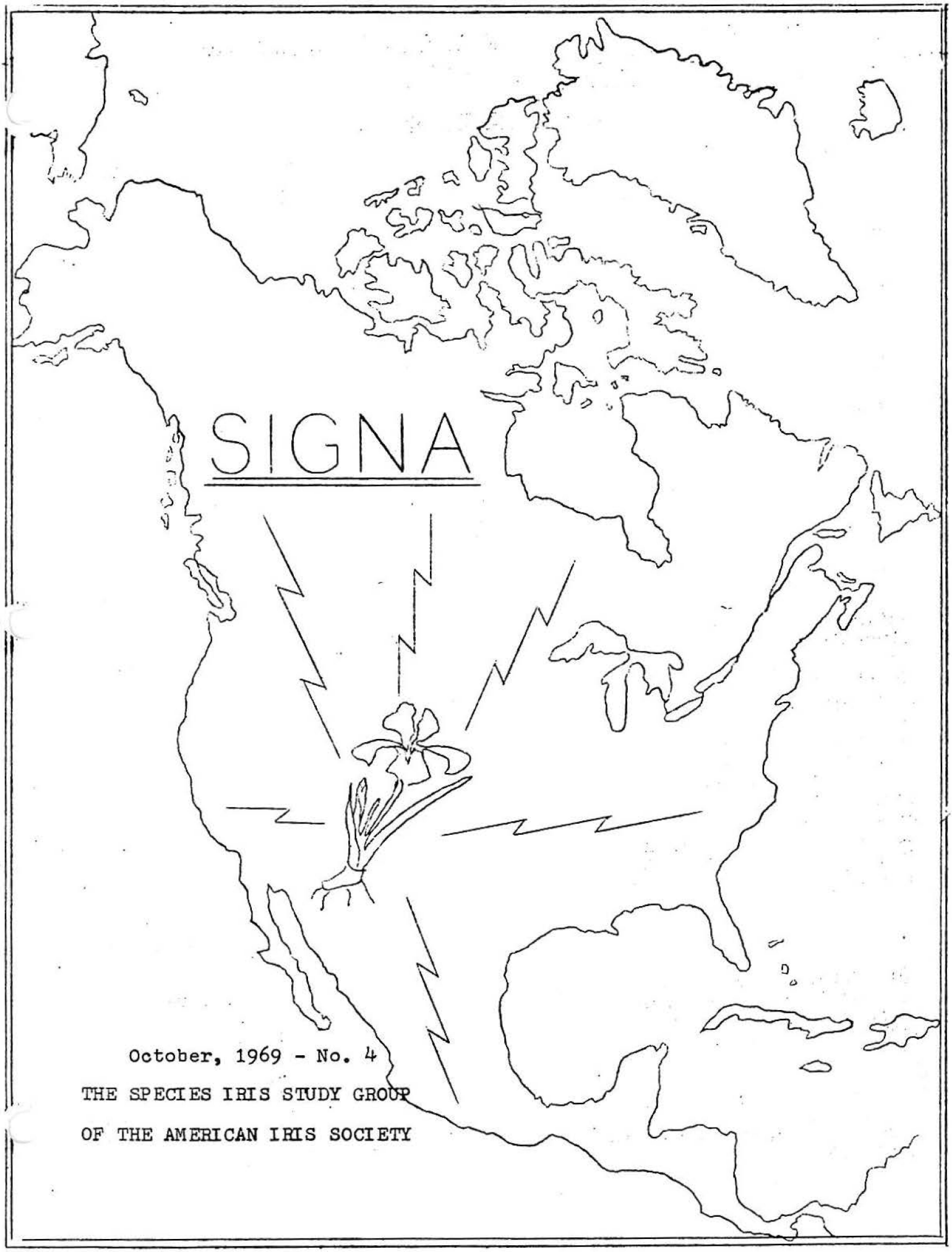


SIGNA

October, 1969 - No. 4

THE SPECIES IRIS STUDY GROUP

OF THE AMERICAN IRIS SOCIETY

THE SPECIES IRIS STUDY GROUP OF THE AMERICAN IRIS SOCIETY

October, 1969 - No. 4.

OFFICERS OF THE SOCIETY

CHAIRMAN	B. LeRoy Davidson	911 Western Ave. #200, Seattle Washington 98104 Phone: (206) SH6-2156
SECRETARY TREASURER	E. Freeman Yendall	24 Irving Terrace, Kenmore New York 14223
LIBRARIAN	Thomas J. Buckley	6330 S. Damen Ave., Chicago Illinois 60636
SEED EXCHANGE DIRECTOR	Mrs. Ruth Hardy	296 Hunsaker Lane, Eugene, Oregon 97402
EDITOR	Bruce Richardson	492 Twenty Rd. E., R.R. 2, Hannon, Ontario, Canada. Phone: (416) 679-4636

.....

CONTENTS

		Page #
Editorial Comments	Bruce Richardson	77
Financial Statement	Freeman Yendall	79A
The Chromosomes of the Spuria Species	Lee W. Lenz & Alva Day	80
Spuria Species	Marjorie Barnes	81
A Chuckawalla on a hot tile roof	Bill Gunther	83
Spuria Species	Ben Hager	84
Species and Hybrids	Ben Hager	85
The Many Faces of the Genus Iris	Glenn F. Hanson	87
The Spuria: Florist's Flower	Fritz Kohlein & Peter Lert	89
Robin Flight Lines	Spuria Newsletter	91
Japan - 1969	Roy Davidson	91A
Native Iris in the High Sierras	Bob Hubley	94
In Pursuit of Reticulatas	Gordon Blackwell	97
Species Notes of F. Cleveland Morgan	Bruce Richardson	99

..... Nov. 3, 1969

ED: Considerable copy was available for this issue, with the result that it was not possible to find space for all of it. All the articles sent in by the following will be used in future issues. Ruth Hardy, Samuel N. Norris, Roy Davidson, Jerry Flintoff, Freeman Yendall and Leo Brewer. The Morgan Notes will also be continued, as well as extracts from the B.I.S. Species Group publication which also had to be omitted for lack of space. Your Editor begs forgiveness of these good people who so kindly sent in material, and hopes that now there is a backlog of articles another issue can come out sooner than previously planned.

EDITORIAL COMMENTS

Bruce Richardson

LATE PUBLICATION OF THIS ISSUE.

It hardly seems proper to start an issue of SIGNA with an apology, but an explanation for the tardy publication of this issue is due our members. There seems to be only time enough and, for the present at least, material enough for two issues of SIGNA per year, so it was intended to bring out an issue in April and one in October. Perhaps later this can be increased to three or four, or the amount of material in each enlarged. What happened to this October issue was simply that your Editor got too involved in his own activities, which were largely shipping and replanting iris all August, followed immediately by the apple harvest in September and October and the last couple of weeks trying to get the surroundings ready for winter. (We had one of the earliest deep freezes on record just a week ago). So now on Nov. 3rd a start on this issue is finally underway. One final comment - the C.I.S. Newsletter which is also due out Oct. 1st - is being delayed until this issue of SIGNA is on its way.

THE SPECIES IRIS STUDY MANUAL.

The publication of this manual has also been delayed for a far better reason than that given above, although it is true the work of preparing it has turned out to be far greater than originally anticipated. It is being prepared almost single-handed by Roy Davidson and will be more elaborate than the original concept. Roy is carefully checking his material to avoid errors creeping in, and as well much of it is being reviewed by the A.I.S. Scientific Committee for further accuracy. It will be published in stages, likely over a period of several years, with additional new material, or perhaps one should say newly discovered material, added as inserts. Thus it will be a continuing effort and never complete as long as new discoveries about the species are being made.

It was hoped to have the first portion, mainly the introduction, off to our members a couple of months ago, and indeed it was announced (prematurely unfortunately) in the A.I.S. Bulletin that it had already been sent. What did happen was that Roy went to Japan and left the work to be stenciled by a commercial typist in his absence - to save time - but it turned out badly. The typing was beautifully done and the stencils sent here, but they were the wrong type to fit my Gestetner duplicator, there was too much waste space on them and some illustrations that should have been inserted at the appropiate places were omitted, and worse still no space left to put them in. Under the circumstances it seemed best to have them redone and that is being done now. Things like this should not happen, but when the work is all being done by busy people, deeply involved with their own work - Roy had a grain harvest to take care of upon his return from Japan - errors will happen in spite of the best of intentions. However, it does seem safe to promise you that you will have received some part of the manual before SIGNA # 5 reaches you. A section outline of the Manual is at hand and perhaps will be of interest to indicate the scope of the work. The sections (A, B, C, etc.) will each be numbered to enable the material to be easily found and ties in with the system used in the seed exchange lists.

Approximate layout for THE SPECIES IRIS STUDY MANUAL.

Cover
Title page
Introduction (Include explanation of the numbering system).
Foreword (Includes glossary of terms used).
Iridaceae
Position of Iris in Phylogeny
Iris Family Defined (After Lawrence, copyright released by McMillan)
Structural Evoluation; Seed, Rootstalk, Leaf, Inflorence, Floral Parts.
A species Concept
Taxonomic History
Chart (After Foster and with copyright release).
(All the foregoing numbered I-1, I-2, etc.
A - Series Pumilae of Pogoniris
B - Series Intermadeae of Pogoniris
C - Series Elatae of Pogoniris
D - Species of Subsection Hexapogon
E - Hybrids of Oncogelia Derivation (=Regeliocyclus)
F - Species of Subsection Oncocyclus
G - Species of Subsection Pseudoregelia
H - Hybrids of Arilpogon derivation
J - Species of Apogon, Series Sibericae
K - Californicae
L - Chinenses
M - Spuriae
N - Laevigatae
O - Hexagonae
P - Longipetalae
Q - Tripetalae
R - Seven Monotypic Apogon Series: Tenuifoliae, Syricae, Ruthenicae, Prismaticae, Unguiculares, Ensatae, Vernae.
S - Evansia
T - Two Monotypic Spathulae; Subsections Pardanthopis, Foetidissima.
U - Species of Xiphium, Section Xiphion
V - Species of Xiphium, Section Reticulata
W - Species of Scorpiris (=Juno)
X - Two monotypic Subjenera: Nepalensis & Gynandriris
Y - Hybrids of wide crosses; several divisions to cover hybrids not discussed above.
Z - Species once classed as Iris

LETTERS

From Edith Cleves, San Jose, Calif. ..... Some of my spuria species suddenly died - I. demetrii, I. halophila and I. sogdiana, turning straw colour within a week. No gopher, roots intact, but there were heavy pieces of some type of metal buried about 46" deeper than the roots, which I hadn't known about, as this used to be a small ranch several years ago. This was so deep it wasn't possible for me to dig it up and examine it. Possibly zinc in some form would kill plants.....

From Angela Marchant, B.I.S. Species Group. .....May I beg for a correction in the Evansia article? (ED: p. 9 - I. tectorum))
I. tectorum is a native of China. It's habitat on the thatched roofs of Japanese houses is extremely doubious; the phrase originates from the writings of the great Alpine Gardener, Reginald Fames, who visited Japan briefly. Anyone who is interested in some of Fames' extraordinary

ideas of Japanese flora, could see articles in the Alpine Garden Society Bulletins for March and June of 1968, where Majorie Brough writes in detail about some of Fames' misconceptions.

From Ester Terrill, Burlingame, Kansas. ....I can't seem to raise too many species well, but either have had or have at present Arils and arilbreds, pumila, aphylla, mellita, croatica, spuria, siberian, ochroleuca, Shilka, Vesper, pseudacorus, graminea, Louisiana, reichenbachii, pseudopumila and others. Missouriensis I've replaced several times. Cristata, lacustris, tectorum and such have not been happy here either. Our soil is very limey and Japanese simply wont live either for long.....

From Bill Gunther, Del Mar, Calif. (ED: part of a letter and enclosure from Species and Western Natives Robin #6).

1. The term ENGLISH IRIS is a popular name for the species I. xiphioides This species will not cross with any other species to make a hybrid. A number of English irises have been named, but each of these named varieties, or "cultivars", is nothing more than a selected clone of the species. Accordingly, it would be perfectly legal under the rules of the A.I.S. - and under botanic rules - to enter any English iris (whether or not it has been named) as I. xiphioides in the species category of any iris show.
2. The term SPANISH IRIS is a popular name for the species I. xiphium, which has 34 chromosomes. Each named variety of Spanish iris is nothing more than a selected clone of the species. Any Spanish iris, whether or not named, can be entered as I. xiphium in the species category of any iris show.
3. I. xiphium will cross with any of several other bulbous species. None of these other bulbous species has 34 chromosomes, and none of the hybrids which result from a cross of I. xiphium has 34 chromosomes. The term DUTCH IRIS is the popular name for these hybrids which involve I. xiphium plus one or more other species. Thus it is true that no Dutch iris has 34 chromosomes, every Dutch iris is a hybrid, and no Dutch iris is a species.
4. No DUTCH, ENGLISH OR SPANISH IRIS has ever been registered with the A.I.S. The reason is that all of them are bulbous irises, and the A.I.S. has been designated to register rhizomatous irises only. The fact that A.I.S. does not register bulbous irises may be one reason why very few if any Americans are systemtically working towards development of new or improved bulbous iris cultivars. It also helps to explain why some Dutch iris varieties are marketed under several different names. Since neither the names or the iris are registered, a catalogue-writer or nurseryman or bulbous dealer can give any bulbous iris any name which appeals to him. So can the person who exhibits a bulbous iris in an iris show.

MATERIAL FROM THE MAGAZINE CALIFORNIA GARDEN and THE SPURIA NEWSLETTER.

Your Editor is most indebted to Bill Gunther of Del Mar, Calif. for once again coming to his rescue with material already printed and ready to include with this issue of SIGNA. Bill uses the facilities of the CALIFORNIA GARDEN Magazine for printing, so we are in debt to them too. This is donated material, without any cost to the Species Group, so therefore is an additional help with our finances and much appreciated by your Executive. There was a slight slip-up in numbering these pages - they should have started with an odd number - so there will be an additional page to make things come out even - 79A - and another 91A further on.

SPECIES IRIS STUDY GROUP

Financial Statement Sept. 30, 1969
Prepared by Freeman Yendall, Treasurer

RECEIPTS:

Membership Dues

17	1 yr @ $2.00	$ 34.00	
23	2 yr @ 4.00	92.00	
1	3 yr @ 6.00	6.00	
85	3 yr @ 5.00	425.00	
18	4 yr @ 7.00	126.00	
			683.00

Seed Exchange

1967-68	135.56	
1968-69	286.30	421.86

Publication Sales

61 Cohen Monographs	61.00	
1 Study Manual	1.00	
		62.00
		$ 1166.86

EXPENSES:

Printing and mailing Signa	# 1	$ 63.96	
	# 2	88.60	
	# 3	101.73	
Seed Exchange '67-68		135.85	
'68-69		112.13	
Chairman's Office		22.01	
Secretary's Office '67-68		26.98	
			$ 549.26
Cash on hand - Buffalo office			375.25
- Pittsburg office			242.35 ?
			$ 1166.86

NOTES TO FINANCIAL STATEMENT:

The cost of printing and mailing SIGNA is not rising as rapidly as the above figures would indicate, as some of the expense of the second and third issues was due to reprints of the # 1 issue to meet the unexpected demand for it. However the menbership has increased and 250 copies of issue # 4 will be printed. Postage has gone up too!

The item of $242.35 shown as being held at Pittsburg is a frozen asset and the funds are unavailable for the use of the Group, and should be looked upon as a doubtful asset. Efforts have been made by your Executive and Mr. Bledsoe, President of A.I.S. to obtain the release of these funds from Betty Rowe, but without success. No tranfer of funds from her to Freeman Yendall has taken place, although Freeman has been Treasurer for nearly a year now. However, efforts will continue.

THE CHROMOSOMES OF THE SPURIA IRISES

LEE W. LENZ AND ALVA DAY

VOL. 5, NO. 3, PP. 257-272 ALISO

TABLE 1. *Chromosome Numbers of Spuria Species*

SPECIES	CHROMOSOME NUMBER *n*	*2n*
1. *Iris sintenisii* Janka		16, 32
2. *Iris sintenisii* Janka		16
3. *Iris kerneriana* Aschers & Sint.		18
4. *Iris kerneriana* Aschers & Sint.		18
5. *Iris kerneriana* Aschers & Sint.		18
6. *Iris brandzae* Prodan		20
7. *Iris brandzae* Prodan		20
8. *Iris brandzae* Prodan (as *I. sintenisii* Janka ssp. *brandzae* Prodan)		20
9. *Iris urumovii* Vel.		20
10. *Iris urumovii* Vel.		20
11. *Iris urumovii* Vel.		20
12. *Iris urumovii* Vel. (as *I. sintenisii* Janka ssp. *urumovii* Vel.)		20
13. *Iris urumovii* Vel. (as *I. ruthenica* Ker.-Gaw.)		20
14. *Iris spuria* L. *(sensu stricto)*		22
15. *Iris spuria* L.		22
16. *Iris spuria* L.		22
17. *Iris spuria* L.		22
18. *Iris spuria* L. (as *I. spuria* L. var. *danica* Dykes)		22
19. *Iris graminea* L.	17	34
20. *Iris graminea* L.		34
21. *Iris graminea* L. (as *I. colchica* Kem.-Nat.)		34
22. *Iris graminea* L. (as *I. pseudocyperus* Schur.)		34
23. *Iris maritima* Lam. (as *I. spuria* L. var. *maritima* Dykes)	19	38
24. *Iris maritima* Lam.		38
25. *Iris maritima* (as *I. spuria* L.)		38
26. *Iris crocea* Jacq. ex Baker		40
27. *Iris crocea* Jacq. ex Baker (as *I. aurea* Lindl.)	20	40
28. *Iris ochroleuca* L.	20	39–40
29. *Iris ochroleuca* L.		
30. *Iris ochroleuca* L.		
31. *Iris ochroleuca* L.		
32. *Iris ochroleuca* L. (as *I. ochroleuca* L. var. *sulphurea* hort.) clone 1		40
33. *Iris ochroleuca* L. (as *I. ochroleuca* L. var. *sulphurea* hort.) clone 2		40
34. *Iris monnieri* DC		40
35. *Iris monnieri* DC		40
36. *Iris* sp. (Turkey Yellow)		40
37. *Iris carthaliniae* Fom.		44
38. *Iris carthaliniae* Fom.		44
39. *Iris carthaliniae* Fom. (as *I. violacea* Sweet)		44
40. *Iris halophila* Pal. *(sensu lato)*		44
41. *Iris halophila* Pal. (as *I. lilacina* Borb.)		44
42. *Iris halophila* Pal. (as *I. musulmanica* Fom.)	22	44
43. *Iris halophila* Pal. (as *I. musulmanica* Fom.)		44
44. *Iris halophila* Pal. (as *I. spuria* L.)		44
45. *Iris halophila* Pal. (as *I. spuria* L. var. *alba* hort.)	22	44
46. *Iris halophila* Pal. (as *I. spuria* L. var. *alba* hort.)		44
47. *Iris halophila* Pal. (as *I. spuria* L. var. *kathmiriana* hort.)	22	44
48. *Iris halophila* Pal. (as *I. spuria* L. var. *lilacina* Borb.)		44
49. *Iris halophila* Pal. (as *I. spuria* L. var. *notha* M.B.)		44
50. *Iris halophila* Pal. (as *I. spuria* L.)		66
51. *Iris halophila* Pal. (as *I. sp.*)		44
52. *Iris klattii* Kem. Nat.		44
53. *Iris humilis* M.B.		72

[2]In this paper the word spuria is used in two ways, in the vernacular sense to include all the species and hybrids which are properly placed in the series *Spuriae* (Diels) Lawr., and as a specific epithet. In the latter case it will be indicated as *Iris spuria* L.

Material on this page reprinted from "ALISO", Vol 5, No. 3, for reference by spuria hybridizers, with specific permission from Dr. Lee W. Lenz.

- 80

SPURIA SPECIES

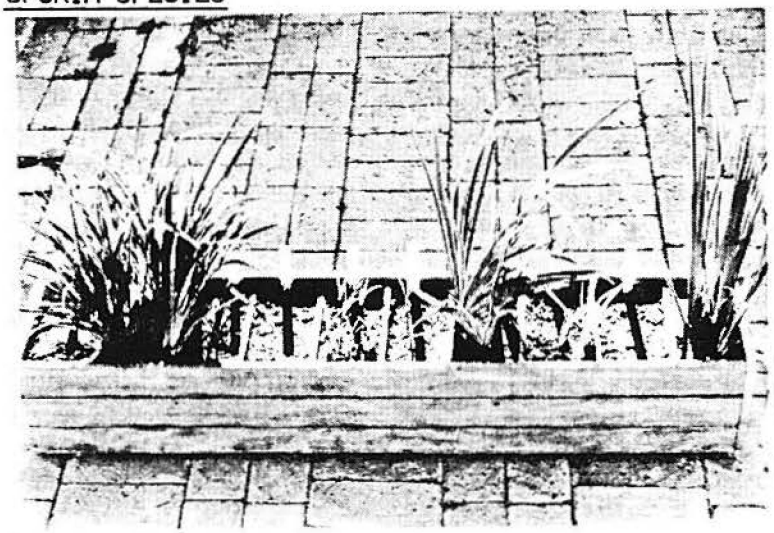


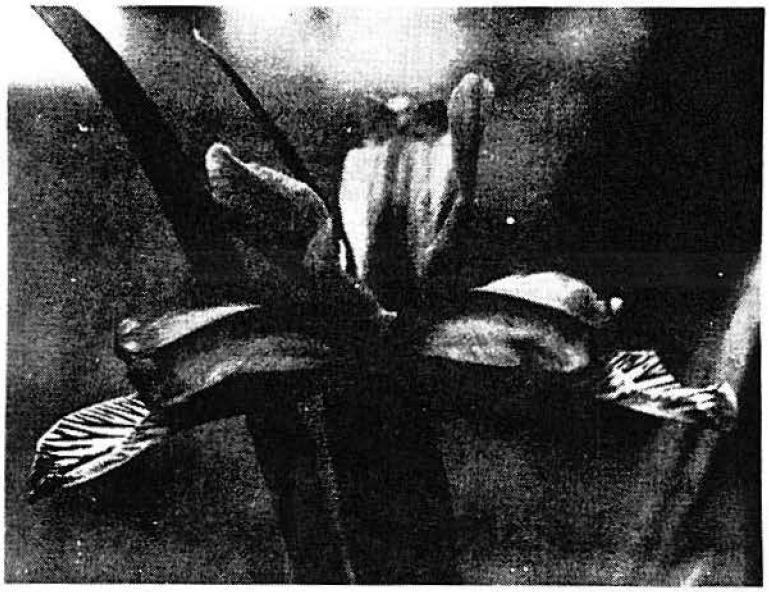
Photo at left, taken in the Editor's garden, shows a planter box which has been partitioned off into separate sections. Seeds of spuria species were planted in the sections - a different species in each section. Results seem to indicate that while seeds of some species germinate much more rapidly than those of other species, there is rather uniform response among seeds of any one species.

This situation contrasts with the fact - known to hybridizers thru experience - that between hybrid seeds (even from the same pod) there is great variability in the period between planting and germination. (Some seeds do not sprout until the third year). The implication is that genetic rules apply to dormancy traits just as they do to color traits. Thus, species seeds might be expected to sprout uniformly - and to come "true" to the color of their parents - while hybrid seeds are variable in sprouting time and may not show coloring of either parent.

SPURIA SPECIES

by MARJORIE BARNES

Our climate here in the Puget Sound region is on the cool, cloudy side. While our glacial sands and gravels are a far cry from the English chalk, it might be relevant to our situation to know which spuria species and cultivars do best in the south of England. Perhaps one reason the smaller spuria species are relatively popular here is that they are useful rock garden subjects in a hilly area that abounds in rock gardens. Then, too, with our wealth of available plant material, we are not looking for the larger, space-filling cultivars that will leave unlovely gaps during the late fall and winter months.



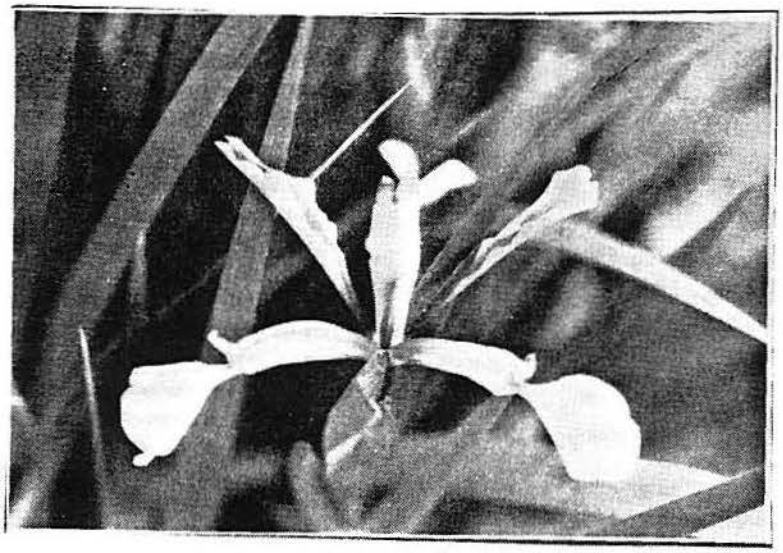
Iris graminea

I am trying seed of *Iris kerneriana* and *Iris sintenisii* from the Seed Exchange; maybe three years hence I'll have a report on them for you. So far, *Iris graminea* is my favorite spuria. I also grow *Iris colchica*, which, it seems to me, outranks *graminea* in size only, although unquestionably it is more floriferous. Whether or not one considers this is in its favor depends on whether one prefers a drizzle or a downpour of these spidery blue-violet flowers. *Colchica* has the unfortunate habit of opening out almost all at once, their season is so fleeting that one's memory is strained to recall them in their prime. However, if that prime should synchronize with one's local Iris Show, one may have a winner, depending, I suspect, on just how easily a given judge confuses size with excellence. I'd like to make the experiment sometime--when my *colchica* blooms late enough and when *graminea* blooms at all.

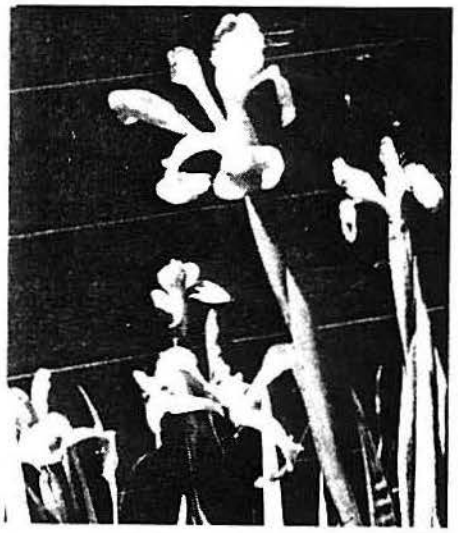
This year they came into bloom together several weeks before our usual show date--had we been having one. Anyway, it gave me a fine opportunity to compare the plants. *Colchica's* foliage is one-third again as long as *graminea's* (29" and 20 1/2", respectively), twice the width at the widest part of the leaf (more than 1/2" for *colchica* and 1/4" for *graminea*), and the larger plant has lighter green coloration, without the lightly lacquered look of *graminea's* foliage. The leaves of both droop gracefully, but the small scale of *graminea* makes it the more appropriate choice for the front of the border, or for the rock garden. *Colchica's* flowers are at least twice the size--and not as fragrant. Both appear to produce two buds per stem; *colchica*, as I've said, opens the two almost as the same time, and all the stems flower at once, so there is one splendid burst of bloom, and then the show is over. On the other hand, *graminea* produces--a bit furtively--two utterly exquisite little blue and rose-violet flowers that follow each other at a decorous several day intervals. Both *colchica* and *graminea* are practically fool-proof for the non-flower arranger, because the flattened stems carry a leaf beyond the blossom; it remains only to choose a suitable container, and perhaps to delete one of *colchica's* two flowers.

Reprinted from
Spuria Newsletter

If *colchica* is only a form or variety of *graminea*, they should be easy to cross, that is if one's object is to produce a small but more freely blooming plant. I prefer to divide *graminea* every three or four years and keep the increase (this year all the divisions responded by blooming). *Colchica* can be divided, too, although it hardly needs it as an impetus to bloom. Its divisions will be fine for plant sales and iris auctions. Connoisseurs may insist on *graminea*, but newly-fledged species buffs will be venturesome, and TB-types who are diversifying will naturally gravitate to the larger of two forms of a species.



Iris halophila



Iris ochroleuca

I was much interested in Ben Hager's remarks about *Iris spuria lilacina* and the others. Do the species *carthaliniae, halophila,* and *subbarbata* always act as biennials, somewhat like *Iris dichotoma*? Or is it only when they are allowed to form seed that they perish in their second year?

I noticed that Herr Kohlein mentions *Iris spuria alba* and I wondered where one might obtain seeds of it? Do you know if there are alba forms of any dwarf spurias? I'm sure I've never read of any. Is *graminea* the only fragrant spuria species? In addition to one clump of *colchica* and four of *graminea* I have one plant each of *aurea, halophila, maritima, ochroleuca,* and *sogdiana*. I hope to add a few of the Barr hybrids; their pictures appealed to me when I saw the Spuria Society's slide set. If they are of only moderate size, I'll manage to find room for them.

If any of the Spuria Society members tried the *colchica* seed sent out by the Seed Exchange this year, I'd like to hear about their results with it, especially if their seedlings differ from my description of the plant I have. Of course, not all of the *colchica* seed came from my garden, but I can be reasonably certain that my *colchica* had nothing close at hand that might have crossed with it. This spring, with both *colchica* and *graminea* blooming at the same time, I can't be so certain.

Sincerely

Marjorie Barnes

Marjorie Barnes
1806 N.E. 73rd Street
Seattle, Washington 98115

Reprinted from
Spuria Newsletter
July, 1969.

A CHUCKAWALLA ON A HOT TILE ROOF

by Bill Gunther

TODAY is the 19th of July, and the iris season here in Southern California is supposed to be over. But in my garden there are bearded irises in bloom, also Pacific Coast hybrids, also Japanese hybrids, also a Louisiana hybrid (Holley Blu), also a Siberian hybrid (Caesar's Brother). Also today I have six iris species in bloom. They are laevigata, douglasiana, tectorum, ensata, kaempferi, and dichotoma.

The reason why these irises still are blooming here, but not in most other iris gardens in the Southland, is *not* due to any superior gardening ability on my part. Rather it is due to the fact that my iris garden is closer to the ocean than other gardens of this area; it is on a hillside which overlooks the ocean. The ocean breezes stabilize the temperature here so that it very rarely reaches 80°F. and it has dropped to the freezing point only once during the past six years. Because of this stable temperature many of the iris plants seem to get confused to the point that they don't really know what season it is, and they bloom irregularly off and on for a good part of the year instead of just in the springtime when irises are supposed to bloom.

In addition to the irises listed above, I would be able to include as least one additional species (Iris tridentata) as being in bloom today except for the fact that every one of its blossoms was eaten up yesterday. They were eaten up by a garden pest which eats up far more of my irises than all other insects, critters, and plant diseases combined. And yet that pest *is not even mentioned* in the American Iris Society's listing of iris pests in its book "Garden Irises." Neither is it mentioned in any other list of garden pests which I have seen.

That New Pest

The pest I refer to is the chuckawalla, and I suspect that many readers of this article don't even know what a chuckawalla is.

A chuckawalla is about two and a half feet long. He has horns on his head. He also has horns along his back. He looks like a small dinosaur, or like a drab-colored iguana, or like a highly-enlarged horned-toad. Like all of them, he is a type of lizard.

"Chuck" and admirer

Biology books indicate that the habitat of the chuckawalla is restricted to isolated rocky areas of the desert. But chuckawallas don't read books, and don't know about those restrictions. So they have followed the crowds and have moved in, along with the hippies, to the coastal strip of Southern California. Here, their favorite place to set up housekeeping (the chuckawallas; not the hippies) is under the hollow red roof-tiles of old Spanish-style houses—like mine.

The chuckawallas have no trouble getting up to the roofs; they can climb trees and vines just like cats, and they can jump surprising distances from a tree branch to a roof. There they rattle around happily; the hot tiles are just like the hot rocks where they used to live, out in the desert.

They Have Good Taste

Whenever a chuckawalla-on-the-roof decides that it is lunchtime he instinctively looks down to see if he can sight a nice cactus blossom, which is his favorite desert dessert. There are no cactus blossoms in my garden, but the chuckawallas don't seem to mind. That is because they have decided that iris blossoms are even more delicious. And more nutritious too. That is a testimonial.

When a hungry chuckawalla looks down and sees a beautiful iris blossom, he promptly climbs down from the roof and makes bee-line tracks for it. He bends the stalk down to ground level, then chomps off the blossom and gulps it down whole. This gives the impression that he is unmannerly and that he is not truly appreciative of the delicate texture and flavor of his beautiful snack.

But really, he is truly appreciative of those blossoms. This is evidenced by the fact that he will hunt around for more of them, and he will eat a dozen or more of them before he is satisfied—after which he will promptly return to the roof for an afternoon siesta in the sunshine, up on those warm tiles.

All of these actions of the chuckawalla are so very human-like, and his expression is so soulful, and he appears so unapprehensive and trusting in nature, that no sensitive person could harm him. And none except sensitive persons are irisarians. So our chuckawalla chomps away on our irises, right in broad daylight, right in front of us, and doesn't get murdered for it.

Proposed Solution

Instead of hurting the chuckawallas, we are referring the whole thing to the Scientific Committee of the American Iris Society. Obviously, it is their problem. They should do something to make the chuckawallas go back to the desert where they belong. ■

All material on this page has been reprinted, with permission, from the Aug-Sept 1968 issue of

CALIFORNIA GARDEN

Published Bi-Monthly by the SAN DIEGO FLORAL ASSOCIATION
Floral Association Building, Balboa Park, San Diego, California 92101

SPURIA SPECIES

" * LILACINA This may be "spuria Lilacina," we don't know, but it is pretty and the only spuria in true orchid color. ..... "

(from the Melrose catalogue)

Iris spuria lilacina

by BEN HAGER, The Melrose Gardens
309 Best Road South, Stockton, Calif 95206

The last two issues of the Spuria Newsletter have contained discussion about Lilacina (or *Iris spuria lilacina* - if that is what it is). This discussion was provoked - at least in part - by wording in the Melrose Catalogue which was described as "undisguised hedging".

We admit that the notation in our catalogue about Lilacina is ambiguous. And to be very frank, our uncertainty about our Lilacina is based on the fact that we have had it so long that we no longer really know where we obtained it. Without knowing its background it is difficult (or dangerous) to make definite statements about its status. But it is a very pretty thing. Its flowers are larger than most of the European spuria species. The color is a delightful orchid on the pinkish side - not the muddled lavender or light violet of many garden cultivars. Our plant has glaucous grey-blue-green foliage that is good looking all summer - but absolutely dormant in the winter. And it is the latest-blooming spuria I know; it blooms here with the early daylilies.

Despite what has been said about Lilacina in the past two newsletters, it has been our observation that selfed seeds from our plant produce offspring which show very little variation from their parent. The slight differences are mostly in size of flower or plant, with very slight changes in the color or form of the flower. This is the sort of thing you would expect from a species, and this might be an indication that our plant is not a hybrid.

But on the other hand, our Lilacina is far easier to grow than other spuria species which I have tried. It doesn't immediately fold up and die after it blooms.

(While I'm on this subject, I might make a note of a procedure which I have successfully used to circumvent the high death rate of plants of spuria species such as *Iris carthaliniae*, *Iris subbarbata*, and *Iris halophila* -which have this habit of dying off after their first bloom. The first bloom usually is during the plant's second year - so our procedure is to divide off a part of the plant and replant it during its first year. By using this method, each year I have one two-year-old clump which will bloom and then die. But I also have a one-year-old clump of the same clone. On the one-year-old clump I will divide off and replant a small section. The remainder of that plant will next year bloom - then die. This method seems to work particularly will with *Iris carthaliniae*.)

For some years I have planned to use Lilacina in hybridizing work, but have not gotten to it yet. My objective in this hybridizing would not be to "improve the species". Rather it would be to find out if there is a gene or two lurking in this "species" which would improve the garden cultivars of the future.

Our honorable editor pointed out - a few issues back - that some of the new spurias which are introduced as garden cultivars really are only one generation from the species. That is true, and I do not feel that they are exactly finished flowers - ELIXIR included. But they are pointing the way to new patterns and colors. And for that reason, they are important additions to the spuria breeder's raw material.

MELROSE GARDENS

Ben R. Hager

Reprinted from Spuria Newsletter

SPECIES and HYBRIDS

by Ben Hager

In the years during which I have grown spuria irises, I have collected and grown (or tried to grow) many of the species in this section. With the exception of the 40 chromosome group (including Iris ochroleuca, Iris crocea (Iris aurea), and "Turkey Yellow") I have had relatively little success. Mostly, I have bloomed them once and then watched as they turned yellow and died.

Iris urumovii (received from Hanselmayer several years ago) has thus far managed to survive and has increased a little - not much - and has bloomed once. Iris brandzae (from the same source) has bloomed once - looking very like Iris urumovii, and now is down to one fan. I cannot maintain Iris sintenisii (which Jim Girdidlian once had in long rows but later discarded because no one was interested). Iris kerneriana (shipped in from England by Laurence Neel several years ago) still lives, but has diminished in number of fans and never has bloomed.

The only one of this group which appears vigorous and remains robust is Iris graminea. A hybrid from Alice White of I. graminea X I. halophila insists on dying after bloom - but has been kept around by my success in NOT blooming parts of it.

Of the taller 44 chromosome species, Iris halophila is down to two clumps after many beginnings - but has furnished fertile hybrids when crossed with our 40 chromosome garden varieties. Iris subbarbata is down to two clumps; these plants were received from Mr Ajdovik of Austria and were collected growing in the wild. Seeds of this same species were received from this same donor in the same shipment; these seeds were distributed to several members of the Spuria Iris Society. Persons who grew plants from those seeds are invited and requested to report whether the plants have bloomed, and whether they still survive.

I have received Iris carthalineae from various sources including from Hanselmayer and Homer Metcalf, and (more recently) from the Golden Gate Park. This is the species which I have most frequently crossed with the garden varieties. Each time I have had it - and this includes plants grown from seed - it has grown vigorously through the first blooming period - and then has died out completely.

That has been my experience with the very interesting spuria species.

Now some comment on the hybrids which I have been lucky enough to obtain from the species Iris carthalineae. I have introduced two varieties from this species crossed with MORNINGTIDE. I have two more from a cross with GOLDEN LADY. - SUSPENSE is being introduced this year; PROTEGE, which is the best of the lot but a slow increaser, will be introduced in 1968.

The two cultivars introduced from the first-mentioned cross are ESSAY and NEOPHYTE. These are notable for two reasons: the unfading color of the flowers (which does pass on to the second generation), and the fine foliage which stays green for a much longer period than that of other spuria cultivars.

(continued)

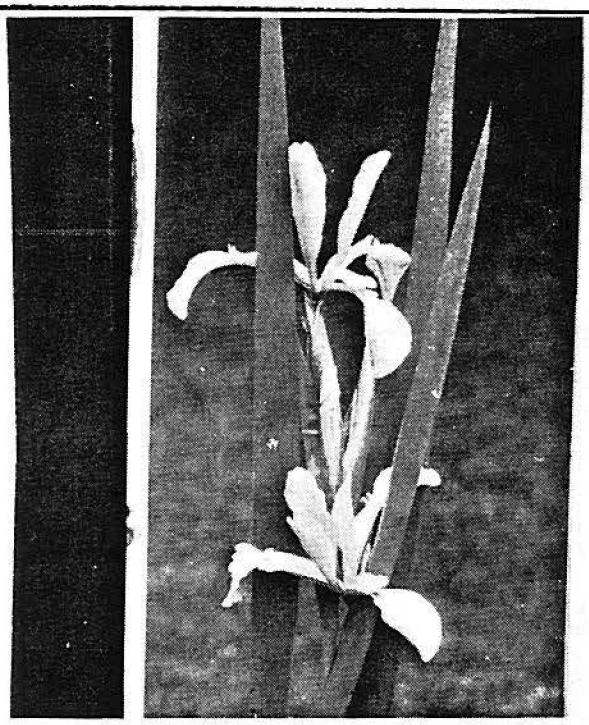
In the southern part of California, in nearly every garden which has these two spurias, NEOPHYTE is doing fairly well - but ESSAY is dead or dying. I also have a report that both cultivars are dead in Bakersfield, which is at the desert end of our central valley. In our more northerly location here in Stockton I have had no trouble with either of them, and we have had no reports of any losses in colder climates.

So what have I on my hands ? Is this a variant that - unlike most spurias - prefers colder climates and dislikes the more temperate areas ? It looks as if Iris carthalineae has given its children differences in color and in foliage - and also has endowed them with its own preference for the cold climate like that of the areas to which it is native.

Will the second generation, crossed back to the garden varieties, take on enough of the garden variety (Mediterranean) characteristics to grow in warmer areas ? If so, perhaps I can console myself with the hope that this line will produce an all-weather spuria. (Although we are finding that all of our spurias are more cold-resistant than we previously had supposed.)

While we all cherish our spurias, there actually is so much which we do not know about them that developments entirely unexpected by us could happen. I hope that Dr. Lee Lenz will soon give us more results and details on his work in interbreeding the species.

I personally would like to see more home garden hobbyists making crosses with the spuria species onto the garden varieties. Or even better, with availability of species seeds, I hope that home garden hobbyists will bring the species to bloom and then use the species as pod parents to take the pollen of garden varieties. (You can be surer of your cross by using the species as pod parent.) How about it ? You might run into another big break such as Walker Ferguson did in his use of the spuria PREMIER.



Iris spuria lilacina

We have done so little work with most of the species that it actually may be too soon for us to be thinking about the possibilities of polyploid inducement in spurias. But several ardent members already are working in this new approach, and it will be exciting to see what happens.

I personally hope that with tetraploid spurias we will be able to obtain some real new color breaks - but we must realize that these breaks may be a long time in coming. So we must have patience. But if we could accomplish all we wanted in our field at once, where then would be the future of our hobby ?

Reprinted from
Spuria Newsletter

The material on this page has been extracted from:

The Minnesota Horticulturist

AUGUST, 1967

The Many Faces of the Genus Iris

by GLENN F. HANSON

Regional Vice President, Region 8
The American Iris Society

EVERYBODY knows about the iris. It's that big, tall, lovely, multi-colored flower that bursts into bloom and beautifies our gardens in early June. But it may come as a surprise to many flower growers that this is only part of the story. The genus **Iris** includes many different species, native to almost every part of the northern hemisphere. These diversified species have yielded numerous types and hybrids other than the familiar "tall bearded". They come in all sizes, colors and seasons of bloom. Some, it is true, are intolerant of the "vigor" of our climate, but many are entirely suitable and desirable for Minnesota gardens.

So you see, we have irises of some kind in bloom throughout the gardening season, and we are constantly trying out new species from other parts of the world. Some of them take kindly to Minnesota; some don't. But enough do to keep the experiments exciting. It is the purpose of this article to describe a few of these less familiar types. Some of them have their special requirements which must at least be acknowledged, although not usually catered to excessively. But generally they are no more demanding, and certainly no more subject to pests and diseases than the familiar tall bearded hybrids.

In the culture of bearded irises it is axiomatic that good drainage is one of the absolute essentials. It is therefore perhaps surprising that the Siberians, Japanese and spurias actually appreciate an abundance of water. They are ideal for planting in low ground, or in a lovely setting around the edge of a pool. Under these conditions they will provide a wealth of tall stalks and large flowers. But the many faced genus **Iris** will usually meet you at least part way. At our place where we grow hundreds of different types and varieties, we simply don't have the time to cater to the whims of all our children. We put them in the gardens and give them essentially the same treatment as the others. They would be bigger and taller if we fussed more over them, but they still grow and thrive and bloom very well.

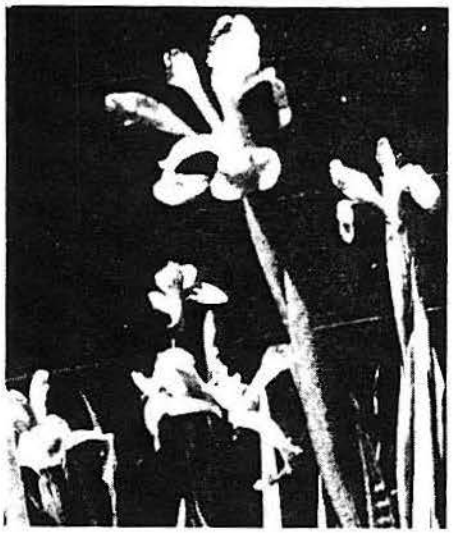
The spuria irises are a worthwhile addition to any garden. They will give you showy flowers four to eight inches across on stiff, weather resistant stems three to five feet high. You can subtract a foot of height and an inch of flower size if the water is scarce, but the flowers will still be there. The color range is mostly whites, yellows and violets, separately or in combinations. Blooming in late June and early July, the spurias put on a show all their own. When we first began to grow them we had trouble getting them to bloom, so we kept moving them to more favorable locations. Finally we got discouraged and left them alone, and then they bloomed. The secret was then apparent; they like to be left undisturbed.

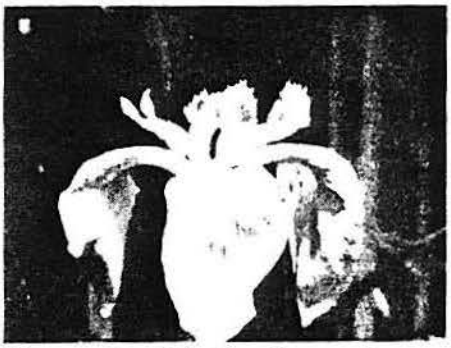
As sophisticated modern gardeners, we usually concentrate on the latest and best hybrids, whether our specialty happens to be irises or any other flower. In doing so, we deprive ourselves of a wealth of charm and beauty that exists in the species, just as nature created them. Our collection includes many different iris species, and their charming individualities beautify our plantings along with their sophisticated hybrid cousins.

Right now there are a half-dozen or so of new and untried iris species developing in our gardens, grown from seed that came from England last spring. Some probably won't survive their first cold winter. Some may survive, but prove to be not worth the effort of growing them. Some may become permanent and valued citizens of our plant community. Those that fail won't really be disappointments, just fun. And next spring a half-dozen others will probably be started on their way through the same period of trial and probation. We like irises!

Spurias and other beardless types

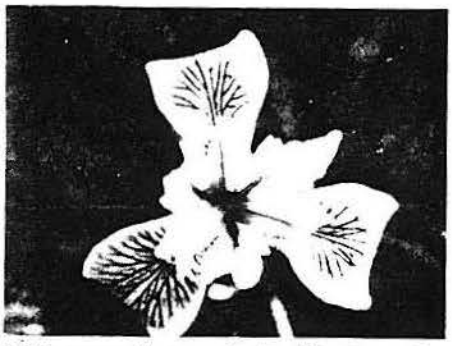
Spuria irises stand out in bright contrast against the backdrop of a redwood fence. Iris ochroleuca





The species Iris Pseudacorus has an exotic looking blossom and is European in origin. This plant is a water lover; its tall green foliage is excellent for use in large arrangements.

The species Iris Ensata has long narrow floral parts; the bloomstalk is only about nine inches tall and the blossom is proportionately small.



This very photogenic Pacific Coast hybrid has heavy veining on petals which curl under abruptly near the tips—giving a chopped-off impression in vertical view.

This is a Pacific Coast iris of the type which grows wild in Northern California and Oregon—but which is very happy to be domesticated in San Diego gardens. This beautiful photograph of a beautiful subject won honors for photographer Betty Mackintosh at the photo exhibit at the 1968 Southern California Expo at Del Mar.

Deutsche Gärtnerbörse

strierte Fachzeitschrift für den Erwerbsgartenbau - 68. Jahrgang - Aachen - 14. Sept. 1968 - Nr. 38

THE SPURIA : FLORIST'S FLOWER OF THE FUTURE

EXTRACTS FROM AN ARTICLE BY FRITZ KÜHLEIN
TRANSLATED FROM THE GERMAN BY PETER LERT

At present, the only irises which commonly can be obtained from florists are those bulbous hybrids known as "Dutch irises". They were introduced to the trade in 1908 by the firm of Van Tubergen, of Haarlem, Holland. They were developed from the species *Iris xiphium*, *Iris lusitanica*, and *Iris tingitana*.

Completely unknown to most florists are the members of a different iris series - which might prove to be even better than the Dutch irises as cut flowers. Flowers of this other series resemble the Dutch irises in appearance, but in the botanic classification they are among the beardless rhizomatous irises, the "Apogons". The irises in this other series are known as "spurias".

The spuria iris - if of a strain compatible with the climatic conditions where grown - offers the commercial cut-flower grower an iris with long-lasting blooms, with several flowers on each stem, with extremely strong substance, with heavenly color combinations, with long and strong stems, and with ideal cutting properties: transportable either in bud stage or in full bloom.

At the present time the spurias aptly could be called "sleeping beauties"; it appears that only those few persons who are iris hobbyists know about them. This is surprising in view of the fact that some spuria species are native to this part of Europe. One colony grows in the Rhine area near Mainz; these are called "Mainzer Sand". Growing in Austria is the type designated as *Iris subbarbata*. In Denmark is found the type called "danica". Other spuria species grow thruout Europe and the mideast.

The potential of this spuria series - both as an attractive garden plant and as an artistic flower - has been better recognized in America than in Europe. Beautifully shaped hybrid spurias of excellent substance and in large range of colors have been developed and introduced in the USA. In 1963 a good number of those varieties were imported for the International Garden Show in Hamburg, and great hopes were stimulated that these would tolerate the climate of Germany and would thrive. After 5 years of observation we now must admit that those hopes have faded.Although the new American varieties do well in California where they were developed and selected, they certainly do not flourish here.

The inescapable conclusion is that we must develop a new strain here in Germany, to fit the conditions of this environment. Work toward that end has been initiated. Hybridizers agree that in order to minimize time required to develop good varieties for Germany we should utilize as primary basic stock those species and/or hybrids which experience has shown to be most compatible with this locality. Spurias which have proved to be most vigorous and floriferous in our climate are as follows:

1. Among all the American varieties, the hybrids DUTCH DEFIANCE and BRONZSPUR seem to perform best here. Both are rather old varieties, both were hybridized by Eric Nies. DUTCH DEFIANCE was registered in 1942; it is a normal blue, with a brownish-yellow tongue. (See photograph on front cover.) BRONZSPUR was put on the market in 1940; it is light brown and yellow in color.

(continued)

2. The even older "monspur" hybrids which were developed by Barr & Sons, England, near the beginning of this century, are perhaps even better performers here. They were derived from a cross of monnieri by spuria, from which combination comes the term "monspur". Among these varieties, the best known are PREMIER (introduced in 1899 ; blue-violet); and MONSPUR CAMBRIDGE BLUE (introduced in 1910; color is azure with a golden-yellow spot.).

3. Among the spuria species recommended for this breeding work, it is certainly true that those species earlier mentioned - which are indigenous to Northern Europe - would serve best in contributing their genes to hybrids designed to perform well in Germany. But the hybridizer who is also working toward other qualities (e.g. a special color, size, or shape of blossom) would be frustrated if he were restricted exclusively to local indigenous stock. Accordingly, species native to other areas also may be used - within limitations of prudence. The most popular species for breeding include *Iris ochroleuca* (large in size; white standards & falls with yellow signal); *Iris monnieri* (yellow; probably a hybrid rather than a true species); *Iris crocea* (formerly known as aurea; very beautiful; golden yellow); *Iris spuria notha* (blue; large sized blooms); *Iris klattii* (also blue); and *Iris spuria alba* (white).

4. Using the same reasoning - and the same restraint - as with the species which are non-indigenous, the hybridizer also might decide to use genes from one or more of the latest American hybrids to bring selected special characteristics into his stock. The most obvious quick benefit which might be contributed by the new American hybrids would be the much wider floral parts.

Any German cut-flower grower who wants spurias now should act to obtain the before-mentioned two American hybrids and/or the two before mentioned English hybrids and/or the species *Iris ochroleuca, Iris crocea, & Iris monnieri.* (Other hybrids might not thrive; other species would not be very good as cut-flowers). He should plant them in full sunshine, in rich loam, and fertilize heavily in the springtime. His experience with these will prepare the way for the new German spuria varieties which will become available in the future. No flight of prophecy is necessary to predict that spuria hybrids soon will become quite significant as a florist's cut flower.

==========

Iris ochroleuca

Pictured at right is Iris ochroleuca. This species is native to lands which border the eastern Mediterranean. It has been widely used for breeding in America - which helps to explain why many American varieties require warm climates for good performance . This species also is known as "Gigantea"; it probably is the most common of all spurias. The white and yellow colors in the blossom harmonize ; the large flowers set on tall stems make this species excellent for cut-flower use.

LISA GABLER, 3401 NIEDERNJESA, WEST GERMANY
"Thankyou very much for sending me the Iris monnieri seeds. I planted them at once and some already have germinated; the rest I expect will come up later. We have had an exceptionally cold winter: frost day and night and practically no snow-cover - which rarely happens. Such bare-frost is killing for many plants, but it is not likely to harm the spuria species. They are very hardy."

GRACE CARLSON, RT.1 BOX 692, PANAMA CITY, FLORIDA 32401
"We formerly lived in Omaha, Nebraska, where we had several thousand bearded irises. It was hard to give them all up when we came down here on retirement, but this really is not bearded iris country.I already have several spuria hybrids going, and already have planted the species seeds which were distributed by the spuria society. It will be extremely interesting to see how they do here. I'll send a report later."

DR. GORDON LOVERIDGE, 77 WARRIMOO AVE., ST. IVES, N.S.W. 2075, AUSTRALIA
"I went to New Zealand for a visit during the period of their normal blooming season, but this year their season was later than usual and most of the hybrids still were in bud stage. However I did see lots of the spuria species Iris graminea in bloom, and one bloom of Iris sintenisii, at Christ Church. Also saw a huge clump of the hybrid SHELFORD GIANT (Iris ochroleuca x Iris aurea) towering up 7 to 8 feet high. And elsewhere in New Zealand I saw blossoms of the species Iris ochroleuca, Iris monnieri, and Iris maritima."

BEE WARBURTON, ROUTE 2 BOX 541, WESTBORO, MASSACHUSETTS, 01581
"The spurias just don't grow well in New England. For a number of years now I haven't had any bloom on any spuria cultivar except MORNINGTIDE, and even that is sort of grey here."

ALBERTA RICHARDSON, 492 TWENTY ROAD, EAST: R.R. #2, HANNON, ONTARIO, CANADA
"Bruce continues to edit SIGNA, the bulletin of the Species Iris Study Group of the American Iris Society, in keeping with his interest in the iris species. The irises still are a large project here, and each year the interest (and also the work) seems to increase.. Changing and renovating the iris beds has been completed, and we have hopes for a better year this coming season -- without the frosts which plagued us last year."

MARJORIE BARNES, 1806 N.E. 73rd STREET, SEATTLE, WASHINGTON 98115
"Ben Hager's statement (in the July 1966 AIS Bulletin) that spurias find the coastal northwest of the USA "too lacking in summer heat for satisfactory growth" caused some surprise among members of our local group.

It is true, of course, that our summers do not provide the intensity of light and warmth which the irises get at Melrose Gardens. But at least some of our spurias apparently make do with what is offered. I have seen many clumps of Iris ochroleuca, or some reasonable facsimile thereof, doing well in many gardens in this area. And there is a splendid clump of Iris monnieri that blooms well even in the partial shade of the University of Washington Arboretum's Japanese Garden.

That clump of monnieri is very much admired in its season, I might add. I guide Arboretum tours thru the area, and I often have been asked for detailed information about it."

JAPAN - 1969

Roy Davidson

My first sight of an Iris growing in Japan was in one of those very unlikely and incongruous sounding combinations, which, like the strange and abstract developments in flower arrangemnet in vogue currently, came off very well indeed, but one would have to be there to see for himself, as certainly no words could portray it. The ultra-new public and business buildings in the heart of Tokyo are them selves innovations in the utilization of space, the service area to them inevitably through a vehicular inner courtyard, with facade and foot entrance set back from the street in a manner foreign to the old street-front buildings they replace. This fronting area is given over to planting, sometimes, if the area is narrow, to avenues of trees (Gingko is a favorite) with groundcover (dwarf boxwood most effectively massed in large areas was a lawn-like innovation), but where the area has some depth, a stylized landscape garden is placed.

One such landscape garden was backed with a grove of Cedrus deodara against the facade and consisted of flowing beds set island-like in seas of crushed white stone. The plant material, which is ordinarily selected for dorm and texture without regard for flowers, was here very consciously inclusive of flowering material, though the blossoms would be regarded as secondary in importance; however, masses of orange Calendula in one island were overtopped with a froth of tall growing white "daisies" of small size, repeating the colour and somewhat the texture of the gravel and giving the effect of a cloud formation. Everything else at this time (about June 1st) was just green, though in carefully planned composition; drifts of fall chrysanthemums and dwarf gardenias were accented by the weight of glaucous blue spikes of foliage of Iris, a most unusual combination, to say the least! But very effective. The irises, now passed flowering, were of medium stature and may well have been some of the industructable old diploids, which do so well in the humid heat of Japan's semi-tropical summers; this was to be observed in many places later; the old "germanicas" are tenacious indeed, whereas the tetraploid pogons fell prey to deadly rot.

No visit to Japan is complete without including at least one of the famous iris plantings in such shrine gardens as the Heian of Kyoto or the Meiji of Tokyo, where, by ponds and in marshes, seas of massed Japanese Irises are marked annually among the most noted of floral displays, with great pilgrimages to see the lovely pastel blue, orchid, lilac and mauve sorts, accented by the deep blues, violets and purples, and highlighted by the whites, untainted, or lined and marked with deeper colour. The Heian garden is also famous for its waterlilies, and the combination with irises in a setting of great "natural beauty" about the several connecting ponds is serene. In addition, we were favored with opportunities to visit two private collections, that of Mr. Kamo of Kakegawa, and the seedling fields of Dr. Hirao in Chiba, several hours by train from his home in Zushi, near Yokohoma. Kamo-san's irises were grown in great blocks of colour, which were seen on approaching across the verdant rice fields fronting the forested mountain against which the compound of elegant old tile-roofed mansion-house and outbuildings was set in a walled garden featuring a venerable pine of great girth. Here the classic varieties of Japanese Irises are grown with new ones

from Drs. Tomino and Hirao and imported ones as from Marx and Paine. A fovorite seen here was the intense double SEA OF IZU; in fact the blue ones in all tints and depths were especially lovely in this green setting, in a soft drizzling rain.

The day spent going to Chiba was a delight, rather an "International Meeting" of sorts, for Lee Eberhart of Ohio, Jack Craig, a former Californian now resident to Japan, and Esmond Jones of Australia were in attendance also. The typical unhurried and completely delightful Japanese hospitality was never so pleasant as on this day, with a luncheon served before we donned boots to "do the seedlings". Dr. Hirao feels as do many others, that after so long a time, the ultimate in inciting or inducing and selecting worthy innovations within the series I. kaempferi (Japanese botanists this is correctly I. ensata, a taxonomic problem which should be resolved at the meeting of the International Botanical Congress by the time this is in print) has been reached, and that his doubles, which have extra petaloid formations in addition to the six segments of the usual older "doubles", are perhaps his better achievements. Nevertheless he is exploring a new avenue, that of crossing the selected forms of "wild" I. kaempferi spontanea with the dainty classical Edo cultivars, to achieve a wider colour range in the smaller sorts. True blue colour is lacking in all but the largest, and it will be a real break-through when it can be brought down into these small ones, hearlding a new popularity for the Japanese Irises. Spectacular as the huge ones are, they do rather dominate the usual small garden, whereas the daintier sorts can find true landscape use in modest settings. Among the maiden bloom of these seedlings, I was taken with several which were heavily veined on three white broad falls, the styles and standards of deep rich blue hue forming a dark top-knot or cuplet of contrast. Number A18 was a small dusky purple of fine style and unique colour. In the selections of former years, number S1 seemed especially pretty, a forthy feminine pastel self coloured pinkish lilac, a vigorous and productive plant.

Observations of other Iris species growing in Japan, both in nature (whether indigenous or introduced was often problematical) and in cultivation, were many. Great mountains of I. japonica, especially surrounding the Izuru Shrine up into the limestone mountains out of Tochigi Village, were just passing bloom and were handsome indeed in their intense light and dark pattern of gracefulevergreen foliage. It is observed that none of this Iris growing in Japan, being triploid, ever sets seed, and that it may indeed all be of a single self-sterile clone, probably spread far and wide,with the help of man, first from some foreign (China or Formosa) to shrine and temple grounds, thence by the long stolons to its present appearance, where it assumes its position in the landscape to appear as a native plant, especially handsome in groves of bamboo.

In the village of Iwa-Fume we climbed the broad and handsome mortared staircase of 610 steps (I counted them) to the shrine of that name atop the rock (Iwa-Fume translated is "Rock-Ship", from the likeness of the prominence as seen from the broad valley; it is now subject to blasting away for building stone). In the shallow soil of the dry pine-woods were no less than three species of Iris co-mingling, and none really happy; due to the proximity of the very old shrine garden, I would pose all three to have escaped its bounds - Ii. japonica, tectorum and kaempferi spontanea. Of these, only the last is to be found in what is

indisputably its native state in Japan today.

The botanical garden at Nikko is a well-planned and lovingly cared-for collection with a classical English rock-garden and a fine marsh garden among its many delights. I. gracilipes was flowering handsomely on the rockwork, which aslo supported I. minuto-aurea (the label read; it was not flowering) and I. nertschinskia albiflora (a pretty small white form of I. sanguinea, the label name being a synonym). The marsh held a vast and unexpected variety of subjects, a chocolate-spotted-leaf form of the striking white skunk-cabbage (lysichiton camtschatense); Hostas (in shallow moving water, surprisingly), I. sanguinea (a tall blue form), I. setosa (nothing to write home about), and its striking rich, "royal-blue" variety hondoensis, from a very limited range not too far distant, and which I did write home about; we have this in cultivation and it is to be sought as a garden plant for its good form and superior colour. There is a second varity of I. setosa to be found in northern Honshu called nasuensis; thought we did not encounter it personally, we were sent some collected plants past flower from near Hukushima, and await its blossoming. A rare plant, I. setosa alba. was seen in the garden of Mr. Hasimoto of Utsonimiya; we have a limited supply of an albino of Alaskan origin; it will be interesting to compare them, perhaps to strengthen a seed strain by their union in marriage.

I. pseudacorus has escaped in many places in Japan, as it has in the rest of the world; surely this is a most adaptable species, and its relatively limited range in nature, by contrast, might give plant geographers subject for study. Great meadowlands of yellow below the Nikko Botanical Garden must have escaped from thence; a multi-petaled "double" form is highly regarded in gardens.

Dr. Hirao's home-grounds is a vertable private botanical garden atop a chipped-out plateau and small rocky mountain; greenhouses, frames and the green hillsides bulge and hang with the many collections which have become subjects of this hybridizer's skill. Irises of the Californicae Apogon are thriving on a slope on the opposite shore of the Pacific from where Nature placed them, and the Hexagonae of the Mississippi valley and its delta and the Gulf coast of the southeast U.S.A., grow like weeds in the humid heat of this climate, and are consequently becoming subject to selective breeding there. Many forms of I. kaempferi, including some grown from Russian seed from Dr. Rodionenko, were growing for use in the afore-mentioned Japanese Iris program, and a large-flowered form from Kamachtka is being sought now. Albinos of the species appear to lack both substance and vigour, as is often the case. We had noted in the Kakegawa garden of Kamo-san the unusual variegated leaf form, the white portion a good contrast and the plant seemingly quite vigorous, the flower the very reddish purple of the species.

Several nurseries offered "unusual" or collectors plants of several Irises; from Mr. Kosho in Utsunomiyo, we obtained the quite rare I. tectorum with a heavily variegated leaf, yet of surprising sturdiness and vigour. Mr. Suzuki's incomparable nursery, mainly of alpines in the unseemly climate of Yokohama, yet in a cool valley among trees, would give much pause to anyone who loves life, plantman or otherwise; one could spend all summer, at least, and never see everything nor tire of it. From his years on the Asian mainland in his army service, he still maintains stock of a good portion of his collections, and, as division warrents, offers them in the trade. Among the Iris species are included

both I. minuto-aurea and rossii, apparently similar, except one is exclusively yellow, the other blue-purple, both of Chinenses Apogon; his success with these little known and poorly understood subjects seems to be through growing in shallow pans of gravelly humus and feeding mildly but frequently, a common Japanese method with a variety of subjects thought of as "difficult to impossible". Two colour forms of Manchurian I. tigridia (which was the subject of Dr. Rodionenko's transfer (along with I. potaninii) from the Pumilae Pogoniris to Pseudoregelia) are infrequently to be offered, as is a small subject labelled I. uniflora alba, which I was quick to purchase. This seldom used varietal or synonymous name, has been applied only to what is now known as I. ruthenica, and there is no prior mention of an albino form in any of the literature (in the English language at least) so this is indeed a rare acquisition, if indeed, it does prove to be I. ruthenica alba.

We encountered no I. laevigata in flower and had hopes of contact with the one or two collectors of the forms of this indigenous Japanese species, which is relatively rare in the present flora; undoubtedly it has been largely destroyed through the lowlands having been so highly developed agricultrurally. Lee Eberhart described I. setosa as occurring along the seaside marshes inwards of the dunes on Hokkaido; it was not our good fortune to be able to include Hokkaido, nor the nearly tropical southerly islands of Kyushu and Shikoku, through most iris species are unlikely on either of those. We need to know more about the natural distribution of I. japonica and to ascertain whether other genetic stocks may induce seed-setting on the Japanese plants. The natural range of I. minuto-aurea is unknown or obscure; although reported as indigenous to Japan, the known stock of it is now apparently all in culrivation. I. rossii extends to Korea, where it is described as growing in tight crevices in the rocks; after seeing how one Hosta species succeeds in this sort of situation, it is conceivable that such a delicate Iris species could similarly endure. And then we need to know more (we know practically nothing, so anything at all is more) about the other Chinenses Apogon relatives to these last two, and anything at all about I. formosana, a supposed species of Formosa; it should be possible to re-collect this, if only some diligent Irisarian can include Formosa on his itinerary of travel in the Orient; we know one station where it grew!

.....

NATIVE IRIS IN THE HIGH SIERRAS

Bob Hubley

On June 2, 1966, Ellie and I started off on a one-week vacation at June Lake, California - in the High Sierras. This is high, mountainous country - famous for its rugged, outdoor scenery and trout fishing.

While we have been going up to the June Lake area for many years, this was the first time that we had ever visited - or even known of - native iris growing in great profusion there. Why we had never seen them on previous occasions I can't answer. My only satisfactory guess is that we happened to hit the blooming season just right this year. Without the blooms, they really blend in with the other grasses and weeds.

My first "find", you guessed it, was right in front of our cabin at the Dream Mountain Resort. June Lake is at about 7000 feet elevation. After finding the first native iris, I spent more time on iris collecting than I did on fishing. From my observations, I would guess that these iris are of the Missouriensis species. The flowers are blue - mostly light blue, with some darker. The erect standards and style arms are blue, with the standards veined a darker blue. The falls are white, blue-veined and with a yellow patch in the throat. The leaves are 18" to 24" long and up to 3/8" wide. They are of a lighter green - with no red tones - and are more fleshy than those of Douglasiana.

On June 3rd, we found many fields of native iris near June Lake, Gull Lake, Silver Lake and Grant Lake - all at about 7000 feet. On June 4th we explored further north and found native iris around Mono Lake and Lake Lundy. On June 5th we found a large meadow covered with native iris near the Lee Vining Creek, about 5 miles up the Tioga Pass Road from Lee Vining. On June 6th we found several large meadows of native iris near Lake Crowley and Rock Creek, just off Highway 395.

While all of these fields were found at an elevation of 7000 feet, we also found fields at 4500 feet elevation near Highway 395 between five and ten miles north of Bishop on June 8th. All the iris at the lower elevation had finished blooming weeks before.

Of great interest was the fact that these native iris were found in every case in what I call "high meadows". My observations at the different locations all added up to the same environment: rich sandy (and even rocky) soil; streams and creeks nearby so that or just prior to the blooming season the soil has been well watered. In almost all locations where iris were actually collected, the soil was anywhere from damp to down-right soggy. In the grassy meadow near Lake Crowley, the hole, where the first iris plant was dug, actually filled up with water within a minute. At Lake Lundy a large clump of native iris (10 years old?) was blooming right at the water line, with large waves washing over the base of the clump at times.

These high meadows are well-watered in the spring by melting snow; and then saturated by over-flowing streams and creeks at this time of year. My guess is that many of these meadows dry out and the iris dry up completely later in the year. Only where the iris continue to receive at least some moisture during the summer could their foliage continue to remain green - at least until the snows come.

In 1969, just before the Memorial Day, Ellie and I were back up in the High Sierras and again looked up our Missouriensis friends, with the following additional observations:

The seeds I had collected in 1966 and planted in the ground had never sprouted. However, with my new-found system for starting seeds, I wanted, and found, a new batch of seeds to take home and try. I also brought back several plants, which with their large balls of soil, should survive - I hope.

The plants found at the lower elevations - near Minden, Nevada and also near Bishop, California - were in bloom. However, all the plants at about 7000 feet elevation were not as yet in bloom. In fact, they were not even in bud yet. Incidently, one of the residents near Bishop advised me that there were a lot of plants near Brockman Corners.

Of special interest was one plant found in a meadow a couple of miles northeast of Bishop, California. Elevation 4200 feet. This particular plant, then sitting in two inches of water, had bloomed and on each of its three stalks it had four big, beautiful pods. Needless to say, I brought this plant back. Planted in a three gallon pail, it may do well here and should be interesting. In any event, I would like to know more about Missouriensis. Any suggsestion?

FOETIDISSIMA FROM POMPEII ITALY.

In November of 1965, prior to attending a meeting in Rome, Italy, with a hundred other airline officials from throughout the world, Ellie and I visited the ruins of Pompeii.

The trip through the ruins of Pompeii was very interesting, and while looking at one of those old Roman houses, I noticed a lone iris plant growing in the garden. As soon as the guide was around the corner, I took a closer look at the iris plant and sure enough, it had a full seed pod thereon - or perhaps I should say now, it had had a seed pod thereon. Well, from seeds planted in my garden, in about a year or so I had a blooming Foetidissima plant. In the spring of 1969 I entered a specimen stalk of Foetidissima in the Southern California Iris Society show, and it won a First Place Blue Ribbon.

With a dozen pods on my plant, I should soon have seeds for those who want them, from seeds collected from a Foetidissma plant found in the ruins of Pompeii.

FUNGUS.

In the spring of 1968 something killed some of the fans on my Californicae plants, and all of the fans on at least four of the plants. But what?

Following the heavy spring rain, I put down a half-inch layer of mulch over the entire garden where I had my natives. On one side I used aged horse manure and decayed leaf material. On the other I used only commercially processed sludge around the plants. After about a month of dryness we had another heavy rain, and shortly after this some of the fans on both sides of the garden turned yellowish and then dried up. Not only had some of these fans already bloomed, but in some cases the adjacent fan grew fat, green and healthy. My guess was that the heavy rains had carried some kind of fungus from the horse manure or the commercially processed sludge into the crowns or other susceptible parts of the iris. Hence, I dusted heavily with Terraclor. After this fungicide dusting no more fans died off, but perhaps the problem has simply run its course. Any suggestions from other SIGNA members?

.....

IN PURSUIT OF RETICULATAS

Source List from a forthcoming monograph THE RETICULATA IRISES
by
Gordon Blackwell

Disappearance of colonies of the delightful early spring reticulata irises is often blamed on the wrong thing - winterkill. All except I. vartani alba in the lists below are cold hardy into Canada. However, they do have other problems. Primarily they succumb to their greatest enemy, the ink fungus, since they are natives of arid-summer countries. A remedy for the rare and difficult kinds is to lift and store in dry soil or sand in summer.

Unfortunately their tiny bulbs are difficult or impossible to find because the foliage begins to die and disappear so quickly. While this happens, the irisarian's attention is diverted by the tall bearded iris bloom. Therefore reticulata replacement is often needed and an up-to-date source list is indispensable. Sources given are for bulbs, since seeds practically demand summer lifting until they bloom in three or four years.

SPECIES: There are ten known species, but only seven are commercially available. The first three are selections that are not considered the TYPE. For various reasons species are not as persistent as hybrids, except "I. reticulata", which may indeed be a cultivar. The last three are true to TYPE, since pronounced regional or horticultural variations have not turned up.

I. histrio aintabensis — Barr; de Jager; Mars; van Tubergen.

I. histrioides major — Barr; Cruickshank; de Jager; International; Mars; Park; van Tubergen.

I. vartani alba — Cruickshank; de Jager; Mars; van Tubergen.

I. reticulata — Barr; de Jager; Heimlich; International; Mars; van Tubergen; Wayside.
Van Tubergen offers three sizes 5/5½; 5½/6 & 6cm. Note: This species usually comes in a blue-purple. The variety J.S Dijt is more like the red-purple colour often found in nature.

I. bakeriana — Barr; de Jager; International; Mars; van Tubergen.

I. danfordiae — Barr; Cruickshank; de Jager; Heimlich; International; Mars; van Tubergen; Wayside.
van Tubergen offers two sizes 4½/5 & 5 cm. Note: Larger sized bulbs usually bloom better the first year. After flowering it always splits into numerous little rice grain size bulbs which take years to develop into flowering size and often succumb.

I. winogradowii — Daniels; International; van Tubergen.
Note: This is the only yellow species besides I. danfordiae. It has recently been made available and is still very expensive. Its bulbs do not shatter after flowering.

CULTIVARS: For convenience or from habit, many catalogues list hybrid reticulatas under the pod parent, usually assumed to be I. reticulata. Thus Joyce, which is part I. histrioides major becomes confusingly I. reticulata Joyce.

BLUE VEIL	Van Tubergen; new, expensive and available singly.
CANTAB	Barr; Cruickshank; Heimlich; International; Mars; Van T.
CLAIRETTE	Barr; de Jager; International; Mars; Scheepers; Van Tub.
HARMONY	Barr; Cruickshank; Mars; Van Tubergen.
HERCULES	Heimlich; Van Tubergen.
JEANNINE	Van Tubergen; new, expensive, available singly.
JOYCE	Barr; de Jager; Scheepers; Van Tubergen.
J.S. DiJT	Barr; Crucikshank; International; Mars; Van Tubergen; Wayside.
PAULINE	Van Tubergen.
PURPLE GEM	Barr; Parks (Check latest catalogue).
ROYAL BLUE	Barr; Cruickshank.
SPRINGTIME	International; Mars; Van Tubergen.
VIOLET BEAUTY	Cruickshank; International; Mars; Van Tubergen.
WENTWORTH	Barr; International; Van Tubergen.

Barr	Wallace & Barr Ltd., Marden, Kent. England. Colour cat.
Daniel	Henry Danielsen, 3036 N. Narragansett Ave. Chicago, Ill. 60634
de Jager	P. de Jager & Sons, 188 Asbury St., S. Hamilton, Mass. 01982
Heimlich	A.I. Heimlich, 71 Burlington St., Woburn, Mass. 01801
International	International Growers Exchange, Farmington, Mich. 48024 50¢ for fall catalogue. If unavailable may ship next year.
Mars	J.A.Mars of Haslemere, Haslemere, Surrey, England. Free catalogue. Minimum order $20.00 (U.S. currency)
Park	George W. Park Seed Co., Greenwood, S.C. 29646 Mostly seeds. Fall flower book lists bulbs.
Scheepers	John Scheepers Inc., 63 Wall St., N.Y. N.Y. 10005
Van Tubergen	C.G. van Tubergen Ltd., Zwannenburg Nurseries, Koninginneweg 86, Box 116, Haarlem, Holland. Wholesale only. Retail outlets - Orpington Nurseries Co. Ltd., Rocky Lane, Gatton Park, Reigate, Surrey, England. - C.A. Cruickshank Ltd., 1015 Mt. Pleasant Road, Toronto 12, Ontario, Canada. Note: Orpington Nurseries carry all the Van Tubergen reticulatas and therefore are not listed above. Americans cannot obtain bulbs from Cruickshank since they are imported into Canada.
Wayside	Wayside Gardens, Mentor, Ohio. Request fall catalogue.

U.S. residents wishing to import stock must write to the Dept. of Agri., Plant Quarantine Division, 209 River St., Hoboken, N.J. 07030, and specify the name and address of the foreign company you wish to import from. You will receive a statement of authorization after a long delay and this should be sent with the order to the shipper. Duty is charged.

Canadians wishing to import stock from any country write to Plant Protection Division, Canada Dept. of Agriculture, Ottawa, Ont. for an application blank, or if you have one then fill it in and send it as above and your permit will come by return mail. (Mail is slow these days so it might take 4 or 5 days.) Send the enclosed instruction and import label to the exporter and wait for shipment to clear inspection.

OTHER SOURCES: Your local nursery or the bulb and flower departments of large stores and supermarkets may stock the more common types of bulbs.

SPECIES NOTES OF F. CLEVELAND MORGAN

Bruce Richardson

This article is based on the information found in the Species Notebook of the late Mr. F. Cleveland Morgan (1962), covering a period of growing species iris from about 1916 to within a few years of his death - over 50 years of experience with many, many species and their varients in the climate of Montreal, Canada. However, like most garden notebooks, it was intended for his own use, a brief record of events as he noted them, and therefore leaves out many details which would be most useful now, but which were quite familiar to him and needed no record. Its main usefulness now is as a record of what can be grown in the Montreal area, where the winters are often very cold, usually well below zero with lots of snow, and the summers not overly hot. The sources from whence he obtained these species are also of historical interest and are mentioned where known.

Mr. Morgan is particularly remembered for his two fine Siberian introductions, Caesar's Brother and Tropic Night, still found in many gardens and among the finest in their class. His estate grounds at Senneville (a small town at the western end of the Island of Montreal and about 20 miles from the centre of the City), and particularly his rock garden were well known among horticulturists. The Morgan Arboretum was founded by him and is located just south of Senneville. In the business world he was noted for his part in the management of the Morgan Department Store, the largest in Montreal, and with branches elsewhere.

His notes were kindly made available for the use of the Species Group by his son, Mr. Ian Morgan, who has been attempting to gather together the remaining parts of his father's collection and preserve them. In particular he is interested in all his father's Siberian introductions, piecing the records together and locating as many as possible of those registered but not introduced. He is also becoming quite a species enthusiast in his own right, and has a unique collection of the many varients of I. sisyrinchium.

The names below are as found in the notebook and many are not recognized as species today and should be considered as historical notes.

I. albispiritis

Bronx # 58200. Goast iris of Southern Florida. 18-48", white, gold throat. Edges of the petals are curled and finely toothed. Leaves grass-like and bright green - very pretty. 2 were a gift of the Bronx Park in 1930. See Addisonia, Vol 14, # 1, plate 450. Dead (?).

ANDROMACHE

Van Tubergen - Holland. "Silvery-white & violet with a soft lilac veil." Two were a gift from Lloyd Austin in 1950. One alive at the end of the greenhouse in Sept. 1952. See photo etc. A.I.S. 1949 Oct. issue p. 61. (A picture in colour was pasted on.)

I. arenaria

Hungary, May, 3", yellow, sun, hardy perennial, very good. Roots from Mrs. Wilder 1919. Grows underground by trailing roots. Apt to bloom itself to death. May 20th, 1922. Grows from seed easily.

Had died out by 1928. New stock from J.C. Bennett in 1930. The colonies ought to be replanted every second year in fresh soil - sand and humus. Note: Hybrid (Schreiners) with urmiensis Bull. A.I.S. June 1936 p. 44.

Var. Keepsake Bright golden yellow. C.A. Cruickshank 1952, very good the end of May 1956. Very good 1960 & 1961

I. atrocycanea

Apogan. Bronx # 55120. Dark blue iris. Southern Louisiana. 2-3', blue purple & gold streak, constrasting styles of claret red. Open or half shade. Two a gift of the Bronx Park in 1930. Bog type bed. Dead (?) Mulch all thesesouthern species with peat moss. See Addisonia Vol. 14, # 1, plate 455.

I. aurea

Kashmir. Possibly a subspecies of Spuria. Late June. 3', deep yellow, hardy, very good. 10 roots from Van Waveren in 1921. Bloomed 29/6/25. Said not to come true from seed. Try?

Note, Miss Preston's hybrid with Ochroleuca. Note, hybrid Shelford Giant (ochroleuca x aurea) is a fine deep yellow. 36", late June, good. 1 type ..... 1955.

I. bracteata

California - Oregon. Siskiyons Mts. 6-10", yellow veined brown, flat in shape, hates lime, dry open pine forests, good drainage. Upper surface of the leaves glossy, underside dull, seeds germinate readily, creeping rhizome. Seeds W.C. Taggart Cowan 1930. Some survived to 1931. Seeds Carl English, Wash., 1959.

I. bucharica

Bokhara, Turkestan. Juno group. May. 15", cream & yellow, sun, sheaf of corn-like leaves. Hardy and very good. Leaf mould and sharp sand. 6 bulbs S. Cheepers 1917. Bloomed in hotbed in April 1918, outdoors May 1919. Bulbs should be lifted at least every two years as they increase fast and become crowded. One only 1920. Compare with I. orchiodes, large fleshy roots. (A colour picture was pasted on the back of the note page.)

I. x Bullegraphes

Bulleyana x chrysographes - Perry. 24". Standards and falls bright violet-purple, yellow blotch on the falls. Grass-like foliage. Similar to chrysofor, very pretty, but paler than Jenkin's which is the best of the series, C. Berkeley, B.C. 1927.
Very good 1943, 1945, 1946.

I. bulleyana

China, possibly a hybrid of I. forrestii, June. 15". Standards deep lilac, falls deep veined and spotted blue-purple on dull yellow. Hardy? Good. Seed Barr & Son 1922. Bloomed June 1925. Gift C. Berkley, B.C. 1928. 1 McTaggart Cowan 1930 ... dead. Geo. Many 1938. Seed R.B.G. Eden 1944. 5 ... bog 1944. Some moved to tank # 3 1959. Note hybrid Tenkinsii, a bulleyana x chrysographes hybrid. also Bullegraphes - bulleyana x chrysographes. Chrysogana - chrysographes x bulleyana. ((A black & white photo was pasted on the back of the page with the question "Is this not delavayi?). The picture resembled the I. bulleyana grown by your Editor.))

I. x Cacèque

Berry 1925. Prune purple, black purple, gold patch. H.M. A.I.S. Taller than D.K. Williamson. Tender. Gift S.S. Berry 1928. Type dead 1929. Again 1930, dead 1931. Three again 1931, dead 1932.

I. Caestax

Hybrid Caesar x a pink tenax by C. Berkeley. 12". Blue purple Sibirica type. Foliage not stiff, but curled at the tips. Moist open position. Hardy. Fair. C. Berkeley, Wellington, B.C. 1933, bloomed June 15th, 1935. Looks like a small and rather insignificant Siberian.

I. Californian

Macrosiphon group. Hates lime. Seeds Carl Purdy 1926. Dead (date?)

I. Carthaliniae (Fomin)

Spuria. June. Tall straight glaucous leaves. Poor. Seeds W.R. Reeder, Calif. 1935. Bloomed 1940. Discarded. See Dykes p. 62 "The Genus Iris".

I. chamaeiris

South Europe. Last half May. 12", deep yellow, sun. Hardy. Plants Gillett 1916. Rather washed in colour. One of the parents of many hybrids. They may be distinguished from Pumila by the blooms, which are stemless in the latter.

I. chrysaeola

Bronx # 58161. Gold embroidered iris. Southern Louisiana. 3', red-purple, streaked, gold throat. Full sun in ditches. One gift of the Bronx Park 1930. See Addisonia Vol. 14, # 1, plate 454.

I. x Chrysofor

Chrysographes x forrestii (Perry). 1-2'. Standards rich violet-purple, shaded black. Falls long, bright blue, shaded violet-yellow and white lined blotch.. Similar to Bullegraphes. C. Berkeley B.C. 1927 Some in lawn ... very good 1959. Some moved to tank # 3 1959.

I. x Chrysogana

Chrysographes x bulleyana. 14". Standards bright violet-purple, falls light blue suffused purple, white and yellow lined blotch. Grass like foliage, strikingly intense in colour. C. Berkeley 1927.

I. chrysographes

West China. June. 12" varies. Red & purple-veined gold. Hardy. Very good. One root Perry 1918. Dead. Seeds Barr 1922, flowered 1925. Two plants Bennett 1924. One plant Mc T. Cowan 1930.
var. hybrid chrysographes x bulleyana - see I. Jenkinsii, blue veined, gold streaks at the throat. 18" Very good. Hardy. Two plants Berry fall of 1920. Seed hybrid R.H.S. 1933. See hybrids Chrysofar; Chrysibirica; Chrysogana; Bullegraphes; Jenkinsii. See Black Form -very dark maroon. Davenport 1935. Good 1943, 1944, 1947, 1955. Also tank 1960.

I. x Chrysobirica

Chrysographes x sibirica. Colour range from rich blue to deepest purple, bold white & yellow markings on the falls. Grass-like foliage. Hardy. Very good. C. Berkeley, B.C. 1927.

I. Chrysophoenicea

Southern Louisiana. Bronx # 58167. 30-36", red-purple with a gold throat. Large six-ridged seed capsule. Half shade or ditches and swamps in the open. A rich and intense colour. Two a gift from the Bronx Park in 1930. See Addisonia, Vol. 14. # 1, plate 452. (crossed out, so presume an early demise.)

I. chrysophylla

Macrosiphon group, California and Oregon. Early June. 8", colour yellow, reticulated, blue stiff grass-like leaves. Dress with pine needles. Hates lime. Light well drained soil with plenty of humus. Hardy? Very pretty. Best grown from seed - resents disturbance. Seeds from Mrs. Chas. Stout in 1927. Plants in 1928. Very pale cream-veined. Bloomed 10/6/30. HYBRIDS: Chrysosibirica. Hardy. These proved to be hybrids of Chrysographes and Wilsonii.
(Photographs made by J.C. Bennett, B.C. in 1928 are with the description)

I. clarkei

Darjeeling. June. 2°, blue to red purple - varies. Solid stem, foliage glossy on the upper surface, glaucous below. Hardy/ Gift from Mrs. Langhorne, Penn. 1924. In exchange with Bennett, B.C. in 1924. Died 1926. J.C. Bennett 1927 & 1928. Seeds R.H.S. Wisley in 1939. Bloomed June 29th, 1947.

I. cristata

6" Pale blue-lilac. Sun. Hardy. First half of June and the end of May. Very good. One of the daintiest irises for a rock garden. Divide in summer only. I saw the white variety in Mrs. (General) Wild's garden at Dedham, Mass. Lovely.
Var. alba Early June, Very lovely. Very good in 1947, 1955, 1960. One clone Lown 1923. Mrs. Weld, Dedham 1923. Three from Mrs. De Barocse in 1937. Eaten by mice in 1960.
Var. lacustris. A local variety from the shores of Lake Huron. Darker and flowers smaller. Whole plant more compact. Lown fall 1921. Bloomed May 28th, 1923. Very good in 1934. W.G. McNair, Ont 1937.
(A picture of I. lacustris and a drawing are added.)

I. danfordiae

Eastern Asia Minor. Reticulata section. Rich yellow, flowers appear before the leaves. Hardy. Sandy soil. Very lovely. 25 bulbs from Van Waveren in 1921, sent as reticulatas. 6 from Col. Gavin Jones, England in 1937. Potted. First lot did not bloom in 1923 although leaves appeared. Very good in 1922. Dead later in 1923. Said to be difficult in Holland also. Bulbs exhaust themselves in blooming and collapse into tiny offsets which must be nursed along. 3 from C.A. Cruickshank in 1947. Potted; up in 1948. Dry off for some months after growth has died down and plant in sandy soil.
(A coloured picture of I. danfordiae is included)

Delachrys

Hybrid of Chrysographes x Delavayi. (Berkeley) Red purple. Vigorous. Damp. C. Berkeley, Wellington, B.C., 1933 (Crossed out so presumed to have died).

I. delavayi

S.W. China. End of June and July. 3-4°; soil heavy and wet. Falls violet-purple and white markings. Standards deep-violet.

Long falls. Flower stems overtop the leaves. Hardy. Very good. 10 from Van Waveren fall of 1921. Bloomed June 1925 and 7/7/26 Seeds from McTaggart Cowan in 1930.

I. dichotoma

Vesper iris. Autumn. Lavender purple self, varies in depth of colour. Hardy. Best treated as a biennial, as the plants often flower themselves to death. Comes readily from seed. Seeds Mrs. Allen Hartsdale 1924. One plant from Mrs. C. Stout in 1925. Flowers small for the heigthtof the stem.
(Coloured and black and white pictures are included).

Dorothea K. Williamson

Williamson 1918 - A hybrid between fulva and foliosa, of vigorous growth, attaining a height of 5 ft. in rich moist soil; vivid green, broad grassy leaves; the flower of glorified orientalis form, an intense, almost velvety Dark Madder Violet. 2-5 ft.

A really fine thing. Bloomed about July 10th and earlier. Van Wert Gardens 1920. Good in 1958. (A coloured picture and a black and white photograph of it growing in a clump in his garden are included).

Iris x Dougbract (Perry)

Douglasiana x bracteata. Standards and falls are cream-yellow. Broad foliage. C. Berkeley, B.C. 1928. Christiensen, Victoria, B.C. 1942. Up 1943. (Page crossed out, presumed dead).

I. douglasiana

Southern California and Oregon near seacoast. End of June. Macrosiphon group. 6", light soil, well-drained and sun. Cream and lavender to roses or deep purple. Mine rose-purple, bloomed 1934. 1 Perry fall 1920. Leafmould, hates lime, half shade. Evergreen foliage, thick sheating leaves. Flowers not carried above foliage. One survived two winters (1923) and bloomed June 23rd, 1924. Bloomed July 5th 1926. Moved in 1929 to new mor (I think this is a name of one of his special beds; it appears often). Bloomed 1934. 1 McTaggart Cowan 1930. Seed from R.H.S. Wisley in 1944 - germinated 1945. Seed from R.H.S. 1949 in pot.
Var. alba Seed Rex D. Pearce 1949. Christiansan R.M. D. 3, Victoria, B.C. 1942. Up 1943. Bloomed true purple 1945.
Seeds from Carl English, Wash. 1957. (Apicture is included).

Elizabeth Washington

T.A. Washington, Nashville, Tenn. Apogan. Rich blue and gold in the throat. Hardy and good. Gift from Mrs. Nesmith in 1953. Bloomed May 1957. Some moved in 1954 and 1955. See also Silk & Satin; Koamer's Yellow, Hoeochee and Ruth Marsalie.

I. ensata

Kashmir, China Japan. Early June. 18", greyish blue, grassy foliage is glaucous. Hardy, good, delicately fragrant. One Rowancroft Gardens in 1923. Very pretty and neat for the side of a stream. Seedlings vary. Comes tardily from seed. Note the var. palulovia. # 13627 from seed = ensata. See note A.I.S. Bull. by Miss Preston p. 93, # 64, Feb. 1937.

Iris Fimbriata

See I. japonica. 10 Van Waveren, fall 1921. Test garden.

I. flavescens (Germanica)
Caucasus (Introduced by Cree). June. 2°6", Sulphur, sun, hardy, very good. Plants Elliot 1914. Gift of H. Norton 1918. Charming when massed with Mad Chevean. Stem apt to bend.

I. Flexicaulis
Bronx # 58223. South Central U.S.A. Violet-blue, streaked yellow and white. Small flowers. Swampy ground. Four a gift from the Bronx Park in 1930. Mulch with peat. See Addisonia Vol. 12, # 1, plate 389. (Page crossed out, so presumed it died).

I. foliosa
Southern Sates. End of June. 30", pale purple-blue flowers on short stalks around the base. Broad, sword-like foliage. Hardy and very good. Does best in deep moist ground. Mrs. Wilder 1920. Lovely as a cut flower in a flat jade green glass bowl. Mix also with its hybrid foliosa and I. Monspur, or with the hybrid D.K. Williamson. (A picture is included).

I. forrestii
Western China and Tibet. June, 20", clear yellow with veinings. Moist soil, hardy, good. One root from Perry in 1918. Dead. Seeds from Barr in 1921. All up 1922, bloomed 5/6/23 and proved to be I. Hookeri. Two plants from Bennett in 1824. Seeds from R.B.G. Edinburgh. Tank # 4, Bloomed in 1947.

I. fulva
Southern U.S.A. June. 2°, terra-cotta. Six segments all droop outwards at the same angle. Hardy and good. Gift Mrs. H. Langhorne, Penn. in 1924 and 1926. Mrs. Chas Stout, N.J. 1928. Six from the Bronx Park 1930, # 55215. Flowered 1934, 1935 and 1943. Mulch with peat moss. See Addisonia Vol 12, # 1, March 1927. See hybrids fulvalva, Dorthea K. Williamson and Cacique. (A coloured picture is enclosed).

Iris x Fulvalva (Foster)
A.M. R.H.S. Fulva x foliosa. End of June. 2°, red-purple. Hardy and good. Very good in 1944.

I. giganticoerulea
Mississippi delta. Big blue iris. 30-48". Violet-blue, streaked with white veins at the throat and a gold band. Among grasses and open sun. Very good. Four a gift of the Bronx Park in 1930. Mulch with peat. See Addisonia Vol. 14, # 1, plate 451. (Page is crossed out, so presumed the iris died). (A coloured picture is included)

I. gormanii
Western North America, Coastal Mountains of Oregon. Apricot, 8-12" cream fading to blue-white, orange blotch, large flowers, foliage grass-like. Well-drained soil in sun or slight shade as open woods. Only found in one locality for the first time in 1924. Give plenty of moisture during growth. Very good; perhaps a form of I. tenax and comes 90% true. J.C. Bennett, B.C. 1927. Dead. C. Berkeley, B.C. 1927 and 1928. Dead. Same 1933. Dead. Christienson, Victoria, B.C. 1942. Dead 1943. Many of these Californians hybridize readily with each other. See A.I.S. Bull. Oct. 1934, # 53.

ED: To be continued in SIGNA # 5.