was very interesting, and some of the new seedlings and recently registered irises slated for introduction next year were very attractive indeed.

Lunch was, as usual, terrific--all those home-made and home-grown goodies! Heavenly baked ham still warm from the oven, a big crock of baked beans, stuffed eggs, salad, bread, and we mustn't forget the fresh-picked Butter- and Sugar-corn from Frank's field, though in Frank's absence the picking and cooking were delegated to others--how would that sound to you? Delicious sweets; a punch lavished with floating berries; tea and coffee, and quantities of soda-pop--I don't think anyone went hungry.

By auction time there were about thirty people sitting in a circle under the apple trees. A few more drifted in as bidding started. Bidding got quite hot at times, even feverish--a couple of things went for more than catalog price. By four o'clock the table was bare and the checkbooks were coming out. Then the bags of irises and the folding chairs were put in the cars and farewells said. The auction was over for this year.

The result? For SSI, \$503. A check went to the Society for Japanese Irises, and Region I, our co-hosts, were repaid for the expenses incurred.

You ought to try one sometime soon. This is fun for all, good irises for the high bidders, usually at savings, and funds for our Society. Think about it!

Peg Edwards

## BUGS--GOOD AND BAD

### I. A New Minor Pest and What to Do About It. -- Sarah Tiffney

For several years, in Sharon, Mass., I have been investigating an insect that chews up the insides of buds of Siberian irises before they open. It is not a major pest, but it can be a nuisance if it destroys the buds you have been waiting impatiently to see and cross.

If you go out in the morning and look at newly opened Siberian flowers, and find some in which the inner parts--styles, anthers and perhaps standards--are somewhat chewed and of course spoiled for crossing, look in the center and base of the flower underneath something, out of the direct light, and you may find a small creature, about a quarter of an inch long, shaped like an elongated cone, flat at one end and pointed at the other, very smooth, white and clean-looking. This is the villain and it is the young stage of a fly.

I should say, parenthetically, that you may sometimes find a small borer instead: it can be distinguished from the fly at once, because the borer is longer and conspicuously segmented (lumpy, not smooth) and has a dark head at one end; it is cream-color, not white, and it looks more 'wormy' and generally makes a greater mess all around, and it wiggles when you disturb it--but we know about borers! If you do not, congratulations, and long may your ignorance wave. Also, you should not confuse this fly damage with that caused by the iris weevil, adults of which chew all petal parts indiscriminately after the flower opens--they are small, hard grey beetles, easily seen, which drop off or fly away at a touch.

After several seasons of effort and the kind advice of entomological friends to aid and modify my rather botanical approach, I came up with the following facts:

The larval stage, or maggot, was found in flowers of Siberian irises just after they had opened. It had eaten tissue of styles, stamens and standards inside the bud before it had opened; it had not eaten tissue of falls--the unopened bud showed no sign that the insect was inside. Once the flower opened the damage was evident in the ragged appearance of the center tissues. The larva could be found for a while after the bud's opening down in the center base of the flower, underneath tissues and out of direct light, but free--that is, not burrowed into tissue. Later in the day it could not be found in the flower. I interpreted its disappearance as negative phototropism, a fleeting from light. It did not burrow into the ovary and thence into the stem; I examined many ovaries and they were all intact. I decided that the insect must drop to the ground and pupate.

I collected as many of these larvæ as I could and put them into jars, open-mouthed and covered with netting, and provided with a little dirt on the bottom. They were active for several days, hiding away from light all the time, but finally dried up without pupating. I concluded that they were not ready to pupate upon leaving the flower but needed more food and time. I fed the next batch flower petals and after several days some of them made pupae. This was a puzzle and unsatisfactory--if they needed more food after leaving the flower, what did they eat? It seemed unlikely that they would go for the hard tissue at the base of the iris plant and they certainly seemed unfitted for clinging to leaves or stems higher up. After considerable puzzlement I discovered the answer--upon leaving the open flower they crawled inside the spathe and in that protected place ate a bit of the tender pedicel and then pupated there. Eureka!

How many generations are there? My pupae in bottles stayed on a glass-enclosed but unheated (cold) porch all winter and the adults emerged over a seven or eight day period around April 15, for three successive years. This, so far as it goes, indicates one generation a year. The adults in bottles lived only a few days in spite of my amateur attempts to provide food in the form of sugar water, meat juice, etc. It seems highly probable that eggs are laid near, or in young flower buds and that the larvae spend all their time inside the bud until it opens and they leave it. Siberian irises start to grow here about April 1, buds start to appear around the middle of May, and bloom season is the first three weeks of June. My adults on the porch emerged the middle of April and buds are available for egg-laying the middle of May, which leaves a month that the adults would have to survive. However, two points should be noted..first, if the pupae had been outdoors instead of on a protected porch, I think they might well have emerged later than April 15, and second, the adults may well live longer free in nature than in my unnatural bottles. In any case, it seems likely from my observations that there is only one generation a year.

I meant to collect more this summer and keep them outdoors all winter, but I collected so assiduously last summer that none could be found this summer (1978).

This fly was identified through the interest and kindness of our valued member, Bob Hollingsworth of Indiana, and his colleague, Mr. Robert W. Meyer who sent specimens to the U.S. Department of Agriculture's Plant Pest Survey and Detection Agency. There Mr. G. Steyskal identified it as *orthochaeta dissimilis* Malloch, a member of the family Anthomyliidae (which, interestingly enough, means 'flower fly'). My en-

tomology book says that this family includes a number of important plant parasites as well as scavengers. Another kind friend, Dr. M. L. Corn of Middlebury, Vermont, provided me with a copy of the original description of this fly. It was collected in Algonquin, Illinois in 1898, and described and named in 1924 by Mr. J. H. Malloch. It has been collected also in Virginia, Connecticut, and Ohio. Another source gives its distribution as 'Minnesota to central Quebec and south to Illinois and Virginia.' There is not, to my knowledge, any record of observations of life history or host plants until this present one, although this name has been reduced to synonymy by some taxonomists and records may exist under other names; this fly may parasitize other plants and have other kinds of life cycles. I am told that many insect specimens are collected, perhaps with a sweep of a net, and classified without anything more being known of them.

*Orthochaeta dissimilis* has no common name, and I propose to christen it the Iris Bud Fly. It looks like the ordinary house fly *except* that it is a little larger, has longer *yellow* legs, and when at rest holds its wings parallel with (over) its body instead of out at an angle. I have never seen one in the garden--they are not common.

Now the important question--what to do about it? Since we know the life cycle, the answer is easy. There are two points at which you can attack the creature. First, if you are sufficiently conscientious, inspect the Siberians every morning just after the flowers have opened, pick and destroy all flowers showing ragged centers; in this way you remove the varmint in the flower. Second, shortly after bloom season, pick and destroy all pods except those you want for seeds. Cut the stems several inches *below* the spathes to be quite sure of catching all pupae (most pupae are in the spathes, but I have found a few in the top of the stalk). Dispose of them by burning or burying deeply: do not throw them over the fence or on a compost pile--the pupae could overwinter happily there if not buried. No doubt you always remove unwanted pods in cleaning the garden, but doing it early and burying them has the advantage of disposing also of pod weevils (which do not escape until pods open) and any verbena bud moths that have not yet emerged through the little holes they make in the sides of the pods. The bud fly and the pod weevil, which so far as we know grow only in irises, can practically be eliminated by destroying green pods and stalks, but the verbena bud moth, which grows on many other plants, cannot be eliminated so easily.

I have found larvae of the iris bud fly in my garden, and by hunting hard I have seen it in two other eastern Massachusetts gardens, each about 25 miles away. Since adults have been collected in other states, however, I wonder if you other growers might find a few chewed buds if you looked? It would be interesting to know; but if you find some, don't worry, just clean up those unwanted pods early on.



Of course, we do not really know whether this fly is limited to irises or whether it can grow on other host plants as well; but it is interesting to note that the places where it has been collected all do have wild irises growing in them. On the other hand, old purple and white Siberians were widely planted a long time ago (I wonder how long) and this fly may have spread with them.

Anyway, it is a minor pest!

## II. Experience with *Pratylenchus Penetrans* -- Currier McEwen

A number of years ago I was rather shocked to learn that some Siberian irises which I had shipped to a county in southern California had been quarantined by the local office of the California Department of Agriculture because their roots contained the nematode, *Pratylenchus penetrans*. This led me to look into this problem in some depth and that experience forms the basis of this report.

My first step was to write to nematologists of the staffs of laboratories of Federal and State Departments of Agriculture and of a number of universities. The replies were unanimous in stating that *P. penetrans* is so widespread throughout the world that there would be little point in attempting to eradicate it from the roots of one's plants prior to shipping them because the nematode would undoubtedly be in the soil of their new homes and they would promptly be reinfested.

My second step was to learn what I could about these little monsters. There are approximately 15,000 described species of nematodes. Most are harmless or even helpful creatures living in soil or fresh or salt water where they feed on fungi, bacteria and algae. However, some are harmful. In the South, especially, the root knot nematode is harmful to many plants, but not in northern sections. The lesion, or meadow, nematode, *P. penetrans*, on the other hand, while it is found everywhere, prefers temperate climates. It is a microscopic worm 0.3 to 0.9 mm. in length which is an endoparasite; that is, it exists inside the roots instead of nibbling them from the outside.

Having learned something about it I began looking for it in the roots of my plants. This is done by cutting off ends of roots, washing them and placing them in small jars. After 12 to 34 hours standing in a warm room a drop of the condensation moisture is placed on a glass slide and examined with a microscope. The small, worm-shaped nematodes are easily seen, especially when they are actively thrashing about.

I must emphasize that I have not had direct confirmation by a nematologist that the nematodes I have seen are actually *P. penetrans*. I

have little hesitation, however, in so calling them for the following reasons: 1. Except for one oval nematode found in the roots of one plant sent from England all have looked alike and have the appearance of *P. penetrans* as illustrated in texts of nematology. 2. The nematodes in the plants quarantined by the Department of Agriculture in southern California were identified by them as *P. penetrans*. 3. The ones I have studied are unquestionably endoparasites for they are as numerous in specimens of roots which have been thoroughly scrubbed with a brush as they are in specimens from which the soil has merely been shaken off.

My efforts have certainly borne out what the nematologists had said, for I have found nematodes fitting the description of *P. penetrans* in most of my own Siberian and Japanese irises, in those from all parts of the United States and also in plants from England, Germany, the U.S.S.R. and Japan. I was particularly interested to find them in shipments of Siberian and Japanese irises in shipments from the southern Californian county where my plants had been quarantined, so it would appear that the efforts there had failed for *P. penetrans* was already present. Indeed, I believe the Department of Agriculture there has subsequently discontinued quarantine of irises because of *P. penetrans*. I should add that I have found these nematodes in essentially all irises that I have examined, tall bearded as well as Siberian and Japanese.

In spite of the advice of the various nematologists who thought attempts to eradicate *P. penetrans* would be wasted effort, I have carried out some experimental trials. Plants were thoroughly washed with a hose and the roots were then soaked for 30 minutes in a solution of Mocap\*, two teaspoonfuls in two gallons of water, care being taken that only the roots were in the solution. The plants were then replanted in a new bed which had been prepared for them 6 weeks earlier by treatment with the soil fumigant Vapam\*\*. This was diluted with water so that two table-spoonfuls of Vapam covered 100 linear feet in a swath 18 inches wide. A trench was plowed in the bed; the Vapam solution was then sprinkled on. A new adjoining trench was then plowed with a small blade attached to my Troy-Bilt rototiller so that as each new trench was made, the previous one was rototilled and covered. When the whole bed was completed it was thoroughly watered to seal in the fumigant.

Roots of plants so treated were found to be free of nematodes six months and two years later, but by the third year a few were found again, chiefly in plants near the edges of the beds. This raised the possibility that the reappearance was because Mocap had not killed all the

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\*Mocap, Mobil Chemical Co., Industrial Chemical Div., Richmond, Va.  
\*\*Vapam, Stauffer Chemical Co., Westport, Ct. 06880

nematodes which then increased over the three-year period to a sufficient number to be demonstrated by my rather crude microscopic examination. Another possibility was that the nematodes found in the third year had come in from the surrounding untreated soil. To check these possibilities, newly sprouted seedlings which had been grown in Jiffy-Mix and presumably had therefore never been infected with nematodes, were planted in Vapam-treated beds. At yearly intervals roots were taken from plants growing at the edges of the beds and from others growing in the middle of the beds, some 25 feet from untreated soil. For two years no nematodes were found in any of these plants. This August, after three years had passed since they were planted, they were examined again. In one of three plants taken from the edge of the bed, several *P. penetrans* were found. None was found in the three plants from the middle of the bed. In contrast, the nematodes were present as in the past in the roots of all 'control' plants which had never been treated with Mocap and which were growing in beds never treated with Vapam.

The plants free of nematodes had lovely white roots without the brown areas along the roots which were seen in untreated plants. Other than that, however, there seemed to be no appreciable differences between them. I watched especially the performance of several cultivars which had been divided five years ago. At that time half of each plant had been treated with Mocap and planted in a fumigated bed. The other half was left untreated and was replanted in an untreated bed. Over the years, since then, although the roots look better in the treated plants, as noted above, the above-ground parts of the plants look the same in the treated and untreated ones and their growth and quality and quantity of bloom also seem the same. I have not actually measured growth or size and number of flowers but I can say with fair assurance that there are no obvious differences.

These observations bear out the fact that *P. penetrans* is indeed ubiquitous and world-wide and also that this nematode, although a serious threat to some fruits and other plants, appears to cause little harm to Siberian irises. This is certainly fortunate because, while there are effective means of control, *P. penetrans* is so widespread that they would be very difficult to apply in a meaningful way. The results of the trials of Mocap and Vapam suggest that the former, as I used it, was successful in eradicating most, if not all, of the nematodes and that those that reappeared in the third year had come from outside the Vapam-treated areas.

After weighing the advantages and disadvantages I have decided to stop my treatments of plants and soil as unnecessary. However, I am glad to know that there are effective means of control if I ever wish to use them again.

III. And Finally, A Good Insect! -- Sarah Tiffney

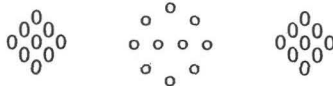
For a number of years I have been finding an insect in my garden that is important to iris growers. This one is a 'good bug,' a wasp of the ichneumon family that is parasitic on one of the seed-eating insects that grow in iris pods. The female, a slender elegant brown creature with a body  $\frac{5}{8}$  to  $\frac{3}{4}$  inch long and an ovipositor (not sting!) about  $\frac{1}{4}$  inch long, lays an egg on the larva of the host insect inside the pod, and the adult wasp escapes when the pod opens. In the process of collecting seeds I have opened a pod and watched a wasp unwind itself from where it was all curled up, and fly away. In the house they typically go toward light and can be caught on a window. I do not know which seed-eating insect the wasp parasitizes, the verbena bud moth or the iris pod weevil.

I have not gotten this insect identified except that it belongs to the family Ichneumonidae. It may be that it has never been described and named, as is the case still with many obscure or unimportant insects. In any case, it is one of the good guys--it is on our side!

(26 worth:)

Now, that's a good handful of information--one baddie that we can control quite readily (unless, of course, it turns out that it likes some other plants around your way), and another that isn't much trouble (unless there is an orchard next door), and one nice little wasp.

An odd bug turned up in my garden this year. I wonder if anyone can identify it. I really don't know whether it's a bee, a moth or what! The body was about  $1\frac{1}{2}$  inches long, about  $\frac{1}{2}$  inch wide at the head, very blunt-headed but curving to a point at the tail end; dark, almost black in strong sunlight but with two yellow bands around the body back of the wings. The wings I can't describe, because they whirred like a hummingbird's wings, so fast I couldn't get them in focus for even a split second. The critter hovered like a hummingbird, too, just above the flowers of several Siberians, for only a moment, then went on to another. It paid no attention to other kinds of iris in bloom at the same time in the same bed, nor to a couple of early lilies blooming with the irises. I was taking pictures the first day I saw it and couldn't even get the camera in focus in time to snap it before it took off again. I saw it again a couple of days later, and that's the whole story. Any guesses about it? If not, I shall refer to it as the Siberian-Sucking Whatzit.



## THE ATOLL PATTERN

Bee Warburton

In irises of the subseries Sibiricae, known familiarly as '28s', the conventional pattern most prevalent in flowers showing a pattern other than the signal at the haft, is veining of dark purple spreading fanwise from the signal area, as may be seen in SUPER EGO and STELLAR BLUE, for example. I don't remember having read any genetic studies of patterns in the Siberians, but this veined pattern is undoubtedly inherent in both parent species of the group. *I. sibirica* and *I. sanguinea*, in which it resembles the pattern of the pogon species, *I. variegata*. Most efforts of hybridizers have been directed toward eliminating these markings and producing smooth and unmarked coloring, and even the haft signals have been successfully hidden in many cases under the style arms, or smoothed out into a solidly colored yellow, green or brown area.

The Atoll pattern is not etched by veining. It consists of a dark violet rim around both standards and falls with a center area where the coloring is stippled with varying blues, like the water enclosed in the ring of reefs of a tropical atoll. We use the term Atoll pattern because none of the words ordinarily used, 'mottling,' 'dappling,' or even the more descriptive 'stippling,' are really satisfactory, and moreover they fail to include the dark ring that surrounds the stippled center.

The parentage of ATOLL includes nothing for three generations but WHITE SWIRL and ERIC THE RED. Others have produced irises with mottling, and they seem to have WHITE SWIRL as a common ancestor. Harley Briscoe has sent me one that is from STEVE VARNER (WHITE SWIRL x BARBARA'S CHOICE) X (BLUE BRILLIANT CAMBRIDGE (WHITE SWIRL x GATINEAU)) and I am looking forward to seeing this. Steve Varner also reports the pattern, and probably others have produced stippled varieties.

When I first began working on the pattern from which ATOLL was eventually derived, there was no stippling in the center of the falls, just the darker rim and paler center, and I concentrated on it because I thought in time it might give me falls with dark rims and pale blue or even white centers. I called this pattern 'shad' for shadow in my notes, and I haven't given up the original idea, but when ATOLL first bloomed I was so surprised that I switched objectives, though I called it 'best shad' in my notes. It is the only one I have yet bloomed that showed the stippling in the standards as well as in the falls, and to my eye it is one of the best examples of a 'different' shape, such as we mean when we promote, in the Society of Siberian Irises, sponsorship of a variety of shapes in our Siberians. That is, it differs from the wide, round and flat shape that is so outstanding in many WHITE SWIRL deriva-

tives such as the lovely WING ON WING. To my mind, however, for showing patterns in the falls, they need some angle of declination, so that they present more surface for the horizontal view.

ATOLL is, moreover, the only one from this breeding that has a sleek satiny finish, without any of the characteristic textural surface of the flowers of the subseries Sibiricae. It is a strong-growing plant with the minimal three buds per stalk. (These lines tend to revert to two-buddism, and it usually affects those with the best flowers.)

In 1977 I set out to submit the 10-foot row of this plant to pollen in quantity, intending to have plenty of seed to treat with colchicine so I could see what chromosome doubling would do to this pattern. Every evening I went over the row, removed anthers and tied up buds that were near opening so that I could, next morning, reopen, pollinate and retie. ATOLL didn't seem a very willing pod parent, so I stuck with it throughout its bloom, in spite of never really being able to see its lovely flowering. Eventually it set a number of small round pods, about the size of marbles. They looked deceptively small, so I kept on supplying the successful pollens and ended up with large quantities of seed, especially from the two lovelies, WING ON WING and RUFFLED VELVET.

Both of these varieties are of the wide, round and ruffled form, but there were other lots of seed, notably from STELLAR BLUE, to explore the combination of the two patterns, and from BLUE SONG to try for the pattern in blue. I would like eventually to have it in pink, but this might be difficult indeed!

It will be interesting to see what the Atoll pattern does to the white of WING ON WING, and whether it will show any of the supreme ruffling of RUFFLED VELVET, or any bluer blue. All these explorations really don't require the hundreds of seedlings that I have lined out in 1978, but I comfort myself with the thought that I'll be able to select for the other qualities that always seem to be missing in the one plant with the best flowers--good foliage, floriferousness, vigor, and above all, bud count.

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Jennifer Hewitt, of the Siberian, Spuria and Japanese Group of BIS, has asked whether pollen of Siberians can be stored--"especially because of my interest in remontants. Sometimes I get an autumn flower, but it is too late here to think of setting pods; I'd like to keep the pollen in case it doesn't bloom in spring." Has anyone any experience with storing pollen of Siberians over winter? If so, how?--warm, cool, near freezing? Circulating air, sealed in, or what?

## A FUN PROJECT

Joan Cooper

I've really had fun growing 40-chr. Siberians from mixed seed. The seed germinates quickly. I usually cool the seed boxes, wrapped in plastic, for a few weeks in the refrigerator, but I'm not sure this is necessary. Seedlings bloom early--usually the second spring. And I've yet to see one I didn't like--at least a little. Some are super!--perhaps not by TB standards or garden Siberian standards; but if you are a fancier of small and dainty things, a rock garden enthusiast, or a wildflower lover, you will find a moist spot to cherish them, as they fit in so well.

Of 35 seedlings noted this spring (notes made, that is--several got missed, not for lack of interest but for lack of time, and rain--rain--rain) I started the following:

- # 4, 12", cream with falls veined in dark blue, dark blue halo, blue styles;
- # 8, 14", light blue marked dark blue and yellow, dark blue halo;
- # 9, 20", navy blue standards and styles, midnight violet falls, very slight 'golden writing';
- #10, 20", ivory white, light blue dots and dashes--very nice;
- #12, rosy violet standards and falls, maroon styles, large yellow signals, marked white on outer edges of falls;
- #18, 18", cream, yellow blaze, dots and dashes of dark blue, falls washed blue;
- #19, 15", white, light yellow blaze, violet dots and dashes, styles flushed bright violet, great form;
- #21, 10", standards blue, falls cream, styles dark violet, orange signal, dark and light violet dots and dashes;
- #25, 15", ivory, veined light blue, falls dotted and dashed dark violet, styles flushed wine;
- #26, large tall purple--32", lighter standards, falls dark at center shading to light at edges;
- #27, ivory, yellow at center, speckled, dotted and washed blue, bright blue styles;
- #29, 12", ivory heavily marked dark violet on falls, light violet on standards, styles lilac.

I remember also several fine attractive rich red-violets, not written up but appreciated. Height varied from 10 to 36"; flower width from 1½ to 3½". Most were flared but a few hung down. None were branched out of eight that bloomed last year (only one compared favorably with those noted here), at least three had a branch they had not had last year. The best of last year's crop is cream with light violet styles, about 24"; but most interesting, it reblooms, ending the season this

year on July 24th.

The seed from the Species Iris Seed Exchange, was of mixed 40-chr. Siberians. If you aren't familiar with the SIGMA seed exchange, write Mary Duval, Rte. 1, Box 142, Dassel, MN 55325 for this year's list. This is not the only adventure in store for you, but it is one of the quickest and easiest.

(2¢ worth):

Joan lives in Minnesota, a climate which seems to agree very nicely with the 40-chr. Siberians. It would be nice if people from various parts of the country tried growing them and reported on their success. In that way we might get a profile of the good, and bad, and tolerable places for the 40s. I can start right now by reporting that they are not happy here. I tried them the first time in 1951, when I was totally ignorant about all Siberians; I tried again in the early '60s, when I was somewhat better informed, and a third time about 1970. One or two have survived for a few years but never looked happy. I don't know whether it is my excessively well-drained soil, or our normally rather mild winters, with little snow cover (I'm keeping my fingers crossed that we don't get an overdose this winter), or possibly the interaction of both--or some other cause entirely.

Since we have had two articles in a row about marked, dappled, stippled irises, this seems like a good spot to put in a poem by Gerard Manley Hopkins, which I remember reading long ago but had forgotten until Bee Warburton sent it along to me after being sent it by Sarah Tiffney because it had reminded her of ATOLL.

#### PIED BEAUTY

Glory be to God for dappled things--  
For skies of couple-colour as a brindled cow;  
For rose-moles all in stipple upon trout that swim;  
Fresh-firecoal chestnut-falls; finches' wings;  
Landscape plotted and pieced--fold, fallow and plough;  
And all trades, their gear, tackle and trim.  
All things counter, original, spare, strange;  
Whatever is fickle, freckled (who knows how?)  
With swift, slow; sweet, sour; adazzle, dim:  
He fathers-forth whose beauty is past change:  
Praise him.

Bee's comment: I always think, when we favor irises solidly and evenly colored, that no artist would do it like that, the way a careful child colors flowers in a coloring book....



## A NOTE ABOUT THE SMALL ONES

Currier McEwen

I was very glad to see Peg's reprint in the Spring 1978 TSI of her earlier article of March 1964 about Small Siberians. In spite of Peg's challenge I am afraid this has been a neglected area of hybridizing. Certainly the need for the small ones makes this an important area for development.

My own interest in what I have referred to as the 'miniatures' came quite accidentally when a small plant appeared in a group of taller siblings. This cultivar, which was introduced in 1970 with the rather unimaginative though descriptive name of LITTLE WHITE, is still one of my favorites and I have used it extensively in breeding. The following comments stem from that experience.

LITTLE WHITE itself carries  $2\frac{1}{2}$  to 3 inch flowers on 15 to 18 inch scapes. The flowers are nicely ruffled and are nearly horizontal which is especially desirable in a low flower which is viewed from above. It has a strong tendency to give smallness and low height to its children. Crosses with other smallish ones give seedlings which are about its own size and height or smaller and even the seedlings from crosses with plants of regular size are brought down considerably. However, as years pass, these seedlings are apt suddenly to grow larger again. A case in point is one which I introduced in 1975 as LITTLE BLUE. It had 3 inch flowers on 18 inch scapes for four years, and then, the next year, bore 4 inch flowers on 26 inch scapes. I have struck it from my list. Its sister seedling, BLUE SNIPPET, introduced in 1976, also suddenly became larger after three years of observation. From a  $2\frac{1}{2}$  inch flower on 10 to 12 inch scapes it became a 3 to  $3\frac{1}{2}$  inch flower on 20 inch scapes. However, I then divided it and lined it out and for the past two years it has again been a delectable 2 to  $2\frac{1}{2}$  inch ruffled blue flower on 12 to 14 inch scapes. Whether it will now remain small or, when fully established, will again grow larger, remains to be seen. Currently, however, my experience suggests: 1. that in appraising one's miniatures it is best to watch them for perhaps four years before assuming the original height and flower-size are fixed, and 2. that if such a miniature starts to become bigger, dividing and replanting it may bring it down to size again.

One cross with LITTLE WHITE was especially interesting. Jean Witt's FLIGHT OF BUTTERFLIES is a lovely small blue flower heavily streaked with white (or perhaps it should be described as having white falls heavily veined with blue), but its height is about 30 inches. Hoping to obtain more ruffled flowers of that pattern on lower scapes I crossed it with LITTLE WHITE. To my surprise every one of the twelve

seedlings resulting looked like a typical species *I. sibirica* with 4 inch flowers on 36 inch scapes. I subsequently crossed two of those siblings, but again the resulting seedlings were similar to *I. sibirica*. Hence, it appears that LITTLE WHITE cannot make them all smaller.

Currently in our garden there are four cultivars in addition to LITTLE WHITE that have stayed small and low year after year. Nana (white), which I presume from study of the Check List is SIBIRICA NANA ALBA, is about 15 inches high with rather tailored 2½ to 3 inch semi-flaring flowers. It has two buds at the terminal and no branch, which certainly suggests origin from *I. sanguinea* rather than *I. sibirica*. A white dwarf sent me by Helen von Stein-Zeppelin from Germany is known to her merely as Weisser Zwerg (White Dwarf). It is very like the white Nana described above. The other two are little blue ones bearing the labels Orientalis Nana. One, given to me by Sarah Tiffany and obtained by her years earlier from Garden in the Woods, is less than 12 inches tall with 2 to 2½ inch nice blue flowers. The other, sent to me from Leningrad by George Rodionenko, Director of the Botanical Garden there, is labeled *I. orientalis* F. Nana, and Dr. Rodionenko's note says it was collected in Mongolia. It is similar to the other in color and height but to my taste its form is less pleasing. Both of these have only two buds at the terminal and no branch which would fit *I. sanguinea*. I am confused about these two since the Check List records Orientalis Nana as an invalid name. I think they are probably a dwarf form of *I. sanguinea*, however, because of the two buds and lack of branching; and that feature also makes me wonder whether the plant called Nana which I have may not be from *I. sanguinea* instead of *I. sibirica*. Even a short *I. sibirica* I would expect to have more than two buds at the terminal, although its short scape might not allow room for a branch. If Peg or others have information about these four little fellows, I will appreciate comments.

There are, of course, others in our garden with small flowers on low scapes. Notable among them are LADY GODIVA and one sent to me by Lorena Reid labeled 'pink dwarf 68-1'. Both are lavender pink, very low and small, but I have had them only two years and cannot be sure yet about their future behavior. The same is true of the rather exotic LOOKS MOHRISH. I have obtained LITTLE DAN, ACUTA and SKEENA only this year but will watch them with great interest. Another of my own seedlings, SM 67/90, is a nicely colored red one which I have high hopes for.

I can make only a very preliminary comment about tetraploidy in breeding small ones. One would expect tetraploidy to be unhelpful in developing miniatures because it tends to make the flowers larger. However, I have been told that in daylilies it can be useful. At all events, I treated with colchicine some sprouted seeds of crosses in-

volving my smallest ones. They bloomed this year and two of the fifteen seedlings proved to be chimeras. The stalks were only 12 inches tall, but the flowers were about 4 inches wide and were too large for the height of the plant. Further experience may be different, but as of now I doubt that tetraploidy will be useful in breeding for the little ones.

As Peg's article emphasized, there is need for more of the really small Siberians. I am sure this is a challenging field for hybridizers which will pay good dividends, and I hope more will enter it.

(Note, on the question of names of the cultivars: I think it is quite possible that all four of the dwarfs, SIBIRICA NANA ALBA, Weisser Zwerg, and the Orientalis Nana and *I. orientalis* F. Nana, could be from *I. sanguinea*. SIBIRICA NANA ALBA was apparently either never registered by Amos Perry, or somehow the record of the data of registration was lost, or possibly it was actually in commerce before registration of irises was instituted. The only date I have had access to for it is the one in the AIS Check List for 1949 which indicates it was listed in his catalog at that time--1940. I suspect that Mr. Perry, who was occasionally rather careless about registering his introductions, didn't bother to do so when he introduced it--or it might have been sunk in transit; there were U-boats about in those days. His SIBIRICA NANA, which was introduced in 1940 but not registered, would suggest that he might have introduced both at the same time. The name was evidently validated at some later date, perhaps by action of the AIS Board. Orientalis Nana is classed as not a valid name because it was not registered--and not validated later.

(As for the use of the name SIBIRICA for what seems likely to be a hybrid or a form of *I. sanguinea*, this does not seem to have been an uncommon thing. The group of garden Siberians went by the term Siberian in common parlance; some who wanted to be, or seem to be, more scientific, were apt to use the term Sibirica, not always with much regard to the actual ancestry of the iris. As for Orientalis, or *I. orientalis*, this was an accepted term for the species we now call *sanguinea*, and is still used by some even though the botanical world has agreed that *sanguinea* as the species epithet antedates *orientalis*.

(I hope this clears things up a little. Weisser Zwerg might possibly be the same as SIBIRICA NANA ALBA, with the label lost in the war or in the shuffle. Peg)

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Keep your eyes peeled for the Winter issue of the Bulletin of AIS, it will be a special on Siberians, with several pages of information thought to be of wider general interest than TSI is intended to cater to. There are a lot of people out there who might be converted!

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Lucy Delany

Here are some reports of seed sent me by Currier McEwen which I shared with friends.

Henry Leefe: I had bloom from one of Dr. McEwen's seed in the seed pot. The stalk was very robust and the flower rich deep velvety purple similar in color to CAESAR'S BROTHER, only with much heavier substance. The falls flared out like WHITE SWIRL, but had a distinctive wave in them. There was the usual white at the top of the falls, with quite a touch of orange in the center of the flower. It was quite lovely.

Frances Love: My tetraploid Siberians from seed you gave me three years ago all flowered this year. The white was much as its parent (FOURFOLD WHITE?), stiff and starchy, and as a result prone to damage from our strong winds. However, three blues (one from EWEN X bee) all different, were magnificent. I put some in the Masterton Horticultural Society's Show where they were much admired, and I took the last of them down to Berry Judd in Wellington to show her group on Sunday.

One dark blue was not as robust as the others, but quite lovely. The rest were all much of a sameness--dark blue at haft, fading towards the end of the style arms, and a lovely sky-blue edge which was somewhat wavy but not ruffled. These were eyecatching and everybody loved them. They are quite large clumps and have set seed abundantly. I did do one or two hand crosses which appear successful. The pods are comparatively larger than the diploids and mine are full of seeds.

Violet Hall: Did I tell you the results of your Dec. 1974 Siberian tetraploid seed from Currier McEwen? You sent seed of four different varieties but only three germinated, Nov.-Dec, 1975, and flowered Nov.-Dec. 1977. Though not double, all were lovely. Good substance and form, and larger than any (other) Siberian. A sort of dark blue color.

Lucy Delany: I had bloom on one seedling, and the best description I can think of is CAESAR--enlarged in all parts. This didn't set any seed at all.

Currier also sent me some plants. Of these--EWEN, ORVILLE FAY, MARILYN HOLMES and SALLY KERLIN flowered (the sibericas seem to take quite a time to acclimate, though these are good-sized clumps now). EWEN was outstanding, especially for color, and I liked ORVILLE FAY'S waved petals. It was interesting to compare the diploids and tetraploids growing and flowering together. I liked the overlapping petals

of the diploids. The tetraploids were an education. I don't know what I expected, except that thinking of diploid and tetraploid beard-eds, I realized that increased size was likely. I'm looking forward to next year's flowering of more of the seedlings, and the named ones that I haven't seen yet.

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The National Council for Therapy and Rehabilitation through Horticulture has asked us to let those of you who are interested in this field know that the organization exists and is looking for members. The Society's work is aimed at children and adults who are mentally, physically or emotionally handicapped. The Council serves as a clearinghouse for information about research, projects, areas of need; has a Speaker's Bureau; runs regional workshops and seminars; puts out publications on the subject. Membership is available at varying rates for individuals and groups. For further information write to them at Mt. Vernon, Va. 22121.

(I can testify to the value of work in this field as my garden club has been involved in a horticultural therapy program for about 10 years at a nearby nursing home. Peg)

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#### REGISTRATIONS AND INTRODUCTIONS 1977

- ANN DASCH (S. Varner, R. 1977) Sdlg. V5117. SIB, 38" (97 cm) ML, LBcm LBV6DBV/LBcmLBV6DBV. Mottled light blue-purple with solid deeper blue-purple edges. 0129: (GATINEAU x DREAMING SPIRES) X 0129.
- FRIENDLY WELCOME (D. Varner, R. 1977) Sdlg. V5113. SIB, 36" (91 cm) EM, FB/FB. Medium blue self; no signal. DREAMING SPIRES X DARK DESIRE.
- HARPSWELL HAZE (O. McEwen, R. 1977) Sdlg. T<sub>370/31B</sub>. SIB (tetraploid), 35" (89 cm), M, LVB7DVB/LVB7DVB8W. Light blue (RHS 96D) with dark violet-blue (93B) veining; white blaze on F., stylearms medium light blue. T<sub>161/Cas. 1</sub>: (BLUE BRILLIANT x unknown) X T<sub>266/79</sub> (10): FOURFOLD WHITE sib. McEwen 1977.
- JERRY'S FOLLY (J. Flintoff, R. 1977) Sdlg. JF-25. SIB (40-chr.), 30" (76 cm), L, YcmRV/YcmRV. S. yellow, dotted and streaked purple, pale yellow stylearms; F. yellow, dotted and lined purple. MIRZA, citronella strain X yellow 40-chr. sdlg.
- KALI (O. McEwen, R. 1977) Sdlg. 70/74 SIB (diploid), 16-18" (41-46 cm) L, LVB7FVB/LVB7FVB8W. Light blue (RHS 95D) with full violet-blue (95C) veining; white blaze on F., changing to yellow at hafts; stylearms edged light blue (95D) with midribs 106C. CAMBRIDGE X 66/96 (12): CAMBRIDGE x unknown).
- LEMON STREAK (O. McEwen, R. 1977) Sdlg. 71/33 (4). SIB (diploid, 28chr.) 30" (76 cm), EM, W/5Y6W. S. white; F. rich yellow streak (RHS 13B) ½" wide from base to tip, lightening to 13C at tip and fading to 13C

- laterally and to  $\frac{1}{4}$ " white edging; stylearms cream (13D) at midribs, ruffled white at edges. FLOATING ISLAND X DREAMING YELLOW.
- LITTLE PERKY (Mrs. N. Kokich, R. 1977) SIB, 29" (75 cm), L, VBvb/FVB8 DV7W. S. violet-blue; F. mid-violet-blue border around a white-veined dark violet signal; violet-blue styles; ruffled F. Unknown parentage.
- ON AND ON (O. McEwen, R. 1977) Sdlg. 68/7B (RK5). SIB (diploid), 38" (97 cm), EM & RE, FV/FV7DV8W. Opens full violet (88A), fading to 88D; dark violet (89A) veined on F., giving an overall effect of 89B; white blaze on F.; stylearms full violet with midribs of 89C. 64/72 (1): BLUE PLATE sib x unknown) X WHITE MAGNIFICENCE, McEwen 1977.
- PIRATE PRINCE (D. Varner, R. 1977) Sdlg. V577. SIB, 28" (71 cm), ML, DBV/3DBVcm. S. deep blue-purple; F. lustrous solid purple, no signal, green overlay on haft. MARANATHA X DREAMING SPIRES. HC 1977. Illini Iris 1977.
- SPARKLE (B. Hager, R. 1977) Sdlg. SB60. SIB, 37" (94 cm), EM, LRV/PRV7 FRV80Y, S. pale mauve; F. paler mauve, veined darker mauve; gold signal. GRANDIS X STARSTEPS.
- STAR CLUSTER (B. Hager, R. 1977) Sdlg. SB45. SIB, 32" (81 cm), ML, W/PPY8Y. S. white; F. pale yellow to white; yellow signal. CAMBRIDGE X SWANK.
- FINE LINE (J. Witt, R. 1977) Sdlg. 72-08-ES. CA-SIB, 19" (48 cm), E, PY2FRVY/PY2FRV8LOY. Pale yellow (paler than Munsell 8/10) veined and stitched purple (7.5p 4/10) all over giving a cinamon-pink effect; light orange-yellow signal; yellow styles, veined and flecked to the tips. CAMOUFLAGE X *I. tenax* var. white.
- NEW DEPARTURE (N. Service, R. 1977) Sdlg. 72 C5. Interseries hybrid, 16" (41 cm) M, PY/PY7RV8FY. Pale yellow, veined purple; bright yellow center on F. *I. chrysographes* X CA hybrid 1968 S.3.
- UNEXPECTED DEVELOPMENT (N. Service, R. 1977) Sdlg. 72 C3. Interseries hybrid, 16" (41 cm), M, yWc,VB/PY78Y. S. yellow-white, speckled violet (RHS 91A); F. pale yellow (10D) veined violet (94C), bright yellow center, veined purple (86B). *I. chrysographes* X CA hybrid 1968 S.3.
- VELVET PENNANT (J. Witt, R. 1977) Sdlg. 74-15-PC. CA-SIB, 18" (46 cm), M, DRV/DRV8DDRVcmY9DO. S. deep red-purple (Munsell 2.5); F. velvety, deep red-purple with darker signal and golden lines; brownish hafts. Pink tenax #ED, seed collected from Lewis Co., WA, X *I. chrysographes rubella*.
- \*BLUE CHANTEUSE (McGarvey, R. 1975) McGarvey 1977.
- \*BUTTER AND SUGAR (McEwen, R. 1976) McEwen 1977.
- \*LITTLE RED (K. Vaughn, R. 1976) Bishop 1977.
- \*WINE WINGS (D. Varner, R. 1976) Illini Iris 1977.

Well, there you have it for this year: 11 Siberians, 4 Cal-Sibes, and 4 introductions of previously registered cultivars. There have

been years in which there were more listed, but not many; I'd say this was a little above average.

Going through the 1977 R. & I. List in my usual fashion--which involves marking in the margin everything that isn't TB, indicating what each is in red pencil--I was struck by how many red markings there were on each page. I have no intention of going through the whole thing again and noting how many of each kind of iris there were; I used to do that, but that was 20 years ago when my eyes were younger and my lap was roomier (well, you try to juggle a slippery booklet that doesn't want to stay open, a notebook and a pencil), but it seemed to me that at least half, maybe close to two thirds, were 'other than TB' and quite a lot were non-bearded. Quite a change from the late '50s when I first began to take notice of these things. Must be quite a lot of people buying the smaller bearded, and the Arils and their hybrids, and the Apogons.

#### BACK TALK

Alas, no illustrations this time. I brought my cat along to the auction (a pretty nearly fatal error as it turned out) and didn't think I could manage the cat, a camera, and my fair share of eating and bidding. And nobody else had one either.

I think we have a pretty good issue this time. Not every article will interest every reader, but every reader will find something to interest him or her. But what about Spring? Yeah, same old plaint--don't you have a problem you'd like solved, or a comment to make, or a story to tell, about Siberians? But if you think you get tired of reading my moans, think of how tired of making them I must get!

There is one thing I'd like to talk about, and it seems to me it is kind of in line with some of the other things you've just been reading. We've had mention of variation of form, of size, of color (even a variety of bugs!). I think this very point is itself worth considering. Might this not be a good time to give serious thought to defining the limits of the variations we want to encourage?--and at the same time, laying out the categories, or classes, of Siberians we would like to have for our gardens if the hybridizers can produce them. We know some of the genetic characteristics available; we can be pretty sure there are others that just haven't turned up yet. The latter we pretty well have to wait for--though maybe if some hybridizers would make it a matter of policy to make one really wild, wide cross each year, they might come sooner than mere chance would bring them to us. But recombinations of known characters and work to fix the more flighty ones can be done right now. Currier has told of his experiences in trying to get real dwarfs,

and it is evident from this article that this could be a difficult field. But it isn't impossible; there are dwarfs that stay dwarf without having to be dug up and replanted every few years. I have one, a coarsely marked blue, which has nothing good to say for itself except that, for over 20 years, it has consistently stayed under 16 inches with flowers about 3 inches wide. Some years it is about 14 to 15 inches tall, but occasionally it is barely 10 inches--at which height the flowers are a little too wide for the height. Whether it would act the same way in other gardens I don't know--it is such a little mutt I hate to have anyone see it! It isn't a very good increaser, either--here--but I figure that anything that grows well here would probably do better elsewhere (growing Siberians in my sandy soil amounts to sticking my tongue out at Mama Nature). Maybe this little squirt, crossed with other small ones, could be a step in the right direction for breeding dwarfs.

Another possible line of work would be to breed the smallest of the 40-chr. hybrids. Many of these seem to be quite small. Going through the Check List I find a dozen at 26" and less. Not all of them are available but of those that are, consider ID, 20", from *I. chryso-graphes*; TIGGER, 14", from CHRYSOFOR ancestry; LOIS J., 22", of unknown parentage; NIGHT FELL, 22", parentage uncertain but possibly involving *I. dykesii*; TAWNY PIPIT, 20", parentage unknown; and one might consider that PUGET POLKA, AT 24", produced YELLOW POLKA, also at 24"--which would seem to suggest that the gene for smallness is there and can be held on to. And Currier mentioned possible effects of tetraploidizing; maybe he'd be interested in the entry for TETRAFOR (Steiger) which is registered at 6"! Maybe he was colchicining the wrong ones?

I suspect that the problem with the dwarfs is that we should first stabilize the size, and only when we have plants that are not only reliably small themselves but also reliably produce small children or grandchildren as a reasonable percentage of their offspring, should we then go on to develop superior color and flower form. I think we might wind up with two basic size ranges--one of real dwarfs or miniatures, under 18" or maybe even smaller, and one ranging between 18 and 24". Could one say Median Siberians?

As for color variations, I think we have some new colors and patterns beginning to turn up. The pattern Bee calls Atoll I have only seen in that one plant, but ANN DASCH is registered as being 'mottled' with solid deeper-colored edges, and there are undoubtedly others in Bee's and Steve's plantings. There are quite a lot of varieties of recent introduction with shaded coloring from a dark edge to a pale center. As yet we don't have anything as sharply marked--dark edge with light center--as some of the plicatas in the bearded irises, but possibly the Atoll pattern crossed with the shading pattern might some fine day turn up a really sharp ring pattern. Another pattern that could



be developed is an old one--that of GRANDIS and YANKEE TRADER. Of these two I prefer the former for the coloring; but imagine this strong striping combined with the shape of WHITE SWIRL or WING ON WING, or in a deep wine on pale mauve or pink! The finer veining pattern too could be made more elegant. Much of the time it is coarse, or blurry, or both.

Perhaps some day some lucky soul (a.k.a. genius) will turn up a tetraploid that has the fine shape of flower, the strong stem, the erect foliage of the tets coming along now, but with softer, or at least softer-looking, falls. Velvet is nice, of course--but how about a nice smooth--not satiny--China-silk texture? A few of the early cultivars seem to have this (but I'd have to go look to name them and this isn't the season for that). Most have the feel of fine crepe, but what I mean is different--very smooth, very slightly lustrous, soft-looking, but with a touch of firmness. I think, too, I'd like something with the feel and look of a fine wool crepe--soft, not-quite-smooth, and matte without being dull, or felty, or thick. I think the genes are there; sometimes one flower will show a hint of it while the rest of the plant is just--ordinary.

We have a good range of flower forms; offhand I can't think of any new ones. Certainly we don't want some of the uglier that have been seen in the past--the spooned ones, or the tucked-under look, or the long-oval hanging ones that just sag. I don't think much either of the stands that lop over like a hound's ear, or the ones that all fall into the center (they always look as though the flower was gone by). We could use more of the so-called doubles on the taller stalks; but it seems to me that even with a small flower, the doubles are too massy for a short stalk.

Does anyone have any other ideas for the hybridizers to get to work on? Pass them along! Dream a Little Dream With Me, to misquote the song title!

*Peq*

DR. GEORGE LAWRENCE

It is with regret that I report the death of Dr. George H. M. Lawrence on June 11 at his home in Rhode Island. He produced the classification of irises which, with few changes, is used today by AIS and he has been helpful in many ways to our Society and other Sections of AIS. His services to horticulture were far too many and varied to be covered here and range from Director of the Bailey Hortorium to Secretary of the American Horticultural Society. He wrote several books including Taxonomy of Vascular Plants, a standard reference work; and some delightful letters!

PUBLISHED BY:  
THE SOCIETY FOR SIBERIAN IRISES  
235 KOEHL STREET  
MASSAPEQUA PARK, N.Y. 11762

THIRD CLASS MAIL

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