The Siberian Iris

Spring 1991

THE SIBERIAN IRIS

VOLUME 7, NUMBER 3 **SPRING 1991**

Front Cover: "Iris Sibirica Linne"

Hand colored engraving from Dr. Albert Dietrich's Flora regni borussica.Vol. 1. Berlin, 1833. Pl. 45. Page size 22.5 x 16cm.
Courtesy Hunt Institute for Botanical Documentation Carnegie Mellon University, Pittsburg, PA.

FROM THE PRESIDENT'S DESK

Here I am anticipating the coming Siberian bloom with February temperatures which have been fluctuating from 8-50 degrees, in general a warmer month than usual for Michigan.

I have been reading back issues of TSI from 1961-'76 and found much of interest. For instance, for twenty years Region 1 has been contributing some of the profits from its yearly Apogen Auction to SSI and I would like to thank them for their dedication to the society over so many years. Their 1990 contribution was a very generous $300. The display gardens were begun in the early seventies with six gardens from coast to coast; Dr. Koza is currently updating the list. The display gardens offer a good opportunity to study Siberians without having to grow them all yourself.

Interest is growing in the "antique" varieties (introduced before 1950). Howard Brookins has been collecting and growing many of these early cultivars on behalf of HIPS and SSI and independently, a group in Kansas City chaired by Wilma Little, want to establish and preserve them in gardens in that area. These projects will need a lot of help and cooperation to find these irises and eventually share them with people interested in their preservation.

There have been many new developments in hybridizing in the past few years: new colors - more varied blues and purples, "pinker" pinks with new shades between them and the wine reds: better yellows and progress with new patterns and amoenas. I do feel there is a need for new people to enter the field ... are there some of you out there who have been hybridizing but not registering and introducing? Let's hear from you. There is hope that the newly discovered I. typhifolia with its wine red color, different from that of I.

sibirica and I. sanguinea will improve the color range. We would like to have the chromosome count of I. typhifolia checked to confirm that it is indeed a 28 chr. Siberian. If there is anyone out there capable and interested in doing this please drop me a line.

We are hoping that the dates of May 18th-22nd for the AIS Convention in Washington D.C. this year will be favorable for seeing Siberian irises in bloom. Our SSI Board meeting will be held Sunday May 19th from 8-10 am and the section meeting from 4-5 pm on the same day. All members are welcome at both meetings - I look forward to seeing you there.

Anna Mae Miller

1990 REPORT ON BOOK SALES

JULIUS WADEKAMPER, Cordinator_____

Wholesale sales.....$1,250.64
Retail sales.....$ 121.00

Total sales for 1990.....$1,371.64
(249 books)

Breakdown on sales

Capabilities Books	170	$356.00
Tranquil Lake	200	$431.80
Sutton Books	50	$113.00
Timber Press	200	$426.50
Ruth Wilder	10	$ 30.00
Private sales	19	$121.00
		$1478.30
Shipping costs		-$ 106.66
Total	249	$1371.64

A SYMPOSIUM ON SIBERIAN IRISES IN THE NORTHWEST

SIBERIANS IN THE NORTHWEST

By Terry Aitken

All Siberian irises that I am familiar with seem very happy with our Northwest environment. The biggest problem in the Northwest is that so many different types of plants grow so well that it becomes a point of competition for available garden space and, ultimately, the gardener's personal preference. In the years ahead I would expect Siberians to increase in popularity as color intensities, rebloom and color range improve. These should be the practical goals for any hybridizer of Siberian irises.

Culture here is very simple; plant, and stand back! Since they can produce an ever increasing quantity of bloom over many years, Siberians are the best of the "low maintenance" garden plants; highly resistant to insect pests and showing no affinity for the diseases that affect many other plant types. The only problem we have had is with spider mites in late summer. The remedies were as bad as the pests! The recommended strengths of Kelthane burned the foliage and Safer soap rotted the plants. Nothing else worked, so we experimented with different dilutions and finally came up with a workable solution. We mix Kelthane and Safer soap together in a range of 10 to 25% of the recommended dosage. Less than 10% doesn't kill the mites, over 25% just isn't necessary. Actually the mite problem may have something to do with our dry summers (less than an inch of rain from June 'till Oct.). The only other iris type affected is the Japanese. Being forewarned and forearmed, the mites are easy to control.

As for hybridizing Siberians, we have barely scratched the surface. Our first four years have produced some fine rebloomers. We were very impressed with the performance of McEwen's LAVENDER BOUNTY - some ten weeks of continuous bloom.

We saved bee cross seed from LAVENDER BOUNTY and raised a large block of plants (4 X 100 feet rows). In the third year of bloom, rebloom began to appear. A red-violet seedling bloomed on into August (from mid-May) sending up one stem at a time with about 6 buds on rangy 50-60 inch stems. In the fourth year of bloom another plant bloomed profusely from May well into August with 8 buds per 50 inch stem. This one has good flower form - overlapping falls and smooth signal pattern in a medium violet color. Besides continuing to develop future generations with rebloom, we are also working to expand the available color spectrum. Ever consider an orange Siberian? Tune in next century!

EAST COAST - WEST COAST

BY DAVID SILVERBERG

Moving at any time is a traumatic experience. Moving an iris garden at the same time makes the problem doubly stressful as many of you who have accomplished that feat can testify. When I finally decided to retire to Oregon my first concern was, of course, finding a suitable home, any other considerations were secondary. Knowing that Oregon was "iris country" I didn't pay any attention at all to soil or weed types that I might encounter.

When move time arrived I was able to call upon the services of two good friends to care for all the irises I had selected to ship from New Jersey. Chet Tomkins took care of all the bearded cultivars and Dave Pavelchek in Olympia, Washington got the Siberians and beardless species. Dave performed yeoman service, receiving and potting up 156 starts. On my arrival these were transported to my new Oregon garden and with the help of a young neighbor we dug enough holes to set each pot in the ground to overwinter before permanent planting in the spring.

Spring arrived and with it came weeds that grew so rapidly that you could almost measure their growth hourly. At bloom time it was almost impossible to see the irises from the patio they were so obscured by weeds. It was obvious that some radical changes were needed immediately. The

TB's were dug and stored in the garage and the pots of Siberians were lifted from the ground and moved about 250 feet to the back edge of a gravel driveway so that I could care for them and keep them watered. After digging, the garden was treated with glyphosate (Roundup) and three weeks later it was plowed, disked, roto-tilled and graded before the bearded irises were replanted.

Leaving the Siberians in their new position was my undoing. I found that I could not water well enough and deeply enough to prevent them from drying out and dying. (Mistake #1. Had I left the pots protected in the shade they would have had a better chance of surviving). The loss meant either going without Siberian bloom for another bloom season OR a major outlay of funds. To replace those which I lost, plus some new additions was, as you would expect VERY expensive. Right here I want to give a big "thank you" to all those friends who came to my aid and agreed to dig and ship replacement plants long after they had put their gardens to bed for the winter. All the new starts were on hand by the end of October which meant that planting continued on into November.

The area in which the Siberians were to be planted is at a point where the back lawn and the garden meet in a gentle slope. Having experienced one Oregon winter I knew that this area would have standing water at times but would drain rather readily. The irises were planted on two foot centers so that I would have sufficient room to work in and around the plants with the tiller. (Mistake #2. Growth during the first year was so good that I had to replant most of the Siberians to three foot centers so that I could get between them with the tiller).

After plowing, I had an excellent opportunity to compare my Oregon soil with the soil I had in New Jersey. They are total opposites. I describe what I have here as "Oregon Gumbo". If you have visited either Schreiner's or Cooley's gardens after a heavy rain you know what I am referring to. During the winter rainy season the soil becomes very tacky and at the same time very mobile depending upon the water content. With very heavy rain there is a tendency toward puddling which requires some assistance to channel off excess water. The same condition occurred in New Jersey except that the soil was very sandy and had a very

high water table. There was no way to channel off the standing water and so I had to wait for it to drain naturally.

One of the problems that I don't have to contend with in Oregon is trees with shallow root systems. My previous garden was ringed with maple, sycamore and evergreen hemlock which made adequate fertilization of the irises almost impossible. The other major problem that I left behind was that scourge THE IRIS BORER!

One thing that both gardens had in common was/is the need for additional organic matter, but for different reasons. In New Jersey it was necessary to increase water holding capacity, while in Oregon it is needed for humus content and to help break down the heavy clay. I have been collecting all my neighbor's leaves and all the leaves (exept walnut) available from the local landscape service. As they arrive, the leaves are put down between the rows which allows me to walk through the garden even after the heaviest of rains. In spring when the weather warms and the soil becomes workable, the leaves are tilled under.

The clay content of the soil comes as a mixed blessing. In late spring when the seedlings are lined out the clay helps to hold the liquid fertilizer that I use to accelerate growth. Unfortunately, the normal winter rains will leach out 90-95% of all the soluble nitrogen in the soil. This makes a high nitrogen fertilizer necessary in the spring. In New Jersey I used a 5-10-10 formula, but here I use 10-20-20 since I am probably losing an equivalent amount of phosphorus and potash.

After my arrival, I talked to everyone that I could to get advice about growing conditions and what to do to achieve the best growth possible. The single standout was something that I had not expected, the use of alfalfa in powder or pellet form. Alfalfa contains triacontanol, a 30 carbon straight chain alchohol, that acts as a growth stimulant*. There are at least four well known hybridizers in this general area who have extolled its virtues to me.

Another effective tip, passed on to me by Barney Hobbs is the need to mulch Siberians, especially in areas with hot summers. It will keep the roots and

soil cool and dramatically reduce the loss of soil moisture. If you can beg, borrow, or steal some SPOILED alfalfa hay it is possible to acquire the growth stimulant and mulch at the same time. I specify spoiled because it will most surely be cheaper as it can no longer be used for cattle feed. I have not done this myself because I can get the alfalfa pellets locally at a very reasonable price. I have also found that a light tilling during the summer months provides a dust mulch that serves almost the same purpose.

Growth of the Siberians has been nothing short of phenomenal and I assume that it is the result of fertilizer nitrogen washed down during the fall and early winter rains plus a longer growing season. The winters here in the Willamette Valley are, by and large mild, with only one or two periods of substantial below freezing temperatures. It is for this reason that Siberian planting can be done at any time except during the very hot summers. As a case in point, I received a start of MABEL CODAY (Helsley, '85) as a Christmas gift from Terry and Barbara Aitken. The iris arrived on December 22nd, was kept in water overnight and planted the next day in the mucky clay. Just six weeks later, in early February I was channeling off some standing water and found, much to my surprise, that MABEL CODAY was already up and growing. I have found since that this is the norm rather than the exception.

Increase continues to be exceptional with two year Oregon clumps equaling that of five years of New Jersey growth. Whether or not this will continue depends on my continuing good soil management.

* A further note on triacontanol from our research chairman:

This compound is of interest for a couple of reasons -- personally because it was discovered by Dr. Stanley Ries at our Pesticide Research Center at Michigan State University and, more practically, because of its use in some parts of the world as a plant growth stimulant. It occurs naturally in leaf waxes from a number of plant species and the growth enhancement seen with alfalfa mulches has

been attributed to its presence. Growth increases of around 15% have often been described in a range of plants after applying triacontanol at very low rates (1 microgram per liter, or less). But note, there have also been many failures and its use appears to involve dose and timing effects that vary from species to species. It is not a universal and foolproof growth stimulant. For anyone interested in learning more about this compound see:

Plant growth substances: more on triacontanol (a growth factor in some plant waxes, particularly in alfalfa). V. Stoutemeyer, Journal of the Bromeliad Soc., Vol. 29, p. 262-3 (1979)

Growth enhancement of plants by femtomole doses of colloidally-dispersed triacontanol. R. G. Laughlin et al., Science, Vol. 219, p. 1219-21 (1983)

Regulation of plant growth with triacontanol. S.K. Ries, Critical Reviews in Plant Sciences, Vol. 2, p. 239-285 (1985)

Field studies with crops treated with colloidally-dispersed triacontanol. J. A. Biernbaum et al., Journal of the American Society for Horticultural Science. Vol. 113, p. 679-684 (1988)

SIBERIANS EAST OF THE CASCADES

BY MARKY SMITH

I have been growing Siberian irises in Yakima, Washington, for more than a decade. This region of the Northwest is ideal for bearded iris varieties, especially medians, but not nearly so co-operative when it comes to many beardless species. The winters are too cold for Pacificas and most Louisianas; and without endless acidifying, the soil and water are too alkaline for Japanese cultivars. But the Siberian iris flourishes here, a testimony to its adaptibility.

Yakima is 150 miles southeast of Seattle, located in the center of Washington state, east of the Cascade Range. We are positioned at the

western edge of the high mountain desert that dominates half of Washington and Oregon and most of the Rocky Mountain states further east. The climate falls in Zone 5, with winter temperatures of minus 10 degrees F. (minus 23 degrees C.) or colder - minus 16 degrees F. (minus 26 C.) this past December, with no snow cover. Summer temperatures can be 100 degrees F. (37 degrees C.) with a high of 108 (42 degrees C.) for several days last July. Humidity is usually low.

The region averages 180 growing days per season. Rainfall is scant, normally 5 to 8 inches per year. On virgin ground, the vegetation is sagebrush and cheat grass bunched on the volcanic soil. To garden or farm requires irrigation water, but then the desert does blossom like the rose -- apples and soft fruit orchards, truck crops, hops, mint and splendid "grandmother" gardens of perennials.

In spite of the generosity of Mt. St. Helens, which sent us 7 tons of ash to the acre a decade past, the soil has the heavy alkali content common to the high, dry west. Even our irrigation water tests at a pH of 7.5. Yet for many years, I grew landscape plantings of CAMBRIDGE (Brummitt '64), ANNIVERSARY (Brummitt '65) and FLIGHT OF BUTTERFLIES (Reid '72), transplanting when I moved to a new house, but never making a conscious effort to acidify the soil.

In 1986, I joined the AIS and succumbed at once to the temptation of recent Siberian introductions. Our home garden, on a ridge above a narrow canyon, (which functions as a wind tunnel, with gusts of 60 MPH on "brisk" days), now hosts 50 Siberian cultivars: 30 diploids and 20 tetraploids. Additionally, Siberians landscape my husband's office, which is situated on very rocky soil at the edge of a lake excavated for freeway fill. At both sites, we now use the same procedure before planting: removing on-site stones, extending the remaining soil with peat moss and application of 10-10-10 fertilizer.

Because we depend heavily on irrigation water, which is available only from May 1st until October 1st, spring transplants are best for us. The past few autumns have been long Indian Summers, with warm days continuing into November and dry cold after that. To keep transplants damp requires 300 feet of hose; and when frosts set in, draining

those partly frozen hoses resembles Laocoon losing to the Serpents. With the onset of cold weather, I water with buckets. Many of my earliest purchases failed to bloom the following spring, because they received too little water from the bucket brigade. In contrast, transplants received in the spring always thrive on the daily automatic water available. Sometimes these transplants bloom the same spring they are planted. Religious fall disciplines with bucket and mulch have produced higher percentages of spring bloom lately, but my preference is still for spring planting.

General care is simple and minimal, and includes early spring feeding with 10-10-10 fertilizer, boosted with extra superphosphate. All irises -- there are 1500 miscellaneous cultivars and seedlings -- receive two sprays of systemic insecticide, mixed with Agristrep for soft rot. Yakima has neither borers nor scorch, and we are not damp enough for leaf spot normally. By experimenting with a Miracid drench every two weeks during spring and fall growth periods, we have had success with a few Japanese irises, despite the irrigation water pH, and I include the Siberians in the Spring drench at least twice. This coming spring, we'll line out several plantings of one blue and one red cultivar on which to test various trace elements for their effect on color variation.

Transplants remain in place 3 years, which makes nice clumps, but keeps them small enough to divide without Arnold Schwarzenegger standing by. After the foliage browns in the fall, I cut it to the ground with a serrated knife. While I mulch new plantings with pine needles, I have not found the need to mulch established plants so far.

I germinate all iris seeds (about 3000 yearly) the same way. Each cross is planted in a separate pot using a commercial potting soil. The last week in October, the containers are buried with their rims at ground level in the shade of a low retaining wall. All pots are mulched with birch leaves and covered with Reemay, a water permeable row crop cover, which holds the mulch against winter winds. I hope for a hard freeze followed by snow cover, to maintain cold scarification with as little temperature fluctuation as possible. When the weather warms, all pots are lifted and set in the sun on top of the wall. The soil is kept damp until seedlings are ready to transplant. Last year

the germination rate was 56%. If seedlings are lined out mid to late May, they generally bloom the following spring.

Both diploids and tetraploids do equally well. The tets. are sturdier during strong winds; stiffer stems and increased substance reduce "whiplash" so the flower lasts longer. Bloom generally begins the third week of May and lasts a month or so. Diploid varieties receiving attention from visitors this past year include the clean, medium blue MABEL CODAY (Helsley '85), the arresting cobalt of JAYBIRD (Hager '82) and the deep black-violet of SHIRLEY POPE (McEwen '79). Showy tetraploids included the soft violet-blue REGENCY BELLE (McEwen '85) a huge clump of VIOLET JOY (McEwen '85) covered with dark violet-blue blooms; and the dramatic JEWELLED CROWN (Hollingworth '87) its deep wine flowers sparkling with gold to white blazes. Newcomers include yellow amoenas ISABELLE (Warburton '89) and PAS DE DEUX (Hollingworth '88). Gorgeous blue bicolor SPRING'S BROOK (Warburton '88) bloomed for the first time this year as did TIFFANY LASS (McEwen '90) a wonderful bicolor blue tet. New whites include the impressive SNOWY MOUNTAIN (Johnson '88) and the albino sibirica SNOW PRINCE (Tiffany '90). Several new reds have just been added: velvety red-violet JAMAICAN VELVET (McGarvey '85), the deep wine DEVIL'S DREAM (Schafer/Sacks '90) and another large, deep red-violet self, WINDWOOD SERENADE (Hollingworth '90).

The star of the show was a three year old clump of LAVENDER BOUNTY (McEwen '81) which opened its first bloom May 20th and closed its final one on August 28th. Easy care, graceful habit, spectacular color and extended bloom: what more could one ask of a magnificent garden perennial!

HYBRIDIZING SINO-SIBERIAN IRISES IN THE NORTHWEST

By LORENA REID

The Sino-Siberians (40 chr. Siberians) are quite easily grown west of the Cascades (N. CA, OR, WA). Most of them also do well along the eastern seaboard and if their cultural needs are met, they can be grown successfully in the more continental climates of the U.S. One of the two most important requirements is an acid soil. According to

Randolph, Garden Irises, 1959, a pH of about 5.8 is ideal, (Ours is 5.0 and they do very well). How much higher pH they can tolerate is unknown to me. The other most important requirement is an ample supply of moisture. Our average rainfall is something over 40 inches per year, mostly between October and May (winter-plenty), and we irrigate our Sino-Siberians about an inch per week in between. A sunny location and application of a balanced fertilizer at least once a year (in the spring when new growth is about 4-6 inches tall) are other requirements. We mulch all Sino-Siberians with 2-3 inches of rotted sawdust (feeding a bit more heavily to make up for the plant food taken up by further deterioration of the mulch in the soil). The mulch conserves the water supply and has the added bonus of keeping weed growth down.

The smaller species of Sino-Siberians are more difficult to grow than the larger. I. forrestii and I. chrysographes (particularly the latter) sometimes fail to increase or even die off in the middle of the year for no apparent reason. We have customarily made crosses of I. forrestii X I. forrestii and I. chrysographes X I. chrysographes, just to keep these species in sufficient stock ... (this is also a sneaky way to do some selecting of flower characteristics which please us. e.g. greater petal width, more substance and less pendancy. We simply choose those clones we like best to cross with each other within the species). This crossing within the species is especially necessary for keeping I. chrysographes (black form) available since it appears to lack the vigor to be a long-lived plant, and hopefully such crossing in the species will help to improve the rather pitiful flower of the typical I. forrestii.

Each of the species has something to give when we endeavor to bring a better garden plant into being. I. clarkei has its great vigor, size (height and large flower size), later blooming dates, lovely deep purple color , and sometimes branching. I. forrestii gives its desirable dark gold color and I. chrysographes lends its distinctive red and/or black hues. Outcrossing among the various species, fortunately, often gives greater width to the flower and more flaring form.

My earlier introductions of Sino-Siberians were primarily with Mirza citronella (a group of

BUTTERFLY MODE
(Reid 1991)

DOTTED LINE (above)
future Reid
introduction

CASCADE CREAM (below)
(Reid 1991)

REID CAL-SIB (above)
Sdlng. 90-2-24

hybrids derived from forrestii and chrysographes). and are not as vigorous as my later introductions. I have completely lost TIGGER ('73), the tiny, perky dwarf Chrysofor. and SUNLIGHT BAY ('73) resents disturbance to such a degree it may be in danger of extinction.

IDSON ('85), half chrysographes, half clarkei, is more vigorous and has better form than either species. ENBEE DEEAYCH ('88) is a delavayi hybrid, mixed with chrysographes and possibly with clarkei. It is over 5" tall, blooms earlier than delavayi and has two nice branches so it blooms a good long time in the garden. It has a typically pendant form, but sufficient width to make it interesting. Here's the story on the name: I could not think of a garden name that fit the plant. It had been marked in the garden with the designation NBDH --- meaning newer, broader, delavayi hybrid. I finally gave up and just spelled out the designation!

One of the most useful varieties I have found for hybridizing in recent years is BEAUTIFUL FORTY (Tamberg) a hybrid, mostly clarkei, with a little forrestii and possibly some delavayi. As a garden variety it has its faults; though large, the flower is quite pendant, and the flower stalks often flop down unless staked or tied up. Some of its seedlings however, are choice!! Two I will introduce this year ... an almost white, CASCADE CREAM and a blue violet with distinctive signal markings, BUTTERFLY MODE. Recrossing and backcrossing among my best seedlings yield ever more variety and refinenent, DOTTED LINE for example which is to be introduced as soon as I can grow enough stock.

Here are a few generalizations for the would-be hybridizer. To get nice, vigorous reds or maroons, use chrysographes for the color and either clarkei or delavayi (or both) for size and vigor ... and select for the type or lack of signal that suits you. To get vigorous yellows, use forrestii or wilsonii for color, crossing with one of the delavayi hybrids (or with delavayi itself to get the yellow delavayi hybrids) and select. Cross the best and select for clear color without distracting dark or stitched grey vein lines. To get interesting patterns ... just start anywhere and keep crossing and selecting! Since the Sino-Siberian iris seed pods are large, you will need a lot of space and a lavish and severe hand in culling!

Otherwise you will end up in only a few years with no more space and large merging clumps that resist even a pickaxe!

One of my favorite uses for Sino-Siberians in hybridizing, is the forming of Cal-Sibs. To make these you need to use pollen from the Pacific Coast hybrids, choosing those which have the characteristics you like. Pollen must be stored from the earlier flowering Pacific Coasts until the Sino-Siberians bloom. I store the pollen in match boxes on a large cookie sheet kept in a cool place. Cal-Sibs are a dead end at the moment as they are infertile so you need to pay particular attention when selecting the parents. It could be something new for you on the west coast (or elsewhere) to try.

The only hybridizing I am doing with the garden Siberians (28 chr.) is to pollinate them with I. setosa alba, hoping to get some other color besides blue-violet in the Sibtosas. I have Sibtosa seedlings (albeit unbloomed) coming along from PINK HAZE and POLLY DODGE, but have yet to get any from a white Siberian.

To hybridize with the Sino-Siberians, as in the case of any beardless iris, you must open each bloom you intend to use when it is at the swollen bud stage. I remove the standards, falls and stamens, leaving only the style arms attached by a thin tube to the ovary. At the time of opening, the stigmatic lips are tight against the underside of the style arm. Wait a few hours after opening the bloom before pollinating, when the stigmatic lip will curl back making a convenient shelf on which to deposit the pollen. If the stigmatic lip is curled back when you open the flower, it is likely to be already contaminated; selfed or insect pollinated. Pollen on the stamens removed from a bloom you are opening, is not yet mature and it will mature. Or you can choose a stamen from a flower which has just opened on its own, for pollen for your cross. The pollen normally matures about the time the bloom opens naturally, and is collected by bees or blown away by the wind fairly soon, so pick freshly opened flowers for your pollen. A few weeks after your cross is made, if the ovary begins to swell into a pod, you know you have a "take". Otherwise the ovary will dry and drop off

ADDRESSING THE SPECIES

Hybrids have a tendency to grab center stage but Siberian species are where it all started and are of interest to many of our members.

What is a species? It seems that this should be an easy question to answer, but start asking a few questions of yourself, as I did, and you become less certain. For help I turned to two of our Northwest species experts, Roy Davidson and Jean Witt, and asked them to address the species concept for us - Roy in strictly botanical terms and Jean in a question and answer format, clarifying some points about species as they relate to irises, AIS and show judging. Jean asks us to keep in mind that some of the answers represent her personal opinions as guided by the Judges Handbook and do not represent any kind of official opinion.

Some general background:

According to the Encyclopaedia Britannica, species are groups of organisms sharing many traits, or characteristics in common. The readily observable distinctiveness of most species results from the fact that individuals belonging to different species rarely interbreed and the traits of one species are, therefore, seldom transferred to another. The process of species formation (speciation) takes a very long time and consequently cannot be observed. Speciation can conveniently be divided in to alopatric speciation (species formation in reproductive isolation) and sympatric speciation (species formation in the absence of geographical isolation).

This reproductive isolation is a key feature of the biological species concept; as we move field collected species around and bring them together in the garden, reproductive isolation breaks down and previously unknown hybrids result.

Ed.

EVOLUTION OF THE SPECIES CONCEPT

BY ROY DAVIDSON

The word species while innocently seeming to be exact enough, has been construed in various ways so that now it has so many connotations that it is not easily defined. Originally it was applied as an "absolute" - the God-given creatures and plants.

The main purpose here is to discuss the species concept as it relates to irises. First, the subject of names as they pertain to iris species. We are not all familiar with the way official Latin names are given and why sometimes a familiar name is rejected, thus necessitating a name change. This is annoying but unavoidable. We all agree that accurate nomenclature is essential as a means of identification as well as for the communication of ideas. But it only works without a hitch if there is only one name for each species and one species for each name, this ideal of the Linnaean binomial system, is seemingly very simple and basic, but this is not really so.

Father Linnaeus, rascally old fox, didn't actually invent our so-called binomial system of botanical nomenclature at all; zoologists as well as other botanists were at work on their own systems and he borrowed, pilfered, swiped, lifted and stole outright from all his contemporaries. Yet through connections in high places and thereby a profusion of writings, he managed to top the field of controversial botanical authors in a day before copyrights. It has been said that "As Change was his motto, so also Ego was his master". His binomial concept, originally a patchwork of false facts tied to an idea, has been subjected to on-going revision according to increased understanding of the workings of nature, and as such it continues to serve.

The first of the two parts of the binomial (Iris) is the "generic name", a proper noun that tells how the subject relates to the system (Iridaceae, in this case almost too easy). In a genus there may be only one species or there may be several to very many; each is given a separate second name, called the "species epithet", a modifying adjective which tells which type of iris we intend: Iris sibirica (Iris of Siberia since

Linnaeus believed his specimen had come from there) or the "bloody iris" (Iris sanguinea, so named for the brilliant color of the spathe). These are, of course, the two species we are principally concerned with here, though about a half-dozen more are near-related as the Chinese Siberian irises of the Chrysographes subseries. Forever attached to all names is both a description and a type specimen that help to define its special characteristics. This practice was not original with Linnaeus and came much later. Linnaeus himself was not an active botanical collector, having made only one single foray into Lapland to observe how Nature works. We often carelessly write "collected by Linnaeus" in discussing the Linnaean species. He found no irises in his lifetime; his many irises were all lifted from previous authors/collectors whose names are mostly forgotten since science decided to follow a "Linnaean system" even though it was entirely unnatural originally!

By analytical comparison it is possible to identify any iris (or other plant) except in those rare cases of a really new one never seen before such as I. typhifolia. After thorough comparison with all others of its genus, it may be published under an original binomial as was, for instance Iris acuta Willdenow 1813 (a decision later reconsidered by Dykes, whereupon acuta was relegated to a subspecies or variety). As many botanists over the years contributed to the publication of names it became a practice to append for reference purposes the name of the author plus the year; these are not actually part of the binomial, and they do cause a bit of confusion for the novice.

When it became occasionally necessary to decide which of several published names for what was thought to be the same species should be the accepted (correct) one, the logical decision was that the earliest one should pertain. This is called the "priority rule". We had, for example I. extremeorientalis, I. nertschinskia, I. orientalis and I. sanguinea, all seeming to allude to plants essentially similar. The earliest was I. sanguinea as published by Donn for Hornemann (1811) and that name is now accepted. Iris sibirica is referred to as a "Linnaean species" (often abbreviated to a mere "L.") published by Linnaeus in 1753, and it is one of the few species of iris not confused with a lot of synonymous nomenclature (Dykes did cite as

many as eight that had accumulated, but they have long since been put down to synonomy, although I. sibirica "acuta" still persists in the sense of being an identifiable cultivar).

A species in cultivation is one originally taken from the wild. It may have been collected as a division or a small seedling or it may have been grown from seed taken from the wild. It also may have come from seeds of plants in culivation for many generations so long as there was no opportunity for it to have become "contaminated" by pollen from another species. Beware of any real aberration from normal species characteristics among wild plants; a strange tall, different plant growing with I. tenax in a northwest Oregon pasture proved to be a Cal-Sibe hybrid, apparently due to pollen of a Siberian iris flown in by bees from a nearby garden!

The two species I. sibirica and I. sanguinea remained untainted in cultivation in different parts of the world due to isolation one from the other until the oriental (sanguinea) species was brought to Europe about a century ago. Since then the genes have become so mixed that plants no longer represent either species (Bull. AIS, July '89).

CLARIFYING THE SUBJECT OF SPECIES AND HYBRIDS FOR GARDENERS AND JUDGES

BY JEAN WITT

Q: What is a species as defined by AIS?

A: A species as we use it in SIGNA and AIS may be:
(a) A clone collected in the wild.
(b) A seedling grown in the garden from seed collected in the wild.
(c) A seedling grown from garden seed, even though it may be many generations from the wild.
In the above three examples, the plant must of course conform to the characteristics for that species).
(d) A selection ... any of the above ... with particularly shapely flowers, better color, more buds, better substance etc. Such a

selection might eventually be named, after which only clonal divisions are entitled to that name.

A case in point, my Alaska Blue I. setosa strain came from seed put out by an Anchorage nursery company. My guess is that they represent selection for extra good blue color and extra buds, but they are still I. setosa. Pink flowered and white flowered forms have been reported from the wild in Alaska. These eventually will join the white Japanese setosa, "Kosho-en" in our gardens. The AIS Native American Iris brochure shows a double flower of the small eastern North American form of I. setosa, ssp. canadensis: I've had single season doubles in an eastern Asian strain. All of these are I. setosa. In wild populations such traits tend to be swamped and disappear, but in ornamental horticulture we save them. I. setosa, as a cultivated plant, could in time drift as far from the wild type in form and color as Japanese iris cultivars are from the wild I. ensata.

A judge should be able to recognise hybrids. However, in practice this is asking too much -- in Californicae it can be very difficult!

Q: Is it possible to keep a species pure, or have most of the iris species in our gardens been contaminated over years of cultivation?

A: In irises this depends whether the species belongs to a section or series that hybridizes readily. I. ruthenica for instance, alone in its series, poses no problem. On the other hand Oncos, Bearded, Pacific Coast Natives and 40 chromosome Siberian species cross readily both in the garden and in the wild. Species in such groups need to be isolated to keep them true. The idea that species could hybridize in the wild was not widely realised or understood when Small and Alexander happened on to the hybrid swarms of Louisianas and made such a taxonomic hash in the 1920's. Edgar Anderson's study and resolution of hybridity in this group, is a classic (Introgressive Hybridization, John Wiley & Sons, N.Y. 1949). When I was in graduate school one of my professors caught the common diploid European salsifies ... weeds in the wheat fields of eastern Washington...not only hybridizing, but producing an occasional fertile tetraploid hybrid. This is one of the ways new species are formed.

Q: Is it acceptable for a person to cross clones of the same species or are such progeny then hybrids?

A: Certainly it's acceptable! Right now I'm intercrossing my clones of I. unguicularis, hoping to increase their color range. The resulting seedlings will still be I. unguicularis, just the same as if the insects had done it.

Webster defines hybrid as "an offspring of two animals or plants of different races, breeds, varieties, species or genera". In bearded iris breeding our hybrids are produced largely from crosses between named varieties; in the remainder of the genus we work with both species in the botanical sense and named varieties in the horticultural sense. Occasionally, as in the case of X Pardancanda norrissii, we have an intergeneric hybrid. We call them all hybrids. We may need to be more definitive in the future.

My personal preference would be to restrict the term "species hybrid" to hybrids close to the original species X species cross -- F_1, F_2, possibly F_3 (many are sterile, and go no further than F_1). Advance generation hybrids quickly become "varietal hybrids" which we customarily (and correctly according to Webster) refer to simply as "hybrids". Some horticultural groups have many species in their background (i.e. bearded irises); others such as the Japanese have only a single species. Yet we refer to new varieties of both as hybrids. It would be more accurate to call the latter derivatives of I. ensata, but we don't do it. In determining a cut off point between "species hybrids" and (varietal) "hybrids", the number of generations involved may be less important than the amount of change that takes place -- width of petal, ruffling, doubling, extra buds, change of bloom season etc. More study is needed on this subject.

Q: If species seedlings vary from the original, how do you know if this is natural variation, or if the cross has been bee contaminated with pollen from some other species?

A: Albinos, doubles, size changes etc. are within-species variation since these are caused by one or a few mutations in the plant. Marked changes in flower form or color, combining of traits from two species in a single flower, or sterility (but not

always) may be a tip off to hybridity since they indicate a comprehensive mixing of two gene pools. For instance ... last spring among my PCN'S I spotted a seedling with the deep violet color of I. tenax and the long perianth tube of I. macrosiphon; another little fellow had the linear, striped petals of I. chrysophylla and the pink color of I. tenax. The bees had been busy! The Cal-Sibe FAIR COLLEEN (Mahood '66) showed up in a group of I. douglasiana seedlings; its stiff, straight stem and Siberian-like flower set it off from the rest. This is why I send out my 40 chromosome Siberians as mixed 40's -- I can watch the bees mixing them Clonal divisions of the plants that match the plates in Dykes' The Genus Iris, I can distribute as I. forrestii, I. chrysographes etc. Seedlings of those plants (growing as they are in a patch of 40's) might be authentic, but the percentage of hybrids is likely to be large ...not a bad thing since great color breaks result. A single species, grown by itself in the garden, should come true from seed.

Q: Do all species seedlings on the show bench have to be the result of bee crosses.

A: No way! They may be bee or hand pollinated crosses. Entrants should realize, however, that garden bee seed from PCN or 40 chromosome Siberian collections may give hybrids. "But I raised it from seed from I. forrestii" doesn't guarantee purity. Prying open buds and hand pollinating is necessary to rule out hybridity. If the original plant is true it should duplicate itself. A great deal of variation in color would indicate it is probably a hybrid.

Many initial examples of our various types of hybrids have originated as bee crosses in gardens ... this is true throughout ornamental horticulture. Hybridizers repeat the crosses, often improving on them: "Anything you can do I can do better". Cal-Sibes are an example of such a group.

Q: Are bee crosses between I. sibirica and I. sanguinea still species.

A: Such a cross would qualify as a species hybrid -- to be completely accurate, an inter-specific hybrid. In the present state of Siberian iris

development, such a cross would have to produce something highly unusual to be worthy of notice, or to be worth entering in a show anywhere except in an educational exhibit illustrating Siberian iris origins. Bee seedlings of modern named Siberian varieties would not qualify either as species or species hybrids. When many generations of development follow original inter-species crosses, as in the Siberians, seedlings are simply hybrids in the usual varietal sense.

If F_1 seedlings from an initial cross between species are worthy of note, they may be entered in a show as species hybrids. F_2 seedlings may also qualify as species hybrids ... descendants of HOLDEN CLOUGH for instance. These might be HOLDEN CLOUGH X HOLDEN CLOUGH or HOLDEN CLOUGH X unknown. At the present time, where crosses of this type are few in number and development of the group very limited, the few named clones are best included in the "species hybrid" category. However, for any group which has burgeoned and become numerous, the shift to varietal hybrid status can be considered to have occured.

Q: Does it matter that the two species would not be found growing together in the wild.

A: No! Species hybrids are not limited to those which come together naturally in the wild. We have many instances of things like "Pal-tec", "Versi-laev". etc. These are commonly referred to as "wide cross hybrids", in contrast to the intra - series hybrids in PCN's and 40 chromosome Siberians.

Q: Are all forms and aberrations (four parts for example) acceptable within a species as long as they occur naturally.

A: Color forms and aberrations of species may have been found in the wild or may have turned up in gardens. Actually, we are always looking for color forms of species, whatever their source. An example of a markedly different color pattern found in the wild, is the PCN VALLEY BANNER, with its white standards with purple midrib, purple styles, and white falls striped purple. Additional examples of this pattern have since been found in other locations, and it is being carried forward in gardens. The original is now considered to be a

hybrid between I. tenax and I. chrysophylla, which are selfs with varying amounts of signal.

The wealth of horticultural material that we enjoy in gardens today, is the result of generations of sharp-eyed plantsmen saving variations from the norm. The longer the history of horticulture in an area, the richer the variations. England and Japan have produced more than the eastern U.S., and the eastern U.S more than the western U.S.

Some natural oddities such as Peloric foxgloves and fasciated conifers might be considered of doubtful "beauty". In my book, six petalled double irises are acceptable, even desirable; four petals are an error. This may be my personal prejudice, but somehow four petals in an iris are not visually pleasing. Many of the little double I. setosas don't quite manage to produce six well-formed falls. A mixture of vestiges and complete petals is not acceptable. Doubling should be good doubling. Conversely, the I. pseudacorus variety DOUBLE EAGLE is a very messy flower; yet since its messiness is typical of that variety it cannot be down graded on the showbench. We can hope, however, that someday we will have a fine, regular six-petalled I. pseudacorus and that DOUBLE EAGLE might quietly disappear. Be careful what you name!

Q: Can Japanese Irises (garden varieties) be exhibited as species, and if not, why not?

A: No, modern Japanese varieties do not qualify as species, even though they are derived from a single species I. ensata. They have developed too far away from the original as discussed in question three. An albino flower obtained from wild type I. ensata could be included as species. So could a double flower obtained directly from the wild type.

Q: Since induced and naturally occurring tetraploids are reproductively isolated and morphologically distinct, are they and their progeny considered a separate species.

A: No. Some species have both diploid and tetraploid forms. Tetraploid forms of diploid hybrids can become new species can become new species if they are capable of persisting and multiplying.

Q: Can species hybrids be exhibited and awarded for AIS purposes as "species" or do they have their own section.

A: AIS and SIGNA are currently working on this problem. The increasing numbers of wide-cross hybrids ('88 checklist has numerous examples) makes it advisable to have awards for these, separate from species proper. Show schedules should provide both species and species hybrid classes in areas where they are grown and exhibited. Awards are under discussion at the present time. We hope they will be implemented in the not too distant future.

FAVORITE 15 BALLOT

The response to the 1990 Favorite 15 ballot has been very positive. Two hundred and twenty six cultivars were someone's favorite which is wonderful since it means that at least this number of Siberians are in general cultivation and giving pleasure to people. We had responses from Canada, Japan and twenty four states in the U.S.

1.	Lady Vanessa	37 votes
2.	Shirley Pope	31
3.	Jewelled Crown	27
4.	Butter and Sugar	22
5.	Pink Haze	21
	Ruffled Velvet	21
6.	King of Kings	20
7.	Harpswell Happiness	19
	Temper Tantrum	19
8.	Heliotrope Bouquet	17
	Windwood Spring	17
9.	Indy	16
	Jamaican Velvet	16
	Lavender Bounty	16
	Pas-De-Deux	16
10.	Sultan's Ruby	14
11.	Jaybird	13
12.	Dance Ballerina Dance	12
	Dancing Nanou	12
	Regency Buck	12
	White Swirl	12
13.	Esther C.D.M.	11
	Flight of Butterflies	11
	Mabel Coday	11
	Steve Varner	11
	Super Ego	11
	Wizardry	11
14.	Percheron	10
	Silver Edge	10
15.	Silver Illusion	9

1990 REGISTRATIONS AND INTRODUCTIONS

BERLIN BLUE MOON (T. Tamberg, R. 1990) SIB (diploid), 24" (60cm), M. Clear light mid blue. Unknown parentage. Friesland Staudengarten 1990.

BERLIN RUNDE (T. Tamberg, R. 1990). Sdlg.SST171. SIB (diploid), 20" (50cm), M. Medium greyish blue. ((Cambridge x self) x self) X Blue Rosebud. Selected for trial at Wisley 1985. Schoeppinger Irisgarten 1989.

BOBBY LEE EVANS (A. Bouldin, R. 1990). Sdlg. 81-1. SIB, 28" (71cm), M. Deep violet blue self. Swank X unknown.

BUTTERMAKER (A. Cronin, R. 1990). Sdlg. F-27. SIB, 29" (74cm), LM. S. white with 3 yellow lines at midrib; white styles with 2 yellow lines at midrib; F. yellow (RHS 6B), 3 deeper yellow lines at midrib, 1 cm. white edge at hafts to 2 1/2 cm. at end of blade; yellow beard. Floating Island X Dreaming yellow.

CHATTER BOX BELLE (C. McEwen, R. 1990). Sdlg. T783/135(7). SIB (tetraploid) 32" (80cm), E-M. Blue violet (RHS 83B to 89C) blend, large stippled white signal, T678/57, sdlgs. inv. Blue Brilliant, White Swirl, Violet Flare, Polly Dodge, Pirouette X Windwood Spring.

CHEERY LYN (A.M. Miller, R. 1990) Sdlg. 85-20-15. SIB 37" (94cm), E. S. lilac (RHS 76C) with blue lines; white style arms; F. deep pink (75A-76A) veined blue (97A), white edge, green eye. Aqua Whispers X Lavender Bounty. EC 1990.

CLEETON WATERCOLOUR (J. Hewitt, R. 1990). Sdlg. F812/B3. SIB (40chr.), 30" (75cm), M-L. S. pale violet blue (RHS 92C), deeper (92A) edge; F. deep violet blue (93B) around signal, pale violet blue (92C) on lower blade, darker violet central vein and edge, light yellow signal, deeper at center, veined and spotted deep violet blue (93B). Cleeton Moon X yellow sdlg. ST(Wisley), SC (BIS) 1988.

CORONATION ANTHEM (R. Hollingworth, R. 1990). Sdlg. 87P1B6. SIB (tetraploid), 32" (81cm), M. Ruffled mid to deep blue, large creamy yellow blaze that fades to white; lighter blue style arms with red tinges. Jewelled Crown X (82 J3B1: (Super Ego x Anniversary) x 80U4C6, Windwood Spring sib). Windwood Gardens 1990.

DANGER ZONE (C. Helsley, R. 1990). Sdlg. 86-6. SIB, 30" (76cm), M. Medium wine red, large white signal. Kismet X Thespian.

DEVIL'S DREAM (M. Schafer/J.Sacks, R. 1990). Sdlg. S 85-13-3. SIB, 33" (84cm), L. S. wine red (richer and darker than RHS 77A); F. velvety red (richer and darker than 72A), purple blaze around signal, ruffled; lighter red (90B) styles. Percheron X Purple Prose. Joe Pye Weed's Garden 1990.

DOTTED MISS (C. Helsley, R. 1990). Sdlg 87-1. SIB, 30" (76cm), M. Light lavender pink dotted violet pink, gold signal; creamy white styles. Pink Haze X Corey's Pink.

DRAMATIC PRELUDE (C. Helsley, R. 1990) Sdlg. 86-86. SIB, 28" (71cm), M. S. deep blue violet; violet blue styles veined red violet; F. very deep blue violet with reddish infusion on hafts and occasionally on edge, large round gold signal; heavily ruffled. Ruffled Velvet X Halcyon Seas.

DREAMS (C. Mahan. R. 1990). Sdlg. 90901. SIB, 36" (91cm), EM. Deep red violet, green at hafts, changing to gold, large white blaze extending from gold signal. "Kamayama" X unknown.

EISBLUME (U. Knoepnadel, R. 1990). SINO-SIB (40chr. diploid), 39" (100cm), M. S. white; yellow styles; F. white with a few violet spots, yellow signal. 40chr. Sino-Sib sdlg. X unknown. Friesland Staudengarten 1990.

EMMA RIPEKA (F. Love, R. 1990). Sdlg. GW 2/10/59. SIB, 36" (91cm), M. S. mid blue; sky blue style arms; F. dark blue. Sdlg. X self.

FAIRY FINGERS (A. & D. Willott, R. 1990). Sdlg 85-71. SIB, 18" (46cm), M. S. narrow white, firmly incurved; prominent white styles; F. short and narrow white, full yellow signal. Snow Queen X unknown. HC 1990.

FOUR WINDS (H. STAHLY, R. 1990). Sdlg. 8-49-A. SIB, 32" (81cm), M. S. mid blue (RHS 97D); medium blue style arms with deep aqua midrib; F. flaring and arched medium blue (96D), veined slightly darker, yellow green signal blending to short spray pattern and dark blue halo; ruffled. Super Ego X Sally Kerlin.

GLANUSK (H. Foster, R. 1990). Sdlg. R38/87. SIB (tetraploid), 38" (97cm), M-L. S. laced bright mid blue, fine silver edge, gold hafts, discreet white signal. Harpswell Happiness X Dear Dianne. ST (BIS) 1990.

GLASLYN (H. Foster, R. 1990). Sdlg. R47/87. SIB (tetraploid), 38" (97cm), M-L. S. laced cambridge blue; azure style arms; F. rich slate blue, heavily textured, small white, gold and green signal; ruffled. Harpswell Happiness X Dear Dianne. ST (BIS) 1990.

GREEN EYED QUEEN (S. Varner, R. 1990). Sdlg. 7083. SIB, 28" (71cm), E-M. S. light grape veined deep purple, deep purple bar near base; ruffled styles with aqua mid rib; F. light grape with deeper purple veining and wash in center, light green shaft bar-like eyes; heavily ruffled. Temper Tantrum X 3133: (Ruffled Velvet x Dutch).

HANNI (T. Burge, R. 1990), Sdlg. T101/86. SIB, 27 1/2" (70cm), M. S. mid blue; fimbriated styles and crests; F. mid blue (fading to lighter shade), small white arrow signal, yellow in throat. T31/84; (Dear Dianne x Happy Event) X McEwen T5 75/83/1. STW (BIS) 1989.

HARPSWELL SNOWBURST (C. McEwen, R. 1990). Sdlg. T683/37(3). SIB (tetraploid), 36" (90cm), E-M. S. blue violet (RHS 94C) veined darker (95B); F. same, edged silver, large stippled white signal. T575/83(1): (T472/10(1), inv. White Swirl, Snowy Egret, Pirouette, Morning Magic, Fairy Dawn, McGarvey pink sdlg. x (Sally Kerlin x Cambridge) X Windwood Spring.

HARPSWELL VELVET (C. McEwen, R. 1990). Sdlg. T383/107(6). SIB (tetraploid), 32" (80cm), E-M. S. dark blue purple (RHS 89A-86A); 1" styles; F. darker velvety blue purple, white signal. T280/260(2) X T678/57, both inv. sdlgs. going back to many generations of Blue Brilliant, White Swirl, Violet Flare, Pirouette, Polly Dodge and Tealwood.

HOAR EDGE (J. Hewitt, R. 1990). Sdlg. T782/1. SIB (56 chr. tetraploid), 30" (75cm), E-M. S. dark violet blue (RHS 89B); F. velvety dark violet blue (89B), fine white edge, small creamy white signal with diffused edge. Laurenbuhl X McEwen T2 66/38LB. ST (Wisley), SC (BIS) 1988.

IAN (T. Burge, R. 1990). Sdlg. T21/86. SIB, 29 1/2" (75cm), M. S. ruffled mid light blue with traces of mauve; prominent styles; F. mid blue with traces of violet; white signal veined blue, yellow in throat. T31/84: (Dear Dianne x Happy Event) X sib. SC, STW (BIS) 1988.

ILLINI RUBY (D.S. Varner, SIB, R. 1987). Illini Iris 1990.

I. typhifolia KITAGAWA (Prof. Zhao by James Waddick, R. 1990). SIB (28 chr.), 24" (61cm), E-M. S. deep reddish violet; F. same, paler at hafts. Native to N.E. China.

JAC-Y-DO (H. Foster, R. 1990). Sdlg. J333/85. SIB (tetraploid), 36" (91cm), EM. S. rich purple blue; F. deep rich navy blue, kingfisher blue spot in center, silver edge, soft beige signal edged white, Silver Edge X Hubbard. SC (BIS) 1990.

JEAN'S DELIGHT (J. Collins by H. Collins, R. 1990). Sdlg. 82/S6. SIB, 26" (65cm), L. S. pale lavender marked and veined deeper lavender blue; F. pale lavender edge, deepening toward center, golden yellow hafts with creamy edge, veined and spotted violet purple; ruffled; ice blue styles with deeper center markings. Foretell X unknown.

JEVER HARLEKIN (U. Knoepnadel, R. 1990). SINO-SIB (40chr. diploid), 23 1/2" (60cm), M. Dark blue violet, large white spot on F., small yellow brown signal. 40 chr. SINO-SIB sdlg. X unknown. Friesland Staudengarten 1990.

JEVER SILBERPFEIL (U. Knoepnadel, R. 1990). SINO-SIB (40 chr. diploid), 18" (45cm), EM. Light yellow with some veining on F., yellow signal. 40 chr. SINO-SIB sdlg. X unknown. Friesland Staudengarten 1990.

JEVER VULKAN (T. Tamberg by U Knoepnadel, R. 1990). CA-SIB, 31 1/2" (80cm), EM. Light yellow melon with heavy burgundy veining and intense orange center on F., orange signal. Unknown parentage.

Friesland Staudengarten 1990.

KARIN (K. Mildenberger, R. 1990). Sdlg. 7/77. SIB, 33 1/2" (85cm), M. Blue; light blue style arms. Mountain Lake X White Swirl.

LADY LILAC (C. McEwen, R. 1990). Sdlg. T282/123(2). SIB (tetraploid), 32" (80cm), VE-M. S. and feathered styles form white cup with 3 large purple spots at bottom; F. pink lilac (RHS 81D), darker around green signal and lighter at edge, green hafts; ruffled. T176/38B: (Lavender Light x Augury) X T176/38K, sib.

LANG (C. & M. Bacon, R. 1990). Sdlg SB-85-1. SIB, 25" (64cm). M. S. dark violet blue (RHS 89A); lighter (89D) styles; F. very dark violet blue, gold signal. Blue Pennant X unknown.

LAVENDER STIPPLES (A. M. Miller, R. 1990). Sdlg. 85-49-8. SIB, 30" (76cm), M-L. S. white with a few violet (RHS 88B) lines; F. white, infused and veined violet (88B). Esther C.D.M. X Almost a Melody.

LILTING LAURA (A. M. Miller, SIB, R. 1989). Old Douglas Perennials 1990.

LINDA MARY (J. Cooper, SIB, R. 1988). Cooper's Garden, Redbud Lane 1990.

MEMPHIS MEMORY (D. S. Varner, SIB, R. 1989). Illini Iris 1990.

MISTY MEMORIES (C. Helsley, R. 1990). Sdlg. 88-2. SIB, 26" (66cm), M. S. light blue violet veined dark blue violet; blue violet styles veined brilliant blue; F. smoky blue violet, 1/4" lighter blue violet edge, gold signal; ruffled. Unknown parentage.

MOON SILK (H. Stahly, R. 1990). Sdlg. 85-1-A. SIB, 28" (71cm). M. S. creamy white; creamy white style arms; F. widely flaring pale yellow, orange yellow signal, small yellow green veins radiating outward; ruffled. Super Ego X Sally Kerlin. EC 1986.

MYSTIC LAGOON (A. & D. Willott, R. 1990). Sdlg. 86-87. SIB, 24" (61cm), M. Lightly ruffled violet blue, deeper hafts, inconspicuous signal; violet blue styles, blue midrib. Unknown parentage. EC 1987, 1990.

NORMA L (G. Loveridge, R. 1990). Sdlg. L83-16. SINO-SIB, 30" (76cm), M. S. creamy yellow; F. creamy white with violet haze towards hafts, violet veins radiating from hafts. I clarkei X I. delavayi white hybrid.

PONTYPOOL (H. Foster, R. 1990). Sdlg. J318/85. SIB (tetraploid), 42" (107cm), M-L. S. purple blue; azure style arms; F. rich purple blue, fine silver edge, white signal, golden green shoulders. Hubbard X Silver Edge.

PRAIRIE IN BLOOM (G. Gaddie, SIB, R. 1989). Gaddies' Gardens 1990.

PURPLE SAND (A. M. Miller, R. 1990). Sdlg. 85-49-4. SIB, 36" (91cm), M & RE. S. light violet (RHS 85B); pale violet blue style arms; F. light violet veined darker. Esther C. D. M. X Almost A Melody.

RICKLINGER YELLOW (H. Moos, R. 1989). Sdlg. 84/55A. SIB (diploid), 23 1/2" (60cm), M. S. white; F. light yellow, dark yellow signal. Gelbe Moeve X Creme Chantilly.

SEA VOYAGE (C. Helsley, R. 1990), Sdlg. 87-26. SIB, 30" (76cm), M. S. medium blue, veined violet; light red violet styles veined blue; F. medium violet, bright gold signal; ruffled. Ruffled Velvet X unknown.

SHAKER'S PRAYER (C. Warner, SIB, R. 1989). The Iris Pond 1990.

SNOW PRINCE (S. Tiffney, SIB, R. 1988). Pope's Perennials 1990.

SWANSEA (H. Foster, R. 1990). Sdlg. J310/85. SIB (tetraploid), 36" (91cm), L. S. rich purple blue; F. same, strong silver edge, white netted signal, gold shoulders, green hafts. Reddy Maid X Silver Edge. SC (BIS) 1989.

TIFFANY LASS (C. McEwen, SIB, R. 1988). Pope's Perennials, Seaways Gardens 1990.

TWIGHLIGHT THOUGHTS (C. Helsley, R. 1990). Sdlg. 86-3. SIB, 24" (61cm), M. S. light blue veined dark blue; light blue styles veined turquoise; F. medium blue veined darker, slightly darker blue violet edge; signal yellow in throat changing to

creamy white; ruffled; slight sweet fragrance. Ruffled Velvet X unknown. EC 1989.

VICKI ANN (B. Warburton, SIB, R. 1989). Joe Pye Weed's Garden 1990.

VIEL SCHNEE (T. Tamberg, R. 1990). Sdlg. SSTT177. SIB (tetraploid), 37" (95cm), M. White. McEwen white tet. sdlg. X Tamberg white tet. sdlg. Friesland Staudengarten 1990.

VIOLET BLAZE (J. Collins by H. Collins, R. 1990). Sdlg. 84/S6. SIB, 30" (75cm), ML. S. deep lavender with dark blue midrib; deep lavender style arms; F' violet with red infusion, lighter in center, lined with dark blue from hafts. Unknown parentage.

WAR MARCH (C. Helsley, R. 1990). Sdlg. 86-4. SIB, 30" (76cm), EM. S. deep red violet; F. slightly lighter deep red violet, lighter under gold and white signal; ruffled. Kismet X Thespian.

WELFENPRINZ (M. Ahlburg, R. 1990). SIB 27 1/2" (70cm), M. S. sream white; F. yellow. (McEwen Sdlg. x Butter and Sugar) X ((Dreaming Yellow x Cambridge) x McEwen 69/70/7).

WELFENPRINZESSIN (M. Ahlburg, R. 1990). SIB (diploid), 29 1/2" (75cm), M. S. white; F. yellow (RHS 2B to 2C to 2D). (Welfe x McEwen 69/70/7) X McEwen sdlg.

WELFENSCHATZ (M. Ahlburg, R. 1990). SIB (28 chr.), 21 1/2" (55cm), M. S. cream white; F. yellow (RHS 5B to 2B). (Welfe x McEwen 69/70/7) X McEwen sdlg.

WINDWOOD SERENADE (R. Hollingworth, R. 1990). Sdlg. 82H3A5. SIB (diploid), 27" (69cm), VE-E. Deep red violet with very small white blaze; ruffled F. Showdown X Indy. HC 1988. Windwood Gardens 1990.

WINGS OF NIGHT (C. Helsley, R. 1990). Sdlg. 86-8. SIB, 30" (76cm), E. Ruffled and flaring wine red with red violet area below signal; signal gold in throat, white on F.; deep black wine styles. Kismet X Thespian. EC 1990.

SIBERIAN IRISES 1990 AND SOME NEW CONSIDERATIONS IN EVALUATING THEM

BY JULIUS WADEKAMPER

After re-reading the chapter on Garden Judging of Siberian Irises in the Handbook for Show Officials and Judges of the AIS I have come to the conclusion that we have to be much more encompassing and accurate in those aspects of judging that can be measured i.e. the physical aspects of the plant and flower. One thing is certain, you cannot evaluate Siberian irises by one observation made on one day in one garden. I think we need to rethink this whole area. I would divide the aspects of judging into two sections:

1. Those which can be measured accurately with a ruler or by time.

2. Those aspects that lie with the subjective experience and expertise of the judge.

MEASURABLE QUALITIES	SUBJECTIVE JUDGEMENTS
Area of the standards, falls and style arms.	Flower color (assumimg it is not completely washed out)
Angles of the standards and falls	Form, grace
Number of branches and buds.	Ruffling (some tailored irises are pleasing)
Number of bloom days of the flowers	Flower personality
Foliage throughout the year	Size and symmetry.(Can you say that a 2" flower on a 3' plant lacks proportion when the plant is covered with 100 flowers in a
Placement of the flowers with regard to the foliage	

Substance, texure and durability	vertical space of 8-10" all above the foliage?)

The following are my thoughts on some of these areas and a couple of others based in part on our 1990 season in Minnesota.

Length of bloom

Length of bloom is often equated with the number of buds and branches. I am more concerned with the length of the bloom season than I am with the number of buds for the simple reason that if two buds in a socket open together or even one day apart the overall aspect of beauty is lost. If a plant opens single flowers over a longer period it is better than one with four or five buds where two in a socket consistently open at about the same time. LAVENDER BOUNTY won the longest season award for me in 1990 with flowers open every day from May 28th to July 8th. Anna Mae Miller collected some of the best data I've seen in terms of the length of bloom of each cultivar. This is valuable information and I for one would like to see it collected in many areas of the country. One warning might be in order for anyone planning to do this; we should use fully established clumps. A first or even a second year clump may not do justice to the cultivar.

Foliage throughout the year

Juxtaposition of bad and good foliage in the seedling patch (Hollingworth photo)

Consideration of the total plant is very important. More and more landscapers are using Siberians in mass grass-like plantings and upright, compact and neat foliage is very desirable. JAMAICAN VELVET (McGarvey '83) walked away with honors in this catagory. It has perfect foliage with the added bonus of beautiful golden fall color. We had a very long and pleasant autumn this past year and it put on a beautiful foliage show for over three weeks. The demeanor of foliage throughout the year is also important in perennial borders. There is a great deal of variability in foliage color ranging from light to dark green and including blue-green and width of leaf is another variable. Both these aspects are subjective in their nature - it depends on what pleases you.

Placement of the flowers

The placement of the flowers with respect to the foliage is very important. I know of a couple of newer cultivars with exotic flowers that bloom down in the foliage. Often there is a spurt of growth in the foliage just as the buds are opening, burying the beautiful flowers down in. I will refrain from naming them until I have made further observations.

Reliability

This is another important factor in selecting good Siberians. Of course it is better if they grow well in all parts of the country but not all of them do. I have had no luck at all with two or three cultivars even after trying them several times and in several different locations. I do not think that all Siberians should be expected to do well everywhere. Hybridizers could be working on plants that do well in their part of the country. Some may do better on more alkaline soils or in warmer climates. The nod goes to those that do well in most areas but we should not preclude those that adapt well only in certain conditions.

Personality

The personality of the flower is another important characteristic, though a subjective one. A flower with grace and flare combined with good color combination and ruffling gives us pleasure. I find one particular older white tetraploid with thick stems and propeller shaped flowers much less attractive than some others. SNOWY MOUNTAIN

(Johnson '87) won the personality award for me in 1990. Ruffled, wavy, graceful, very durable holding up well after a storm, and its white and yellow haft color combination with its green veins fulfilled my idea of a flower with a lot of personality. This is one of those areas that cannot be accurately measured and the latitude of the judge is wider. The more formal whites like GULL'S WING (McGarvey '88), KING OF KINGS (Varner '82) and WING ON WING (McGarvey '69) are also very nice. My favorite Siberian this year was SHIRLEY POPE (McEwen '79). The beautiful deep ocean blue of this flower had been overlooked by me previously.

During the 1990 season I collected some data on 15 of the 30 white flowered Siberians that I grow. In organizing these data I realized how little significant information we really have about Siberians. It will take some real dedication and time as well as guidance about what kind of data would be significant to collect in order to correct this situation. I hope this article will give some indication of that and in the years to come we will work toward accumulating and coordinating this data

In closing I would like to hear your thoughts on judging Siberians and encourage you to observe your varieties carefully and to get measured observation of bloom time. I think that only after compiling this type of data can we make informed decisions about any particular cultivar. Of course we always can, and will, grow the exotic cultivar that produces one flower and lasts for one day because we love it.

Anna Mae would like to co-ordinate a project to collect data on length of bloom from various regions. Why not make a list <u>now</u> of perhaps 10 or 12 cultivars in your garden. Make a grid with the dates above each column. Then X in the dates on which each flower is in bloom this year (if you can't do 10 or 12, try half that amount or double if you have time). It is <u>very important</u> to choose only well established three year (or more) clumps that are healthy and growing under similar conditions. Otherwise the comparisons won't mean much. Send the results to Anna Mae Miller, 6065, Old Douglas Rd. Kalamazoo, MI.

UPDATE ON MY SIBERIANS

BY CURRIER MCEWEN

Thinking over my own Siberian irises for this article has made me realize anew how important it is for us to have our own SSI convention. We rarely see the newer Siberians (or see them growing suitably) at the AIS conventions, and I have been able to get to so few Siberian iris gardens in recent years that I am sadly out of touch. I do welcome this opportunity to update members on my hybridizing, current goals (listed in TSI Spring '90) and the results obtained in the past few years.

I will start with the goal of obtaining colors that are closer to the true hues. BUTTER AND SUGAR ('77), was our yellow amoena breakthrough; yellow tetraploids also came quite readily, but although richer in color, their form and plant habit were poor. We kept on trying each year using our best yellow tetraploids and finally in 1990 a number of seedlings bloomed with rich color and pleasing form, the latter coming from the other parents, GOLDEN CRIMPING ('85) and DREAMING ORANGE ('87). These efforts continue, crossing the best of the seedlings.

Another goal has been white flowers with lots of green in throat and veins. Our best to date is GREEN PROMISE, registered in 1984 but slow to increase and not currently listed. Stock is now increasing and I trust it will soon be available. Meanwhile, newer seedlings are appearing which are being intercrossed and crossed also with our best yellow amoenas hoping to combine yellow and green.

HUBBARD (1982) is still our best in the red range but a number of new seedlings, some involving JEWELLED CROWN (Hollingworth '87), look promising. An aim in our red breeding is to have green rather than yellow throats and signals. HUBBARD shows this modestly and we hope in time for distinctly green signals.

Blue flowers with gold edges are one of our objectives. Since SILVER EDGE ('74) there have been many flowers with improved form and sharper silver edges but gold edging has come slowly. ADJ ('83) was our first, but the gold fades to silver after a day or two. We have had a few red flowers with suggestions of gilt edges but this pattern is in its infancy.

Another pattern of fairly recent occurrence is what Bob Hollingworth and I have thought of as the sunburst type with signals that seem to burst out on the falls. Bob's WINDWOOD SPRING ('85) and my HARPSWELL SNOWBURST which is new for 1991, are examples.

HARPSWELL VELVET
(McEwen 1991)

Photo: Shirley Pope

Turning to improvents in form. I have been pleased in recent years with the appearance of flowers with wide, round form, exquisite ruffling and wide tufted style arms, often with "feathered" midribs. In some, the style arms are more than an inch wide. This, combined with the tufted tips, adds a new impressive dimension to the flower. REGENCY BUCK ('85) was an early example of this and HARPSWELL VELVET, making its bow this year, is another and there are more to be introduced when stocks permit.

Progress in the development of repeaters continues. The new ones do not surpass SOFT BLUE ('79), BLUE ENCORE ('80), LAVENDER BOUNTY ('81) and EXUBERANT ENCORE ('85), in the amount of repeat bloom, but have improved form. TIFFANY LASS ('90) was the first of these and several new ones from crosses of EXUBERANT ENCORE and HARPSWELL HAPPINESS ('83) should be ready for introduction in a year or two.

My interest in the miniatures continues also. BABY SISTER ('86) is our best thus far introduced

but we are very pleased with several that bloomed first in 1990. One is a white with very round form, exquisite ruffling and a dramatically rich yellow center which will be named SASSY KOOMA (as our daughter pronounced her name at age four) when ready for introduction in a few years. Another (M87/244 (4) is the tiniest Siberian I have yet seen. Blue, about 1 1/2" in diameter and held on stalks about 12" tall. It came from a cross of BABY SISTER and Sarah Tiffney's SNOW PRINCE ('90).

Finally, I turn to the 40 chromosome Siberians. Among these PRAIRIE WARBLER ('81) remains unique (with its three branches plus terminal and eight buds) in this group of Siberians most of which have no branch and two buds. Using it and others I have been trying for years to obtain tetraploids but thus far have failed. I have several of Eckard Berlin's tetraploid or chimeral seedlings. He reports failure in obtaining viable seeds from them and to date my experience has been the same. I will keep trying.

Many of the new cultivars mentioned here will be in the tour gardens for the 1993 convention in Michigan where I look forward to seeing them bloom along with those of other hybridizers. What a great experience that convention will be!

TREASURE HUNT

Does anyone grow the old Siberian VIOLET REPEAT (Brummitt '67)? Pocket gophers got into mine and I lost it completely. It has always been a sure-fire rebloomer for me and I would like to replace it.

If you can help, please contact me at 1621 N. 85th St., Omaha, NE 68114.

Jim Ennenga

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LAST WORD

I mentioned in last spring's TSI that I intend to put a color photo of the Morgan-Wood medal winner on the front cover of TSI each fall. But I can't do that without a good quality photograph. So please hybridizers, no false modesty. If you think one of your irises has a good chance to win the medal, take its photograph. If you don't consider yourself a competent photographer then enlist the help of someone who is. Steve Varner provided a very good photo of both of his last two Morgan-Wood winners and thus claimed the front cover.

For the spring issues I'm particularly looking for photos of Siberians in garden settings.

We are all keen to see Siberians get wider exposure and so it was good to find Currier's BUTTER AND SUGAR, RUFFLED VELVET and SILVER EDGE listed in the 1991 catalog of Vanbourgondiens; a large firm based in New York, and specializing in bulbs and perennials.

Garden writer Alan Lacey wrote some time ago in the New York Times that gardeners were the only remaining letter writers. It is certainly true in our house that personal correspondence fell victim long ago to the telephone which elicits a much more immediate response but doesn't leave anything to digest at leisure. Today's mail contained two personal letters - both from gardeners! One from Mrs. Granger Smith of New York (the Maggie Smith of Siberian fame (McGarvey '76)). It's fun to have an iris "come alive". The letter was full of interesting observations on Siberians and their culture, plus some astute observations. Another from Cathy Boyko in Canada included comments on soil, pests, TSI and other goodies. How much one can learn and enjoy about a person from one letter! There were no bills and no unsolicited catalogs - now thats what a mail should be! Worth the walk to the mail box even on the foulest day!

TREASURER'S REPORT 1991

(to March 1st 1991)

SUBMITTED BY GUNTHER STARK_____

On hand, checking account.....3564.08

INCOME

Dues	3239.06	
Misc. sales	27.00	
Book sales	1401.50	
Check lists	174.49	
Interest	543.93	
Ad. revenue	225.00	
N.E. Apogen Auction	300.00	
Slide rental	35.00	
Total income.....		5945.98
		9510.06

EXPENSES

Spring issue TSI	1212.87	
Fall issue TSI	1214.75	
Deposit box rent	5.00	
Brochures	155.58	
Shipping and postage	181.80	
Envelopes	17.84	
Purchase C.D.'s	2000.00	
Total expenses.....		4787.34
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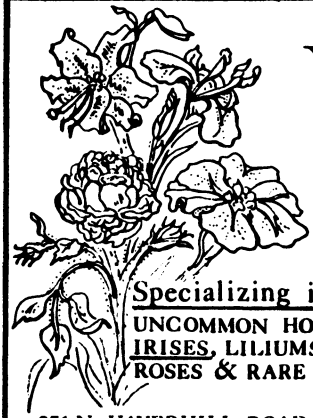

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Single Annual	$ 5.00
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Single Life	$100.00
Family Life	$120.00

The Siberian Iris is published twice yearly by the Society for Siberian Irises, a section of the American Iris Society.
Editorial office is at 124 Sherwood Rd. E., Williamston, MI 48895. Deadlines for copy are Feb. 15th and Sept 1st, but earlier receipt is appreciated.
Postmaster; Send address changes to The Siberian Iris, 124 Sherwood Rd. E. Williamston MI 48895.

Back Cover: A new meaning for having a frog in the throat

Photo: Bob Hollingworth