



SIGNA

March, 1976 - No. 16.

THE SPECIES IRIS STUDY GROUP
OF THE AMERICAN IRIS SOCIETY

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MEMBERSHIP: \$3.00 per year. Send to Secretary-Treasurer.

BACK ISSUES OF PUBLICATIONS: SIGNA 1 to 15 are available at \$1.50 each
IRIS STUDY MANUAL - \$5.00 per set.

ARTICLES AND CURRENT NEWS: There is a continuing need of species
information to be printed in SIGNA.
Please sent in as soon as ready to EDITOR: Bruce Richardson.

Editorial Comments

Bruce Richardson

This item would more normally come at the end of this issue to fill out the last page, but the situation with this issue of SIGNA is quite different from the last four. There has been a change of editor, due to the sudden and quite unexpected resignation of Bill Gunther from his post as editor. His reasons appear to be discouragement at the response from the membership to his plea for articles to print in SIGNA 16 and the issues to come. The thought occurred to him that the Group had reached the end of the road and ought to be disbanded due to lack of interest in its work (and its publication). The Executive has come to the conclusion that this thought is illfounded and not true, and the decision has been made to carry on as best we can. Several of our Executive also wanted to relinquish their offices for personal reasons that had nothing to do with the viability of the Group to carry on.

It is perhaps unfortunate that we cannot have meetings at regular intervals and elect new members to our Executive in a more normal fashion than has been the case in the past. Our Group seems to have just grown without any formal constitution, with interested people volunteering to fill the positions and do the required work. Our connection with the A.I.S. has been as an approved branch of the Scientific Committee, but now there is some thought that we should become a full section of the A.I.S. Comments on this would be appreciated.

Roy Davidson asked to be relieved of his post as Chairman nearly a year ago, largely for health reasons and age, and a successor has yet to be named. Several names have been suggested, but the appointment has still to be made and further names will be considered if our members care to suggest them.

Jean Witt has done a wonderful job of operating the seed exchange, not only creating avid interest in raising species with this source of seed, but also providing the additional funds required to keep the Group out of the red without raising the dues by more than a moderate amount. She too has failing health, as well as age, and would like to turn over this position to someone else, but in the meantime will carry on on a temporary basis until a successor is found. Would any of our members care to take on this worthy and interesting position. It involves a lot of writing, so typing is necessary, but the rewards of the interesting letters one receives goes along with the job.

Our Secretary-Treasurer, Homer Metcalf, would also like to relinquish his position in the near future. He is approaching retirement age, and will be leaving the University, and in consequence lose the secretarial help and access to the computer at the university. I understand he wants to travel and thus would find it inconvenient, if not impossible to carry on this position. The work is not too difficult, but does require quite a bit of time and letter writing, as well as keeping accurate records. If we become a section of the A.I.S. it is assumed that the St. Louis office of the A.I.S. will relieve our secretary of some of this work of recording and receiving dues - as is done for the other sections. We feel many of our members are qualified for this job, and perhaps have the time and inclination for it as well. Who would like to take it on?

Our older members will recall that I edited the first eleven issues of SIGNA, and had a part in the founding of the Group. Its history was pretty shakey in the beginning and there was some real question of its survival. The crisis now is not as great as then, but never the less is very real. I reassumed the editorship - on a temporary basis - because I felt most strongly that SIGNA was serving a worthy purpose, and should not fail to carry on as in the past. I had good reason for asking to be relieved of the editorship back in 1972, and those same reasons are valid today. I am 66 now and like all of us must slow down as much as possible - as if anyone really can when they enter so-called retirement - and need someone to take over this very necessary position. I have phased out most of the farming here and sold my iris nursery business last fall and am looking forward to reducing my occupations still further, so a replacement of me too is required in the near future. SIGNA is the binding tie that holds our Group together, and indeed for many of us is about all we have to show for our membership fee, although this is not meant to belittle the wonderful work Roy has done so far with the STUDY MANUAL. Our hope is that he will be able to find the time to continue it, and I am sure he will be able to do so if he can be relieved of the Chairmanship position.

Thus you see we have four positions on the Board of Directors in need of filling as soon as possible. All are being filled now, but on a strictly temporary basis. It is coincidental that these four positions became vacant at the same time, and certainly not because these people don't want to see the Group carried on, or are unwilling to support it any further with their time and energies. It is most necessary that volunteers come forward to fill these positions - and soon - if you believe in and want the Group to continue its activities. Those able and willing to help should contact Homer Metcalf, both with suggestions and offers to serve in any capacity they feel they can handle.

This issue of SIGNA is of necessity of a different format than the previous four issues by Bill Gunther, who had access to a better typewriter than I and certainly with more skill in assembling an interesting publication. Those issues were by offset printing from typed masters, which allowed the convenient insertation of photos and drawings, as compared to this issue - and the first eleven - which were done on a Gestetner duplicator from stencils typed on a so-so electric typewriter. Costs are lower this way - as well as the lower quality - and coming from Canada the postage is also lower than in the U.S. Nearly as good as the issue Bill mailed from Mexico at about half the U.S. rate. Thus the financial problems are not going to prove insoluable as with so many Societies today and only manpower - or womanpower - remains as our real problem.

Much as I would like to have original material in each issue, this is obviously impossible as not enough work is being done - or at least being written up for publication of an original nature. So SIGNA will continue to be largely reprints, but hopefully reprints of a type that most of us would not be too likely to run across. This was largely the original intent when the Group was first organized when a lending library of species articles (on individual species) was to be the format. Although Tom Buckley's idea didn't quite take form, the present format did, and apparently from letters received from members has supplied a need. When I first became interested in species I felt frustrated in trying to find information on the iris species, and the result of my searches for such is the basis for how I edit SIGNA.

WELL KNOWN AND LESS KNOWN IRIS SPECIES

Eckard Berlin

Anger is often the cause of new ideas. I have had real moments of anger with my new, modern tall irises for which I paid so much: the plant didn't develop and hardly bloomed.

If you are familiar with the climate of my region, you will certainly understand. I live in South Germany exactly in North Swabia, that is on a highland about 500-600 meters above sea level, and 80 kilometres to the North of the Alps. Here the climate is rigorous: long winters relatively damp and rainy in spring, short summers and autumns during which very often we have frost. So, you can imagine that my land is not suitable for the cultivation of California Irises; as a matter of fact, for instance during 1962, frost didn't appear except in July and August. Once I decided to try if irises commonly grow in the climate of my region. I knew that the old diploid kinds grew quite normally here, but having seen the flowers of the old and new types of irises blossom in the warm climate of the Rhineland, I really doubted that the climate of my region was suitable for the growing of irises.

As I wanted to have a complete knowledge of this fact, I decided to begin my study from the very origins of iris cultivation, that is, from their species.

Throughout 1961 and 1962 I collected several kinds of irises during my trips to Hungary and Rumania; from Mr. Rudolf Hanselmayer I got other types, and I also came in contact with a Russian amateur from whom I received the resistant kinds I had wished for. So, in a few years I was able to get a rich collection of irises. I have planted nearly all these kinds in an open field, only the most precious and rare ones, of which, however, I have very few specimens, having been planted for the moment in flower pots which are kept in greenhouses; they can be, of course, more easily controlled.

All colour slides shown by me and mentioned in my report were taken in my garden or in my greenhouse, only the slide of *I. kamaonensis* was taken in Hanselmayer's garden.

<i>I. albertii</i>	<i>I. bloudowii</i>	<i>I. imbricata</i>	<i>I. robromarginata</i>
<i>I. aphylla</i>	<i>I. bosniaca</i>	<i>I. mellita</i>	<i>I. scariosa</i>
<i>I. balkana</i>	<i>I. chamaeiridis</i>	<i>I. furcata</i>	<i>I. timofejewii</i>
<i>I. barthii</i>	<i>I. croatica</i>	<i>I. pseudopumila</i>	<i>I. variegata pontica</i>
(<i>Pumila barthii</i>)	<i>I. flavissima</i>	<i>I. reginae</i>	<i>I. variegata ruskyi</i>
<i>I. binata</i>	<i>I. illyrica</i>	<i>I. reichenbachii</i>	<i>I. pumila</i>

It is impossible to speak or write extensively about all these species; there is a whole book explaining everything about them. However, now I should like to give some information.

It is encouraging that all species grow rather easily; the flowers of *I. pumila* bloom all together; just during these first days of May, when these few lines are written, a bed with plants originating from seeds is blossoming; this bed could well compete with one of pansies

on account of its brightness and its particular colour shades. Just nearby the gold-yellow flowers of I. bloudowii, one year old plants, are blossoming! They are inferior to the pumilas as to their capacity of developing, but they surpass them as to brightness. Who will develop for us for the first time the tetraploid I. bloudowii? What possibilities might be introduced for growing this tetraploid type!

And a little further on also I. scariosa, this plant too being one year old, is beginning to blossom. A week ago it bloomed in the greenhouse and the flowers were a bright blue with a light violet shading; of course, this iris will be brighter if planted in an open field. This type and the similar I. timofejewii, whose colour is rather paler, succeeds in worrying me particularly, as their pollen is simply omnipotent. The tetraploid I. barbata, the diploid species, the chamaeiris and bloudowii form their seed-pods as soon as you scatter on them the pollen of these two Russian species. Even the arenaria hybrid flowers, BUTTERBALL, BRICKY and GLOW GLEAM, which theoretically should be sterile, this spring have formed their seed-pods. Let us hope these pods are full and the seeds will sprout; for the moment I cannot imagine which type of flower will result by cross-fertilization of these flowers similar to I. sibirica with the usual Pogon iris.

In my region I. aphylla will develop completely only after two or three years; this warm-loving species grows much better in dry places and along walls facing south. In my opinion I. croatica is more appropriate for cold climates; as a matter of fact, it multiplies and blossoms abundantly here; but its form and colour do not satisfy me completely. I have cross-fertilized them with aphylla and I hope to obtain a luxuriant and bright hybrid flower as the starting point for the cross-fertilization in the TBs. Here I. mellita and I. rubromarginata are very delicate and do not develop; also the hybrid types of this species do not grow well. Perhaps the new types of I. mellita which are doubtless more luxuriant, will offer wider possibilities.

I got I. binata in a very fine dark blue colour form and the pale yellow irises with a blue beard from Romania. Both of them look like hybrids of pumila aphylla. Now one has to mention also pumila barthii whose flowers have a greenish yellow and pale blue beard. The binata types are very luxuriant but the growing of I. barthii is rather difficult. In my opinion these three types hold out good hopes of growing well. Also the cultivation of LAURIN by Hanselmayer derives from this group. This type seems to be really important for cultivation.

As to aphylla crosses I have to mention that it is difficult to get beautiful types in the F-1 generation, but in the F-2 generation you get excellent flowers and above all very many of them with a blue beard.

Also I. reginae, one of my favourite irises, has poor development; it is a fine iris with a slender and rigid stalk; imagine it as white I. variegata with lilac shading. By cultivating this flower I have realized that this type does not easily form pollen. During the last years I obtained some crosses in the diploid types which produced also a great number of seeds. In my experience this flower produces seeds which germinate with difficulty. For instance, three years ago I got a seed-pod of bloudowii X furcata with over 90 seeds from which till to-day nothing has yet sprouted.

I. variegata grows well here and has abundant flowers; the type I. variegata pontica is very fine but, unfortunately, all the buds of the flowers cross-fertilized are rather poor in germination. I. reich enbachii, I. bosniaca, I. bosniaca statelle are luxuriant and full of flowers provided they are not planted in a wet or even damp place. We have some varieties which in my opinion are crosses with I. mellita.

I. chamaeiris could give us surprises. I got this iris from the Botanical Garden of Munich in 1962, they told me it came from Vence, France. The growing of this type is quite easy.

I have planted I. flavissima in an open field. In contrast to I. bloudowii it did not last for long, owing to dampness. It had longer life when planted in a pot and kept in a greenhouse. The pollination with different pollens has proved relatively satisfactory; I am sure that there are no self-pollinations, the poor germination of this year shows it, only the cross flavissima X bloudowii sprouted. By growing the flavissima irises which all derive from one population, I could notice some colour shades; from yellow to tangerine beards as well as from chromium-yellow blood-red leaves to yellow-lemon flowers.

I planted a very little plant of I. kamaonensis which after a few weeks withered. I got from Rudolf Hanselmayer a cross: heliane X kamaonensis, originating from a seed plantation; it does not develop well and I have doubts about the success of cross-fertilization. I have planted the tetraploid form of reichenbachii, I. balkana in an open field because I have few of them. I have seen a large group of these flowers, very beautiful and luxuriant indeed, in the Alpine department of the Botanical Garden at Munich, and I think they should also grow in my region because we have the same climatic conditions as Munich. I consider I. balkana (48 chromosomes) as one of the most important plants of dwarfs and medians for cultivars, apart from the inhibitor for the Dome, which possibly has also produced progenitor (and not I. reichenbachii), we have the possibility of obtaining smaller lilliputs which might hardly surpass the height of I. pumila and, therefore, could be included in the class of the MDB. TB X I. balkana should give medians and dwarfs possibly with blue beards.

I am not at all sure that my species are genuine in all cases, yet I assume that this happens to other people too. I therefore, consider this Symposium as a chance, unique of its kind, to clarify the names and the classification of the species.

ED: Reprinted from the FIRST INTERNATIONAL SYMPOSIUM ON IRIS - 1963

Although this article and its thoughts and suggestions as to crosses is well known to breeders of the smaller iris, I thought it might be new and of interest to those of our members beginning with the species and interested in crossing them to see what happens. Eckard Berlin's results in attempting to grow some of these species is similar to my own, and likely because the climate here in southern Ontario is not too different than North Swabia, although the elevation here is only half as much. The paper was written in German for the Symposium and lost something by way of grammar in the translating - probably done by the Italians who published the reports in book form.

IRIS HUNTING IN ASIA MINOR

William Schacht

It is 40 years ago that I first became acquainted with the flora of Asia-Minor. I was then working as a young gardener in the Botanical Garden of Berlin-Dahlem, where every autumn parcels containing bulbs and rhizomes arrived from Turkey. Walter Siehe used to send them from Mersina. He was an engineer working on the Taurus railway line and an amateur botanist and plant collector. He discovered many Asia Minor plants which he described and introduced. I was especially interested in the various kinds of I. persica whose steel-blue, purple-grey or whitish flowers I admired very much, and I longed to travel to Asia Minor to see these beautiful plants growing on their native soil.

I was only able to realize this dream of my youth a few years ago, when I accepted an invitation from my Turkish Friend and colleague Achmed Attila. I flew from Munich to Istanbul in mid-May 1954. Having lived many years in the Balkans, I was well acquainted with Eastern life and habits. But Istanbul, considered one of the most beautiful cities in the world, was unknown to me. I was therefore very much impressed when I saw the interesting town. One could spend many days visiting the numerous mosques and museums, but natural beauty of the country-side attracted me most of all and I was keen to become acquainted with the flora of Turkey; we therefore set out immediately. Our first excursion took us to the shores of the Bosforus, where we found some lovely orchids (ophrys speculum, O. attica) and also I. mellita.

The dwarf species of bearded irises are prevalent here on sandy soil, just as in Bulgaria where I found some years ago, growing on the shores of the Black Sea. Some plants have a dull-yellow and others a purple-grey flower. The short sickle-shaped leaves are a characteristic of the kind. We climbed the Bythynian Olympus mountain near Brusca, where we saw Crocus chrysanthus var. coerulescens and C. gargaricus growing and flowering near the melting snow. We then flew to Ankara, the rising capitol of Turkey which lies in the middle of the hilly steppes of Anatolia. The most varied kinds of steppe flowers grow in the immediate neighbourhood of the town, including I. acutiloba, a small brown kind belonging to the Oncocyclus species.

Not far from Ankara, near Beyeran-Ormanje on a hillside, we found I. lutescens and I. ochroleuca growing in the valleys. It is wonderfully beautiful Spuria iris often reaching the height of 1m., with ivory coloured flowers speckled with yellow. Southeast of Ankara this stately iris grows in massed groups. We saw thousands of them in the fields near a river. In the springtime when the level of the river is high, the fields become very damp, but during the summer they dry out completely.

From Ankara we flew to Iskenderun near the Syrian border to visit the Amanus mountains. On stoney slopes we found the darkgreen, grass-like tufts of I. cretensis and the first plants of I. persica. The flowering time had long been over and it was difficult to discern the 10 cm. high plants with their narrow leaves growing amongst the loose grass. It is remarkable fact that I. persica never grows in large or small colonies like most irises; but stands isolated by itself. The bulbs, the size of a hazel-nut have few fleshy roots which are embedded in the

stoney soil to a depth of 15 cm. It required care and patience to uproot these bulbs without damaging them. On the inclines of the Taurus mountain, we were also able to collect I. persica, but these had also passed their flowering time. However, in the next spring they flowered in March in the alpine house where we had planted them and this gave me great pleasure. It was mostly I. persica var. sieheana with light-grey and purple-spotted flowers and the cream-white I. persica var. isaacsoni. Unfortunately I. persica is a very difficult plant and cannot live long in a garden; this is the reason why it is seldom seen in cultivation.

During our journey to the Anti-Taurus, I had a pleasant surprise: I found I. crocea (I. aurea). It grows on damp meadows in the vicinity of the little town of Marash. It is a magnificent plant belonging to the Spuriae Section, with deep-yellow, graceful flowers on stems of about 1 m. high. Why this most effective plant is so seldom seen in gardens is astonishing.

More to the east, near Gaziantep, we found I. sari which belongs to the Oncocyclus group, growing amongst the stones of the steppe. The native peasants call it "Kurkulak" i.e. brown Sword-lily, because it has honey-coloured petals interwoven with red-brown veins. Unfortunately even this species, like all the Oncocyclus Irises, is difficult to cultivate in gardens.

Not far from Gaziantep (Aintab) near the river Euphrates, we were able to collect I. histrio var. aintabensis. Of course, the flowers had faded long ago as it was now the month of May, but the presence of the plants was easily discernible on account of their tall, sharp-edged, upright leaves. When digging up the plants from the dry, black soil, we found the seed-pods on short stems located just above the bulbs under the ground. Doubtless, the ants, which in summer are able to penetrate the soil, owing to the cracks occasioned by the heat, propagate the seeds. One of the very first irises to flower is I. histrio var. aintabensis, it unfolds even before I. reticulata; it has light-blue flowers with darker spots.

During this trip to Turkey, I had the opportunity of seeing many other beautiful plants; but I have only mentioned the irises I saw, because these flowers are the ones in which I am most interested.

ED: Reprinted from the FIRST INTERNATIONAL SYMPOSIUM ON IRIS - 1963
Original paper given in German.

Oops!

Our thanks to Ernest Luscombe for calling to our attention a major error in SIGNA 15, p. 404. Don't ask us how these things happen-- just get out your scissors and paste and make new captions NOW for both the article and the picture so that they read IRIS FILIFOLIA: This same photograph by J.E. Downward also appears on p. 169 in GARDEN IRISES where it is clearly labeled I. fillifolia.

All the text refers to I. filifolia, and its name could well be inserted at strategic points, just as a reminder. As for the confusion referred to in paragraph one, in the GENUS IRIS, p 215, Dykes says that a large early form of I. xiphium was sold by dealers as 'I. filifolia', but has "nothing to do with the true I. filifolia, as will be seen by comparing Plates XLIII and XLIV." We have made tracings of the two--note that the flower of I. xiphium var. praecox, (bottom), has almost no perianth tube, while that of I. filifolia, (Top), "is always of some length." All of the photographs of Dutch and Spanish Iris that I have been able to find in which the base of the flower is visible, show the short perianth tube of I. xiphium.

Dykes say further (p. 219) that I. filifolia has stout-leaved forms as well as thread-like ones, and that one of the former was figured in the Botanical Magazine as Xiphion tingitanum--Xiphion being one of the generic synonyms for the bulbous section of the genus Iris. "I. filifolia differs from I. tingitana in its broad, bluntly rounded standards and in its colour. It is perhaps one of the most striking of the Xiphium section. Its rich red-purple flowers are of a shade that is not found elsewhere. Another peculiarity is that the central orange patch is surrounded by a halo of blue. A microscopic examination reveals the fact that no blue pigment is present and that the blue colour is produced by a mixture of the orange and red-purple cells, where the two colours run into one another."

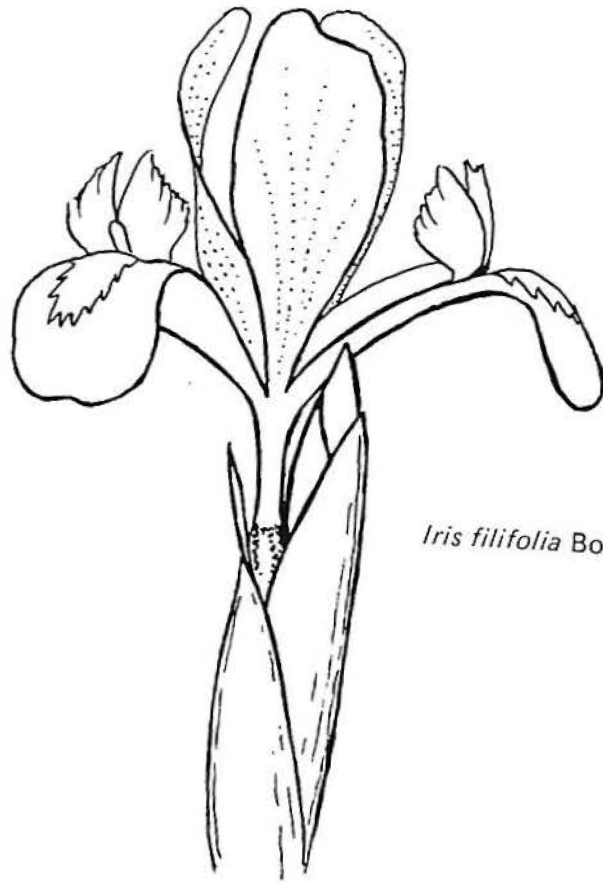
If one were fortunate enough to obtain I. filifolia, it would seem that the above traits, plus the mottled basal sheath mentioned by both MW. Prynne and Mr. Luscombe, would serve to distinguish it from all other members of the section.

While we're at the corrections: in SIGNA 15, p.415, opposite the bottom photograph--delete the word China and substitute Japan. Iris gracicipes is native to the woodlands of Japan.

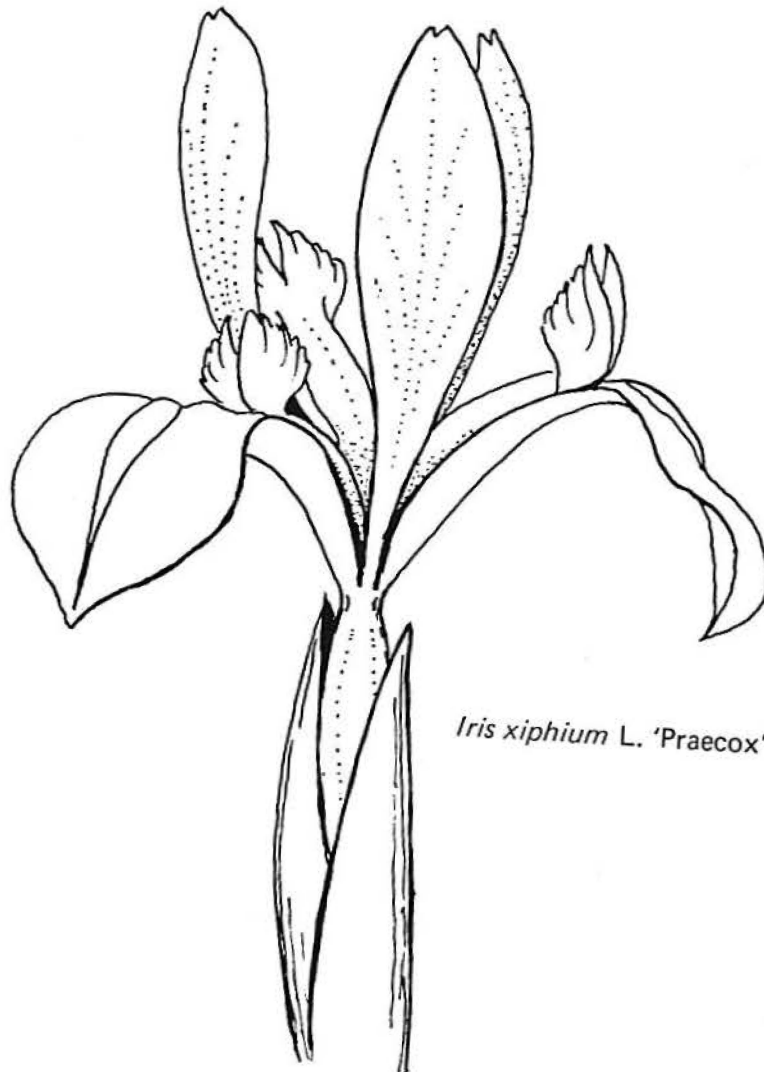
The question has also been raised--is it correct to speak of I. tridentata as having no standards? Visually, they appear absent (see photo page 349, SIGNA 13) though they may be technically present in reduced form as tiny spines, or the peg-like remains of the claw or shank. In the Curtis Botanical Magazine illustration 2886 they show clearly as small lance-shaped structures, suggesting that their size is probably variable. There is considerable variation in the vestigial standards of I. setosa. I would expect similar variation in I. tridentata.

Jean Witt.

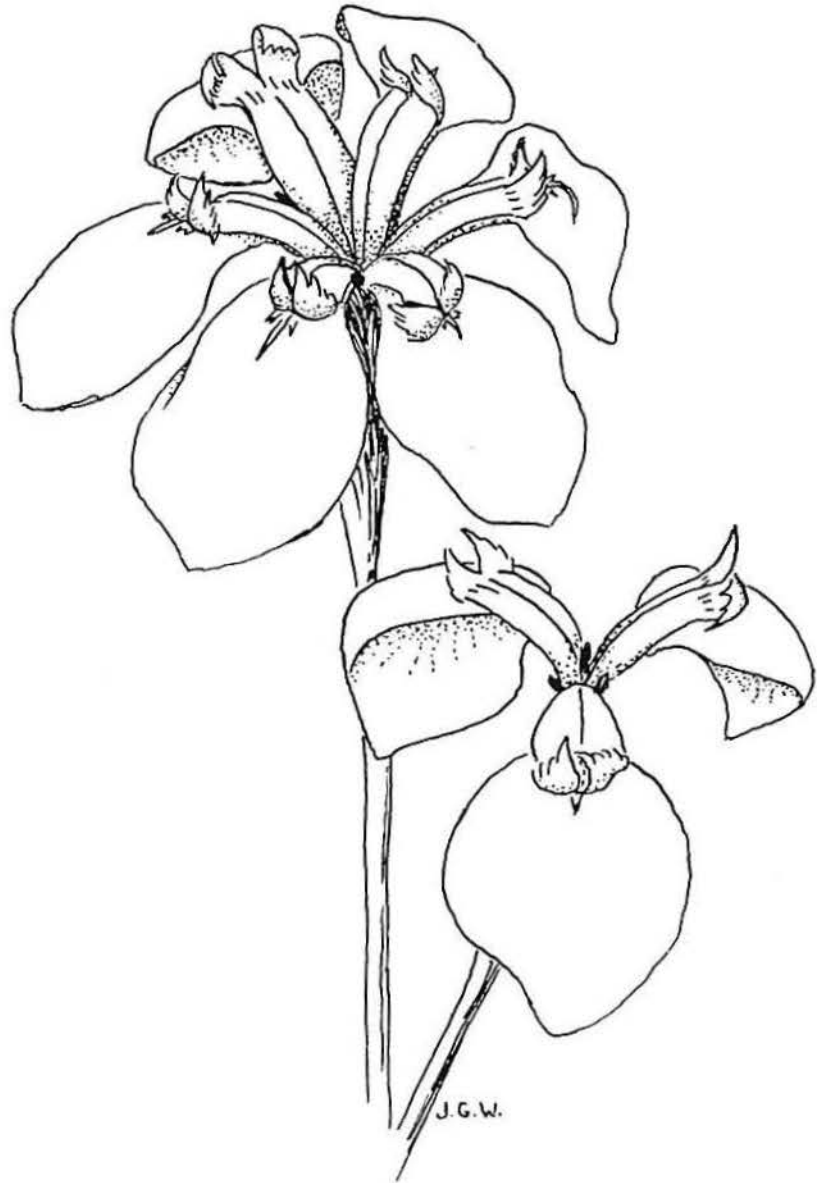
ED: I believe I have I. filifolia growing here, and hope for a flower this spring for identification. A number of bulbs were sent to me two years ago by a Canadian friend who moved from Canada to near Marbella and Gibraltar (where this iris is found in the wild), and being very small none bloomed the first spring but one did flower last spring. Just my luck the cat ate it just as it was opening. I saw enough of the colour to call it blue, rather than the reddish-purple mentioned by Dykes. The bulbs were somewhat larger than reticulata type, although the same general shape. The original wild ones were smaller than reticulata.



Iris filifolia Boissier



Iris xiphium L. 'Praecox'



Top: doubled flower of 'Kerigamine'
Bottom: normal flower

IRIS PSEUDACORUS L. ESCAPED FROM CULTIVATION IN CANADA

W.J. Cody

Plant Research Institute, Central Experimental Farm, Ottawa, Ontario

The yellow-flowered iris, *I. pseudacorus* L., which is a native of Europe, North Africa and Syria, was introduced sparingly into Canada as a garden ornamental. It has, however, like the more widely cultivated blue flag, lost favor in the eyes of the grower because of the much more showy garden varieties that may now be obtained commercially.

I. pseudacorus has escaped to swamps and other moist habitats, where it makes brilliant yellow displays during late June and early July. In most areas the first plants probably have arisen from rhizomes discarded or otherwise removed from nearby gardens. Subsequent spread has resulted from the breaking up of rhizomes or from seed, which is produced in abundance. In some places this iris has spread to such an extent and forms such a scattered pattern that it has the appearance of a native plant.

Specimens from the following herbaria have been recorded: Canada Department of Agriculture, Ottawa (DAO); National Museum of Canada, Ottawa (CAN); University of Toronto (TRT); and the Ontario Agricultural College, Guelph (OAC). According to these records *I. pseudacorus* is known from Newfoundland, Nova Scotia, Prince Edward Island, Quebec, Ontario, Manitoba and British Columbia. The specimens known to the author are as follows:

- NEWFOUNDLAND:** One large colony, brooks, rills and shallow pools between Quiddy Lake and Middle Cove, Fernald and Wiegand, 5194, Aug. 2, 1911 (CAN)
- Nova Scotia:** Edge of pond, far from houses, Pond Cove, Briar Island, Digby County. J.S. Erskine 55.173 June 29, 1955 (CAN).
Yarmouth County: Seaside, Ledge Harbour, Bruce and MacFarlane, s.n., June 23, 1951 (DAO).
- PRINCE EDWARD ISLAND:** A few large colonies, apparently naturalized, lower part of creek in the finer alluvium, Campbellton, Erskine and Smith 1919, July 6, 1953 (DAO).
Queen's County: A large stand planted in Smelt Creek beside road at Blythe Hurst's, Brackley Point, D. Erskine, 1846, June 30, 1953 (DAO): Roadside ditch near Suffolk on St. Peters Road, Erskine and Messervy, 1807, June 27, 1953 (DAO).
- QUEBEC:** Stanstead County: bord marecageux du lac, Magog, Marie-Victorin et al. 2003, 1 juillet, 1943 (CAN)
- ONTARIO:** Carleton County: Marshy shore of McKay Lake, (Rockcliffe Park, Ottawa) introduced, naturalized, Breitunz, 2572, June 15, 1946 (DAO); fairly common forming clumps to two feet in diameter in black muck in wet woods and sedge swamp, presumably spread from three to five foot diameter clumps in ditch at rear of house, Carp, Cody and Van Rens, 11173, June 16, 1960 (DAO): ditch just west of Moffatt, Montgomery and Shumovitch, 87, June 16, 1952 (OAC):
Lampton County: along St. Clair river margin, Walpole Id., Gaiser, 1318 W, June 20, 1958 (OAC): Leeds County: among Calamagrostis, Typha and sedges in marsh along St. Lawrence River east of Rockport Cody and Dore, 11103, June 9, 1959 (flowering) and Cody and Spicer, 11295, Sept. 23, 1960 (fruiting) (DAO): Lincoln County: Jordan Harbour, Harrison, s.n. June 17, 1940 (OAC): Middlesex County:

wet river flats, 2½ miles NE of Mount Bridges, Minshall, 4181, June 1, 1959 (DAO); reported by Judd (1953) in Delaware Twp. along the Thames River downstream from London; Norfolk County: reported verbatim by W. M. Bowden as introduced by him from United States to the swamp at Turkey Point on Lake Erie, and recorded by Landon (1960) from swamp near Sincoe; Russell County: ten clumps to two feet in diameter in low wet ground in corner of pasture by roadside in partial shade of Ulmus americana ½ mile N of Clarence on old Highway 17 (25 miles east of Ottawa.) Cody 11184, June 29, 1960 (DAO): very common in 1 foot of water of stagnant swamp ½ mile west of Clarence on new Highway 17, Cody, 11185, June 29, 1960 (flowering) and Cody and Van Rens, 11241, Aug. 18, 1960 (mature specimen with pendent capsules) (DAO); Waterloo County: one large clump well established, Millrace, Conostoga, Montgomery, 541 June 17, 1940 (OAC, DAO); along banks of the Grand River, Galt, Montgomery 633, June 13, 1953 (OAC); Wentworth County: Burlington Beach, No. 2 bridge, Shumovich, 629, June 13, 1953 (OAC); York County: low wet land, Woodbridge, Moffat, s.n. 1/7/46 (OAC); High Park, Toronto, Owens s.n. June 1950 (TRT); marshy border of Humber River, east side of stream north of Baby Point, Toronto, McCrea, s.n. 3 June, 1941 (TRT).
 MANITOBA: roadside near garden, escaped, St. Francois-Xavier, 12 miles west of Winnipeg, Scoggan, 10669, June 16, 1953 (CAN).
 BRITISH COLUMBIA: bord de la riviere a Maple Bay, Duncan, Marie-Jean endes, 5044, 17 June, 1948 (DAO); in ditch all along road 2 miles east and 4½ miles south of Chilliwack, Faris, 43, May 26, 1954 (DAO).

Iris pseudacorus L. var. mandschurica Hort., which has pale yellow flowers, has been found growing with the typical bright, yellow-flowered form at two localities. It has not previously been recorded as growing outside cultivation in Canada.

ONTARIO: Charleton County: four clumps to two feet in diameter growing with the typical yellow form in black muck in wet woods and sedge swamps, Carp, Cody and Van Rens, 11172, June 16, 1960 (DAO); Russell County: rooted in 1 foot of water of stagnant swamp ½ mile west of Clarence on new Highway 17 (25 miles east of Ottawa), Cody 11186, June 2960 (DAO).

The collection of I. pseudacorus made by Fernald in Newfoundland in 1944 is undoubtedly the record on which he based the distribution "Newfoundland to Minnesota" in the eighth edition of Gray's Manual (Fernald, 1950), because it was not noted from there in the seventh edition (Robinson and Fernald, 1908) of that work strangely, he apparently did not record the presence of this showy iris as an escape in this province in any of his journal publications on this area.

Fernald (1921) recorded I. pseudacorus as "well naturalized about pools and ditches" at Yarmouth, Nova Scotia. Roland (1945) recorded this with the additional information "found at Arcadia over thirty years ago; unknown elsewhere." Our specimens indicate that the species is still restricted to the southern extremity of the province.

The Prince Edward Island specimens cited here are those upon which Erskine (1961) based his report of the species from that province. The Smelt Creek stand was, according to Erskine's notes, introduced by Blythe Hurst in 1939.

Hagmeier (1959) listed I. pseudacorus as occurring in New Brunswick. This was probably included on the basis of the broad range given by Fernald (1950) in Gray's Manual, eight edition.

Apparently the only record for Quebec is the one cited above from Magog. This occurrence was recorded by Raymond (1950) in his "Esquisse phytogéographique du Québec." The plant was not recorded in 1935 by Marie-Victorin in his Flore Laurentienne but Rouleau listed it in his Supplement la Flore Laurentienne in 1947; the record is presumably based on a duplicate specimen from Magog preserved in the Marie-Victorin Herbarium at Montreal.

The yellow iris is now known to be established in 12 counties in Ontario and it is in this province that it seems to be most widespread. Montgomery (1956) stated that the plant was 'sometimes found along streams where it has been thrown out of gardens, or where rhizomes have been carried by spring floods from low lying gardens.' He did not, however, give any indication of the extent to which it might invade and take over a wet or swampy area. The label data on some of our recent collections indicates that this invasion is extensive in some areas.

The Manitoba specimen collected from St. Francois-xavier is the basis for the only record in Scoggan's Flora of Manitoba (1957). In 1959, after receiving from Dr. Scoggan exact directions as to where to find it, Dr. Bernars Boivia searched diligently for this plant; but unfortunately the road allowance where it had been collected had been extended and the plant was not to be found. Dr. Boivin reported, however, that the yellow iris was maintaining itself around houses of many of the farmers in the area and that there was little doubt that this species would again be picked up as an escape.

Eastham (1947) in his supplement to the "Flora of Southern British Columbia" stated that Iris pseudacorus was well established and spreading in ditches at Sardis. In addition to the two new records for that province, which are cited above, there is a specimen (H. Grob, s.n. 2/6/31), in our herbarium (DAO) collected at Agassiz, which bears the additional label annotation "transplanted from Sardis". There is no indication of whether this plant was considered to be growing under cultivation or not.

The earliest record of the occurrence of this species in the wild is Fernald's specimen from Newfoundland collected in 1911. The statement by Roland (1945) would indicate that it was known as an escape in Nova Scotia at least as early as 1915. The specimen collected by Mr. Grob at Agassiz, British Columbia, indicates that this iris was collected at Sardis in 1931. The earliest dates for Prince Edward Island, Quebec, Ontario and Manitoba are 1939, 1941, 1940 and 1953 respectively.

Iris pseudacorus has become established in Canada, and particularly in Ontario, apparently very rapidly. The extent and rate of future invasion of our low-lying lands and swamps by this very showy species will be most interesting to follow.

IRIS PSEUDACORUS IN WESTERN NORTH AMERICA

Peter H. Raven and John H. Thomas

I. pseudacorus L. has been well established in swamps and other wet places in eastern North America for nearly a century (Cody, 1961). In western North America this showy, yellow-flowered iris is of more recent introduction, and as in the east seems destined to spread even further.

Preece (1964) has reported it from several localities in western Montana and it has since become increasingly more common in glacial potholes, along ditches, and marshy areas in the Mission Valley in Lake Co. (Thomas 11020, DS, US; Woodland 319, DS). In British Columbia it is known from Lulu I., near Vancouver (Beamish & Vrugtman 60540, OSC). In Oregon it has been found in Columbia Co. (Walrod s.n., OSC) and in Benton Co. (Merkle & Merkle s.n., OSC).

Hichcock, et al. (1969), in summary, recorded this species in the Pacific Northwest as "well established in our area in many lakes and ponds and along rocky stream banks."

In California the first record was probably that of Mason (1957) who reported I. pseudacorus from Merced Co. Subsequently Rubtzoff (1959) recorded it from Forestville, Sonoma Co. (Rubtzoff 1836, CAS; RSA; 1258, CAS; 1813, CAS; 1946, CAS). Other Californian localities are: Searsville, San Mateo Co. (Rubtzoff, 1959)(Thomas, 1961). (Thomas 7165, CAS, DS; 9221, DS); Mettlers Station, Kern Co. (Munz, 1969; Twisselmann, 1963; 1967) (Twisselmann 8028, CAS); near Yountville, Napa Co. (Thomas 15027, DS); Santa Cruz, Santa Cruz Co. (Rubtzoff, 1959; Thomas 1961) (Hesse 2764, DS); near Montague, Siskiyou Co. (Rubtzoff, 1959) (Howell 28360, CAS); and Lyons Springs, Ventura Co. (Rubtzoff, 1959) (Pollard s.n., CAS).

Mason (1959) remarked that I. pseudacorus "is apparently moving down the watercourses." This prediction has been fulfilled. T.C. Fuller of the California Department of Agriculture, has told us that there are dense colonies of this species all along the Merced River in Merced Co. Along Dana Slough west of Snelling, Fuller noted that this iris was the most common species of marsh plants, growing to the complete exclusion of *Typha* and other characteristic California marsh plants.

In the delta Region, I. pseudacorus still grows as relatively small isolated clumps and local populations. During April 27-28, 1969, one of us (PHR) observed it at the following points near and just east of the Franks Tract in the delta of the San Joaquin River, Contra Costa Co.: Sand Mound Slough, about 1.3 miles southwest of Franks Tract; Rock Slough, about 1.2 miles east of junction with Sand Mound Slough; southwest corner of Quimby I.; and two clumps about 0.4 miles apart at the southeast end of Mandeville I. It is probably much more widely distributed in the Delta Region than these sight observations would indicate.

It seems worthwhile to record these occurrences as there is every indication that this iris will spread and displace many native plants. It is, of course, regrettable to see populations of native species

declining in the face of this new alien, which apparently spread from moist gardens, but one can at least be grateful that they are losing ground to such an attractive plant.

Kenton L. Chambers, Reid V. Moran, and Robert R. Thorne have kindly supplied information about specimens of I. pseudacorus.

ED: Reprinted from Madrono 20: 390-391, 1970
Department of Biological Sciences, Stanford University, Stanford, California.

ADDITIONAL INFORMATION ON CERTAIN SEED LOTS

Jean Witt

70-P-081, longipetala, collected by Emily nelson of Saratoga, Calif.
"San Bruno Mts., Old Bayshore Hwy., 0.4 miles east of Oyster Point Road, Brisbane. White, heavily veined violet, white ridge on falls, surrounded by yellow and violet peppering. Many flowers per stalk. Area being ruined by motorcyclists.... from a distance flowers appear to be blue.

72-K-285. Unidentified. Californicae species. Collected by Mrs. R.H. Coleman of Willits, Calif., in Mendocino Co., between Ft. Bragg and Leggett. "These are locally called 'Ground Iris' only 4-6" tall. They grow in areas that are bone dry all summer." Has this bloomed yet for anyone?

74-P-207. missouriensis, collected by Mrs. Ray A. Burch, Yakima, Washington. "The clone I have collected was from the Ahtanum Valley, between Wiley City and Tampico. We carried home two in my husband's hard hat, dampened with creek water. Only one survived, though in this area they are often treated as weeds in pastures. A seedling (natural seedling) bloomed this year and was very near like the mother plant, a pale blue and white."

74-297. Moraea species from Harry E. Brown, Columbia, Missouri.
"White with chrome yellow area at the base of the falls and along the midrib. Style arms marked medium lavender along midline. Stems 3" and flowers are 3-4" across. Bloomed in greenhouse in early spring and out-ofdoors all summer and even after frosts this fall."

75-K-065. fernaldi? Collected by John Weiler, Fresno, California.
"Near Hecker Pass, Santa Clara Co., Calif., Aug. 1975, Flowers cream."

75-K-090. munzii. Collected by John Weiler, Oct. 18, 1975, near Three Rivers, Tulare Co., at 3000 ft. elevation.

75-K-066. hartwegii. Collected by R.D. Haines near Glen Meadow Dinkey Creek Road east of Shaver Lake, Fresno Co., Calif. at 6000 ft. elevation, October 1975.

Lorena Reid of Springfield, Oregon, says that I. tridentata and I. setosa are really very different, even to bloom times, with I. setosa early and I. tridentata late (May vs. July). "The physical appearance is quite different too...with the I. setosa rhizomes being fairly small, quite fibrous rooted (resenting transplanting in the adult state). The I. tridentata rhizomes look much like those of I. brevicaulis....the seed's covering put me in mind of the Louisianas also except for being smaller....with the corky covering. Leaves too, look like those of I. brevicaulis, and they have the fattish white roots of the water irises rather than the fibrous ones of I. setosa. I. setosa leaves, at least on the dwarfest plants, are much narrower in general.

"I would have to think the I. tridentata is more hardy than most people give it credit for. We had no losses during the two sub-zero winters recently, which killed off a lot of things we thought were hardy. Whether it would live through one of Homer Metcalf's Montana winters is of course, a question.

"I. tripetala is sort of an enigma. Apparently Lorena Reid is able to flower it in Oregon, but we've not had much success with it in the greenhouse here, and it's definitely not hardy in the open at Bozeman. It's the only North American species of Iris for which no chromosome counts have been reported, so far as I've been able to find. A cohort here with much field experience in North Carolina says that it grows in rather swampy thickets where cottonmouths and diamondbacks are apt to lurk, and this may have been a deterrent to potential collectors, hence to its becoming better known to horticulture. I've long thought it curious that Edgar Anderson "chose" to ignore it in favor of I. setosa", when conjuring up the ancestry of I. versicolor, especially when it is sympatric with I. virginica over at least part of its range...."
Homer Metcalf.

Like Homer, I have wondered at Anderson's choice of I. setosa over I. tripetala as the I. versicolor ancestor. Perhaps the question should be re-opened, and studied over again with special attention to the leaf flavonoids. I. tripetala survives Seattle's relatively mild winters, but does not bloom.

THE RANGES OF ONCOS & REGELIAS

Within the last ten years or so a great many expeditions have explored the plants of Western Asia, in the land of the Aril Irises, and the results of various finds have been studied. Among those who have seen a good many of these exotic beauties in the wild state is Brian Mathew of Kew. He explains that the oncos are found from the mountains of Lebanon, Syria and Eastern Turkey, Northern Iraq and Iran, into the Caucasus of Southern Russia, then eastward of the Caspian into the Kopet Dagh, the mountainous border of Iran-Turkmen, where the regelias commence, though he much doubts that they ever are overlapping in their occurrences. Beyond this, to the east in yet another botanical province, are the Pseudoregelias, but again no overlap of ranges. Mr. Mathew is one of the best qualified of enthusiasts over the Aril species and his opinions of the Juno group will be included in the new book, THE WORLD OF IRISES.

Frank Stephens, of Amarill, Texas reports that he obtained complete germination on our year-old pseudacorus 'Ecrú and Rasin' seed, and fair germination on setosa and biglumis, though none (yet?) on stolonifera. Your reports on germination of old seed lots helps us determine the "shelf life" of the various kinds. Please write!

Julian A. Steyermark, Flora of Missouri. The Iowa State University Press, Ames, Iowa 1963. pp 462-463

Iris virginica L. var Shrevei (Small) E. Anders. Southern Blue Flag. "Some persons are reported as getting dermatitis from handling the rootstalks and other parts of this species. The rootstalk possesses an irritant substance, which, when eaten, can cause complications in the digestive tract, leading to mild cases of poisoning. Grazing animals do not eat much of this plant because of its sharp taste."

In the American Rock Garden Society Bulletin vol 33, No. 4, fall 1975, p. 166 is quoted the following excerpt from "Vernal Iris" by Stephen F. Hamblin (ARGS Bull. vol. 14 (1956) No. 2, p. 50).

"Botanists have made one variety (var. smalliana), not yet in the trade, which ranges from Pennsylvania to Florida, and which is of more robust growth."

"From the wild four variations have been listed since 1930, but they have not become widely planted: 'Vernamont', a soft blue, from West Virginia, but are rarely seen as yet: 'Vernal Snow', a pure white, superlatively beautiful; 'Vernal Fairy', white tinted lavender standards, falls pure white; 'Vernal Dawn', pinkish lavender; 'Vernal Simplicity', pure lavender, orange throat lacking; 'Vernal Sky', pale sky blue; 'Vernal Evening', deep lavender and 'Vernal Night', deepest violet purple.

Eleanor Brinckerhoff, who submitted the Hamblin excerpt, wonders if any of them are still in cultivation.... "The white form, she reports, has been rediscovered by Dick Redfield, who is giving it plenty of TLC, hoping to make it plentiful again."

Bulletin ARGS, vol. 34, No. 1, winter 1976, p. 3, from Dr. Edgar T. Wherry: "Note for prospective growers of Iris verna. Having devised a simple method for ascertaining the reaction--acidity vs. alkalinity of soils by observing colour changes of dyes, I was invited by Dr. Frederick V. Coville to study this factor in connection with native plants reputed to be difficult to grow in gardens. In his comprehensive book "The Genus Iris", Dykes had recorded his failure to grow Iris verna. His garden being in limy country where the soil would be circumneutral, a study of this species in its native haunts seemed called for. My observations throughout the ranges of both the type slender-rootstalk variety and the stout rootstalk smalliana, showed both to be limited to decidedly acid soils, indicating the source of Dykes problem.

"The interesting account of the lovely colour-form collected by Mrs. J. Norman Henry, on p. 166 of the fall, 1975 Bulletin, may lead members to try to grow this iris; they will be well advised to try it in acid tufa, and to use a mixture of clean sand with finely divided acid peat.

MEMASTYLIS ACUTA (Seed list #75-297)

Jean Witt

Thanks to Dorothy Hujzak of Tulsa, Oklahoma our 1975 seed list was able to offer seed of yet another American member of the Iris family. Nemastylis acuta (the name refers to the thread-like styles) comes from northeastern Oklahoma. It is illustrated in Wild Flowers of Oklahoma by Dean Burch. The fugaceous lavender-blue flowers are flat, with nearly equal segments as Sisyrinchium, about 1½ to 2 inches across on a 4-10 inch stem. There are usually two to a stem. The pods are about half an inch long, opening at the top. Leaves are grass-like from a small bulb. Habitat; prairie; still found in undisturbed vacant lots. Try it in a sunny rockery. As with other bulbs, do not attempt to transplant seedlings; wait for the leaves to die down like crocuses or daffodils, then transfer the tiny bulbets to a permanent location.

Dr. Robert Elgi of La Tour de Peilz, Switzerland, sent a slide of I. setosa 'Kirigamini' in which the top flower is a flat double, with six style arms and six falls; a second lower flower is normal. This flat flower bears an uncanny resemblance to the flat forms of I. lae vigata. (See p. 291, SIGNA 12, Oct., 1973). We have heard the suggestion that 'Kirigamini', which comes from Japan, may actually be an I. lae vigata-I. setosa hybrid. It is definitely sterile--there were undeveloped pods by the hundreds this year in the streamside planting in the University of Washington Arboretum's Japanese Garden at Seattle, but I have never been able to find any sign of seed. The signals on the falls of Dr. Egli's double flower show a white median streak as in I. lae vigata, extending beyond a small yellow area; however, he says he does not know of a lae vigata with yellow markings. I. setosa, on the other hand, has a fairly large yellow signal in all the forms that I have seen, set off by a large white area. The signal of 'Kirigamini' thus looks much like that of I. lae vigata than like that of I. setosa. Some of the dwarf American clones of I. setosa quite regularly produce double flowers. There are a number of double forms of I. lae vigata.

So much for speculation. A karyotype analysis might solve the riddle. Meantime, our venturesome hybridizers might like to check out this type of cross.

NOTE: If you received rhizomes of this fine purple flower as 'Kirigami', please restore the missing syllable: It is correctly spelled 'Kirigamini'

ED: Page 426 should really follow this article; so please refer to that page for the illustration of Kirigamini. This is a drawing made from the slide referred to above and was drawn by Jean Witt. Unfortunately there was also an error in spelling the name on the drawing - both e should be i.

B.I.S. 1975 YEARBOOK IN REVUE

Roy Davidson

A highlight of the winter's mail is the receipt of the yearbook of our sister society in England, and although the foreword this time offers apologies for a reduced size, there is no lack of material of fascination to all iris gardeners; something for everyone.

'Bourne Graceful' AM BIS 1975

The frontpiece of the most recent issue depicts an exciting new hybrid Evansia, one of a line we had been anticipating more about. Dr. J.R. Ellis has worked for some time with the genetically perplexing oriental cane or "bamboo" irises and the story of this one goes back to the 1966 yearbook, wherein are to be found both a photo and description of Charles Bedrooke's so-called "Capri form of I. japonica", which he brought back in 1959; as grown in a cold greenhouse for Mr. Christie-Miller, it went to three feet and produced flowers larger than those of the well known 'Ledger's Variety', a clone brought from the grounds of the British Legation in Tokyo in 1912, (registered as 'Ledger' 1925) and with which it was crossed to obtain the above hybrid.

When the chromosome study was completed, it was found that 'Bourne Graceful' had about 61, the highest count known for an Evansia; obviously there was something unique about the parents. 'Ledger', as might have been predicted, is triploid with 54 chromosomes and sterile, for Dr. Tomino had found all of that species in Japan to be so; the Capri plant proved to be itself a hybrid (with what is not stated), for it has 31 chromosomes. (One might wonder if this might not also be the tall one Mrs. Fisk reported in the flower market and alongside railway near Genoa (Yearbook 1951).

A portrait of an individual flower and 'Bourne Graceful' shows a very finbriate margin to the segments and the familiar "squared-off" pattern to the spotting, so characteristic in I. cristata. There is also mention of a single flower of what appeared to have been a white I. wattii; for more of these interesting plants refer to SIGNA p. 381, top, and also pp. 163-166. Dr. Ellis is the man who reported the chromosomes of I. formosana (from Dr. Boussard) recently. Since he has done so much in the cytological field with Evansias, we look forward to hearing more.

Show Reports and Awards

It is always very intriguing to read about new and better things for the garden, and all three of the show reports give us much to whet the appetite. To one who attended two of these annual events the previous season, it was most pleasant to recall both Chelsea and the June show. Note that 'Grandis' was shown this year; maybe in time we can verify if what we have by that name is the same. Also note that a couple of wide-cross hybrids were brought over by Dr. Tamberg from Berlin, one a Cal-Sibe from (chrysographes X douglasiana), the other said to be (douglasiana X the form of ensata called moorcroftii). Star of the early show was the above mentioned 'Bourne Graceful' which was mobbed with attention and straightaway given the Award of Merit by the Joint

The inner workings, the purpose of the Joint Iris Committee is described elsewhere; in the course of their year this committee, jointly composed of BIS and RHS members, also awarded Mrs. Brumitt's Siberian 'Anniversary' the First Class Certificate, and gave an Award of Merit to I. acutiloba as shown by Mr. Rix. They also selected for Trial at Wisley a number of irises from the shows, including several Pacific Coast Irises, and several seedling certificates were given in prior Pacific Coast Iris trials. There is an accounting of PCI in down-under Australia in another report, and mention of Fred Danks, also of Australia, from whose original crosses the majority of garden strains of P.C.I. hark back to.

Others New and Not So New

Lord Skelmersdale is a bulb specialish who admonishes that we ought not to let the lemon coloured Iris winogradowii dry out completely in summer as we do the other reticulatas, and Brian Mathew reports on several of the recently described and on newly reintroduced species. It may come as a surprise that STILL other new Junos are being named, for example Juno Zaprjagewii Albomov 1971. The Russians are split between calling these Juno and Scorpiris, while Kew is with us in calling them Irises. (I cannot help wondering how this name is pronounced and I think that my hens have been saying it over and over a long time now.) Iris serotina is an odd Xiphium species from the Cazorla Mountains of central Spain, named by Willkomen in 1860, and recently flowered by Mathew, who describes it without much enthusiasm, except that it is summer flowering, curiously without standards, with only the bristle as in II. setosa, danfordiae and kopetdagensis. Mathew tells us that the Juno I. cycloglassa, Wendalbo 1958, grows in wet grassy meadows, certainly a most strange situation for one of those; it is also distinct in having large sub-erect standards. Another Juno, I. postii Mouterde 1966 supplants the name I. palaestina var. caerulea Post, on account of its being clearly a good species in its own right and not very much akin to palaestina, according to Mathew, who describes its thin, wirey roots as not at all like those of others. Still another, I. doabensis, the Juno Furse referred to in his reports AS "Doab Gold", is described, the falls with wings turned downward, the whole thing a bright greenish gold on very long tubes, and scented of pineapple; roots are swollen, radish-like. Of all these new Junos, it appears I. cycloglassa holds great garden promise, with large flowers of blue and white in May or June, late for its kind. Seed of several new sorts is offered in the BIS seedlist, as are a number of collected Spurias.

Another, and this one newly described, is a variant within the little understood, high mountain, Central Asian species.....Iris staintonii Hara 1974, which appears to be an "intermediate" in the little known Nepalensis subgenus.

"Most of us love the garden hybrids of the Iris family, but why do so few of us grow the wild ones?" asked Donald Patton, who then proceeded to discuss twenty of them thoroughly as they grew for him. The yearbook brings a sad note with the obituaries of three of the most staunch supporters of recent years, including Mr. Patton. It had been a personally enriching experience to have known somewhat all three of them, Patton, Fothergill and Fletcher; it is reassuring to see that new names appeared on the list of exhibitors; it shall always be so with any healthy organization.

SOMETHING ABOUT I. VERSICOLOR

Roy Davidson

(Sarah Fiffney has long been interested in growing better I. versicolor and has quite a number of the old named ones from which she has seedlings, Here is a partial account of this work.)

'Stella Main' came from Garden-in-the-Woods, Framingham, Mass., an old and reliable wildlike garden established by Will Curtis and operated for years by him and Mr. Stiles. On Mr. Curtis' death it went to the Wild Flower Society, which now runs it as a preserve. 'Stella Main' was collected by Mrs. Main of Rhode Island. It is in the 1939 Checklist as a light blue.

Versicolors vary a great deal in size and height; 'Stella' is rather short, and her progeny run to short for the most part. Selfing, one gets things rather darker, ranging to paler in advanced generations; nearly white with very pale blue veins. I would expect that further generations might give pure white and "Stella's" children are a bit broader than one I had, also from the Garden -in-the Woods, and which I believe Mrs. Main also had found; I lost it, but I have one seedling from it (selfed, I think, but not bloomed as yet.)

Pinks are essentially all descended from versicolor 'Rosea' which I obtained from Melrose a long time back, and I cannot now remember if I also had a pink from Rex Pearce. Pink crossed to pink gives more pinks on into advanced generations.

Reds are descended from the variety 'Kermesina' (which I got from Pearce) and 'David'; there is a record here somewhere of the source, though I cannot now remember. Red crossed to red gives more reds. Whenever I have crossed white by red I've gotten dark purple with a reddish tint, and two of these intercrossed gave me the darkest purple I have yet seen. It ought to be possible to get a dark blue-purple. I have one from Maine that looked promising, so I have selfed it. If any of these are pleasantly fragrant, I have yet to notice it.

Scent

It has been noted that the most notoriously scented of iris, for a reason not known, are blue or purple in colour. Among the bearded sorts the heavy scent of the "Germanicas" is so individual as to have been named the typical iris fragrance, whereas others are to be likened to scents of other flowers, elder (sambucina), honey, locust etc. Iris pallida is lighter of its scent, not quite so cloying, and a form of it catalogued as 'Odoratissima' was singled out as being the most deliciously fragrant of all. The still easy to locate old pallida'variegata' is said to be nearly as good.

The commoner of the forms of Iris unguicularis (clone named uncertain) is very distinctly the Hyacinth's heavy perfume, though in a very tolerable dilution, and very pleasant it is indeed. (Mr. Patton says primrose scented, p...?) in "The Fragrant Year, authors Helen Van

Pelt Wilson and Leonie Bell, advise us that "If your iris multiply beyond the scope of your garden, something delightful can be done with them. In August remove all roots and leaves (from clean rhizomes), slice and dry them in full sun or bury in a pan of clean sand in a slow oven overnight. The resulting chips can be ground to a coarse powder for orris or added as is to dry pot-pouri as a fixative. The fragrance develops only after two months and will vary."

Perhaps the reader will refer back to SIGNA p. 219; Does anyone have a favorite scented iris?

LETTERS

ED: The following are excerpts from a series of most interesting letters between Eckard Berlin and our most knowledgeable Secretary, Homer Metcalf. The contents are not personal, but of general interest and I felt should be shared with our members.

Berlin to Metcalf: (no date)

My work with colchicine treating of Apogon Iris goes slowly. Until now I have had no luck with *I. missouriensis*, but this year obtained many full seed capsules from these plants after they had been established three years. For a long time I thought them to be sterile, but now I can breed and cross.

The same with *I. forrestii*; this June the first fertile tetraploid plant brought me three capsules! Much the same with tetra-versicolor, with very poor germination, but this year some did germinate. The tetra-setosa plants had never given me capsules until this year there were a few set.

Berlin to Metcalf: (Jan 20/76)

Here in my climate spuria iris flower only every second year, but they are with the siberians and I think perhaps they would do better if replanted in other soil. They come on very well in early spring, but then they stand and stand, with no new growth. I have one in the "colchicine" bed which seems to be "tetra", but grows very slowly. The colchicine bed is quite acid, with a lot of peatmoss in it. *I. pseudacorus* grows very well there and flowers the second year after germinating and needs no extra water.

The only spuria growing well here is a 22 chromosome one found in the Rhein Valley near Mainz, a warmer part of Germany than here.

From your letter of Aug. 13/75 you know about tetra pseudacours. I believe it grows in the same manner as the diploid, only the flower stalks are shorter and the flowers of better substance and deeper colour. A layman would surely see no difference, but under the microscope the pollen grains are nearly twice as large. My best tetra is 75 chromosomes I obtained from *bastardii* seed, a tetra *bastardii* with no sign or pattern of a delicate cream-yellow, but unfortunately sterile. Some tetra flowers are larger than the diploid ones. I already have some F-2 generation, and I think they are growing better than the diploids.

Because *I. pseudacorus* grows here like a "weed" I think I am on the right path for improvements. After long years of waiting I finally have tetra-*forrestii*, so now I hope over the next few years to make amphidiploid *sibirica* x *X forrestii* and viceversa, which have $40 + 28 = 68$ chromosomes, and should be as fertile as McGarvey's FORETELL, which this year has given me the first seed after crossing with tetra pollen, which means FORETELL could perhaps be a real amphidiploid! Interesting to see that my tetra-*pseudacorus* also has 68 chromosomes. A cross between both 68 chromosomes types could be fertile, and afterwards all three parents would be related. If this goal is attained, then we have the starting point of a whole new race of iris, which all have anthocyanine, flavone and perhaps some carotene or plastid- yellow, and thus reach the same colour combinations as in the tall bearded iris, but in plants which grow like weeds under wet conditions!

I hope to obtain this and then have "Louisianas" for colder regions. Perhaps this goal can also be attained by crossing tetra-*pseudacorus* with tetra-louisianas as Mr. Merzweiler has already done, but the Louisianas are too weak, at least here. Some years ago I obtained Preston-Hal Louisianas raised in Topeka, Kansas, where the winters are very cold, and from seed last year made colchicine treatments, and perhaps a hundred survived. I hope to find one or two tetras among them to cross with my tetra-*pseudacorus*.

Metcalf to Berlin: Feb. 11/76)

.....From the chromosomes counts published by Lenz & Day (Aliso 5: 257-272, 1963, I suspect that the 22 chromosome native German spuria you are growing may be the species, *I. spuria* L. Their paper isn't available to me, so am surmising this because the only spuria species they reported with this count is that one.....

I. pseudacorus, as you say, has weedy tendencies. It has escaped from cultivation in northwest Montana, and became a weed in beef pastures on heavy clay soil in Lake County, Montana.....However, I believe you have made a wise choice in picking a vigorous species as one of the parents in your breeding program. If the vigor of *I. pseudacorus* transfers to the progeny of your tetras, the chances of finding something new, fine and adapted to your climate should be much enhanced.

I was much interested in your description of the tetra *pseudacorus* you have obtained from the colchicine technique, and the proof of tetraploidy you've obtained from pollen evidence. Your plans for these tetras are fascinating, and you have my best wishes for continued success..... You may have more trouble with fertility of the Louisiana X 4X *pseudacorus* since all the Louisianas except *I. giganteaerulea* have $2n=42$, and the 4X form if fully tetraploid would then have $2n=84$, and the hybrid 4X *pseudacorus* might be expected to have $2n=76$, unless you are looking for amphidiploids, in which case the count could run as high as $2n=152$!

Have you verified the tetraploid status of your tetra-*versicolor*? The count on this plant could run as high as $2n=240$. Amazing!

ED: The wording in Mr. Berlin's letters has been revised a bit to clarify the meaning. We are looking forward to an article by Mr. Berlin in SIGMA 17, describing in more detail the results of his crosses, but I felt notice of this most interesting work should be brought to the attention of our members as soon as possible.

"QUESTIONS"

Q. In the A.I.S. Bulletin for October in the very interesting article on Pacific Coast Iris, mention was made of the Riddle strain. About a year ago I purchased a seedling labeled thus, and in spite of research I can nothing on the origin of the strain.

A. It was Dr. Mathew Riddle more than any other single person who made I. innominata available to gardeners. A Portland, Oregon physician, he was a fisherman on his holidays. The Rogue River in southwest Oregon is famous both as the home of I. innominata and as a fishing stream. This doctor would return at the end of the day's fishing with two catches. The second his sandwich bags full of iris seed. Under the huge old cherry trees about his home were beds of this species. Flowers of all colours; and from there the seed was sent all over the world. It is reported that he sent to Prof. Mitchell at one time a quart of seed. As species Director for the A.I.S. at the time, the good Professor distributed the harvest. The "Riddle" strain was originally pure I. innominata, but as all the species of the Californicae Apogons are so interfertile; it would be difficult to say with any authority that your seedling is that species; at least it should hark back to that, and it should be slender in all parts with an ample flower, 1 or 2 at the top of the stem, springing from spathes attached oppositely and on a slender perianth tube of about an inch (2.5 mm) Although generally thought of as bright yellow, I. innominata occurs also in purely purple colonies as well as blends of the two colours. I recall two plants isolated from the others in the Riddle garden to minimize contamination by the bees; one was a plicata-like pattern of blue on a white ground and the other was a classic variegata pattern of gold standards and rust-red falls. R.D.

Q. In reviewing all I can find on the Evaneias I ran into some confusing controversy regarding the proper inclusion of I. tenuis.

A. At the time "Garden Iris" went to press not all the following acts had transpired. This odd little endemic from Oregon forests - just a few of them, on only two short watersheds - appears strangely like I. cristata and somewhat also resembles the Japanese I. gracilipes. Just because it grew in coastal western North America it had customarily been considered as belonging with I. tenax (which grows nearby) in Californicae Apogon. Foster in 1937 first noted in his study of North American species (Cont 2, Gray Herb. CXIX) its resemblance to cristata Clarkson in 1958 (Madron 14, p. 246) ascertained that it was not at all compatible with the members of the Californicae, which were otherwise very interfertile, and consequently wrote "regardless of origin, I. tenuis is sufficiently distinct, morphologically, cytologically and geographically, to warrant erection of a new subsection..."; at the same time he proposed subsection Oregonae for this one species. Lenz (Aliso, 4,2, p. 312, 1959) wrote "it would appear that I. gracilipes, I. tenuis, I. cristata and I. lacustris all possess a number of characters in common and that most probably they represent a natural grouping", and accordingly he made the transfer of I. tenuis to subsection Evansia. Brehm (of Reed College, Portland, Oregon; private communication to Jean Witt) stated that the pigment studies he has been making on irises over a period of years substantiates this view. Consequently, it is likely that Oregonae as a category of irises was unnecessary.

R.D.

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SPECIES IRIS STUDY GROUP

Financial Statement

20 May 1974 - 9 October 1975

RECEIPTS

Balance, 5/20/74		\$ 212.43
Membership dues received:		
5/20/74 - 10/31/74	\$ 193.00	
1/01/75 - 10/09/75	<u>319.00</u>	
		512.00
Sales of publications (back issues of SIGNA & the Study Manuel)		
5/20/74 - 12/31/74	\$ 38.00	
1/01/75 - 10/09/75	<u>83.00</u>	
		121.00
Proceeds of Seed Exchange operated by Jean Witt; 1974 Exchange		300.00
Transfer from Saving Account, 10/17/74		150.00
	Gross Receipts	\$ 1,295.43 =====

DISBURSEMENTS

Publications Costs:		
SIGNA #13 (W. Gunther, Ed.)	\$ 181.37	
SIGNA #14 (W. Gunther, Ed.)	156.02	
SIGNA #15 (W. Gunther, Ed.)	<u>249.98</u>	
		\$ 587.37
STUDY MANUAL:		
Roy Davidson, 28 July, 1975	(18.62)*	
Ryding Co., 28 July, 1975	<u>14.65</u>	
		\$ 14.65
	Gross Publications expense:	\$ 602.02
MISCELLANEOUS EXPENSE:		
Treasurer's office expense		6.00
TRANSFERS TO SAVINGS ACCOUNT:		
8 January, 1975	\$ 200.00	
11 July, 1975	<u>300.00</u>	
		\$ 500.00
	GROSS DISBURSEMENTS:	\$1,108.02
EXCESS OF RECEIPTS OVER DISBURSEMENTS:		\$ 197.41

* Paid by Roy Davidson from his "Portland Reserve", depleting that fund, and included here for information purposes only.

ED: Although this statement went to Bill Gunther last fall; it was received here after SIGNA 16 was printed, hence no page number and it does not appear in the index. Incidentally, costs billed for SIGNA 16 were \$ 115.00 and will appear in the next financial statement. B.R.

