



# SIGNA

April, 1968 - No. 1

THE SPECIES IRIS STUDY GROUP  
OF THE AMERICAN IRIS SOCIETY

THE SPECIES IRIS STUDY GROUP OF THE AMERICAN IRIS SOCIETY

April, 1968 - No. 1.

OFFICERS OF THE SOCIETY

CHAIRMAN: B. LeRoy Davidson 911 Western Ave. #200, Seattle,  
Washington 98104. (206) SH6-2156

SECRETARY/TREASURER: Betty Rowe 588 E. End Ave., Pittsburgh 15221

LIBARIAN: Thomas J. Buckley 6330 S. Damen Ave., Chicago, Ill.  
60636

SEED EXCHANGE DIRECTOR: Ruth Hardy 296 Hunsaker Lane, Eugene, Oregon  
97402

EDITOR: Bruce Richardson 492 Twenty Rd. E., R.R. 2, Hannon,  
Ontario, Canada. (416) 679-4636

CONTENTS

Page #

A Welcome to the Species Iris  
Study Group of the American Iris  
Society.  
What Exactly Is A Species?  
Ungicularis (Stylosa)  
British Iris Society Species Group  
Hybrids As Identification Tools  
Caucasian Irises  
Questions Please  
Species For Every Irisarian  
Origin Of Iris Versicolor  
Notes For Field Identification  
Notes On Some Seed Lots

Bruce Richardson	1.
B. LeRoy Davidson	4.
Edith S. Cleaves	5.
Bruce Richardson	7.
B. LeRoy Davidson	13.
N.A. Kacheladse	15.
B. LeRoy Davidson	17.
Charles S. Rhodes	18.
B. LeRoy Davidson	20.
Thomas J. Buckley	22.
Ruth Hardy	
B. LeRoy Davidson	23.

## A WELCOME TO

THE SPECIES IRIS STUDY GROUP OF THE AMERICAN IRIS SOCIETY

Bruce Richardson  
Editor

The above is a very long name for a very small group of dedicated irisarians interested in the iris species and near species hybrids. The Group is organized under the constitution and by-laws of the American Iris Society and is in particular, intimately connected with the A.I.S. Scientific Committee, being under their direct jurisdiction, and responsible to them for its activities. The need for this Group's formation grew directly from the Species Robins circulating among the A.I.S. Members, and the desire to make the information in these Robins and comments of the members, more widely available to others interested in our wild species, and to preserve them in a readily available form.

The process of organizing has been underway for nearly two years now, the first positive step to organizing having been taken at the Newark Convention Meeting in May of 1966. The British Iris Society Species Group had organized about six months previously and the Board of Counselors meeting with the Board of Directors of the A.I.S., thought there might be merit in having a similar group here in North America. Mrs. Betty Rowe, R.V.P. of Region 3 at the time, undertook to act as Secretary pro tem and circulate the Species Robin Members for suggestions, ideas - and volunteers to fill the Executive positions. After a number of letters had passed back and forth, the final result was that LeRoy Davidson took the Chairman's job, Betty continued on as Secretary, Tom Buckley as Librarian and myself as Editor. A little later Ruth Hardy came in as Seed Exchange Director. Roy presented the proposed Group's program (after numerous more letters) to the Board of Directors of the A.I.S., who approved it aims and named the previously mentioned people as the permanent Executive for the Group. Since we have no formal constitution, with provision for open election of Officers the Executive will continue for the time being under the authority of the Board of Directors of the A.I.S. as a sub-committee of the Scientific Committee of the A.I.S.

Because everything has been done by mail, with no opportunity to meet in person, and because your Executive desired to proceed cautiously with everything founded on a firm basis, this first publication of SIGNA has been delayed a bit longer than at first anticipated. Similarly with the Library material, which in addition has been further delayed by the continuing illness of Tom Buckley.

To completely cover the aims of the Group, it has been considered advisable to have two forms of publication. First, this Bulletin, on an eventual quarterly basis, is intended to distribute current news about species and near species hybrids, including such things as the activities of the Group covering seed exchange, sources of species, lists of Library material currently available and special projects as they develop. Articles of interest to species enthusiasts will be regularly published and will cover such areas as descriptions of the species how to grow them, their limitations, horticultural or garden uses, varieties among the species, seed germination, explanation of botanical

terms and many similar items all relating to iris species and hopefully adding to our knowledge of them. A continuing feature will be the re-printing of species articles from the Bulletin of our sister organization, The British Iris Society Species Group. One on Evansias is to be found in this issue. A Question Box and Trader's Corner will be run if there is sufficient interest. Your Editor would especially like to hear from the Members as to how the species grow for them, their weather conditions and soil, and the blooming dates. Some charts could likely be developed from this sort of information and distributed by the Bulletin or through the Library function. The Bulletin which you are receiving is called "SIGNA" from the latin for signal and it is sincerely hoped its "signals" will be seen and read across the land. It will continue to come to you in its present form, ready for binding into a permanent file in the binder supplied with this issue.

### LIBRARY

The second publication service, the Library, is planned as a research service, whereby members will be able to obtain information on all phases of species irises as this information exists in the body of English literature on the iris. Besides directing interested members to sources still readily obtainable, it is intended that it will make available to them, at the lowest possible cost, much of the useful work of the past that is now rare, hard to obtain or generally unknown to iris growers in North America. The Library is not presently intended to be a circulating library of books, although this service may be instituted at a later date, if demand warrants it and funds permit. Several collections of valuable articles on species irises will be issued on a circulating loan basis until such time as they can be duplicated to fill any demand from those who may wish to have permanent copies in a format uniform with the Bulletin, so that they may be filed in a single binder if desired. The first of these is now ready.

### SPECIES SEED EXCHANGE

The third principal function of the Group will be the operation of an iris species seed exchange. This is already underway and has completed its first seed distribution in a very successful manner under the direction of Ruth Hardy. It operates by way of seed donations from sources around the world, and these are resold on a basis of 25¢ a packet or five for a dollar. One major distribution per year is planned, with the next coming as early in the fall of 1968 as it is possible to get the seed.

The final results from the 1967 Seed Exchange are not complete at this moment, but there were 143 seed lists mailed out and 59 orders for seed received, comprising 626 seed packets. More lists had to be printed and about 30 orders for seed remained unfilled for lack of seed.

This remarkable response clearly shows that there is truly a great deal of interest in growing the species, and also points out the need for our members to save their species seeds and send them in to Ruth Hardy. More seed than was available this year is needed. This seed exchange is intended to be one of the main sources of income for the operations of the Group, so it therefore has a dual role and your contributions of seeds are urgently needed. Don't fail us - save all you can, especially the rarer types and send them in.

## SUBSCRIPTIONS

To support the Group, suscriptions are solicited from any and all interested in the iris species, but particularly from those living on the North American continent, as this is the centre for the Group. Fees have been set at \$2.00 per year for either a single or family membership, or \$5.00 for three years, and should be sent to the Secretary/Treasurer, Mrs. Betty Rowe (address of all Officers on the inside front cover). This subscription fee will entitle the holder to the annual issues of the Bulletin (up to four each year), participation in all of the activities of the Group such as the seed exchange, meet-etc and the minor publications of the Library. A separate charge will be necessary for the larger and more elaborate publications from the Library.

It is sincerely hoped that as many as are genuinely interested in the iris species will join at once to give initial support when it is needed most. The larger our membership, the more we will be able to do for each and every one of us to spread the knowledge of the iris species.

## A GUIDE TO THE PACIFIC COAST IRISES

by Victor A. Cohen

With this first issue of SIGNA it is planned to distribute to all members a gratis copy of Mr. Victor A. Cohen's "A GUIDE TO THE PACIFIC COAST IRISES". However, at the time this is written there is some doubt if the booklets will arrive in time from England to go out with SIGNA No. 1. If this proves to be the case, then it will be sent out separately or with SIGNA No. 2.

This is a booklet of 40 pages, published by the British Iris Society in 1967, and deals with all the iris species found on the Pacific Coast of the United States, and is based on Mr. Cohen's extensive travels there in search of these species in the years 1963 and 1965. Containing many line drawings of the species, a distribution map of the species, two pages each of black & white and full colour reproductions of the species in their natural growing conditions, it is a very valuable, up to date and accurate source of detailed information on these species.

Although published by the B.I.S., the main driving force behind getting it into print goes to the Species Group of the B.I.S., who first had the pleasure of having Mr. Cohen address them on the subject matter of the booklet on September 20th and October 25th in London, and were so impressed they decided to go ahead with plans for its publication. Our thanks go out to them for a fine job well done.

Additional copies are available from our Secretary or from Mrs. A. Marchant, Secretary of the B.I.S. Species Group, for \$1.00  
Mrs. Marchant's address is Stort Lodge, Hadham Road  
Bishop's Stortford, Herts  
England.

## WHAT EXACTLY IS A SPECIES

B. LeRoy Davidson

For quite some time now, Man has found himself hardpressed to define his own term, species, in words that are not soon shot down -- or at least badly ventilated -- by his dissenters. The truth, and the base of the difficulty, is of course that species do not exist in nature, but only in the mind of man as his creation, a concept, an attempted aid in the systematic classification of living things, and a term for communicating his ideas to his fellow man. We have long been taught that no two individuals in nature are precisely identical, though some are certainly far more nearly so than certain others. It is the systematic grouping of the most similar together with others of obvious ilk that eventually leads to the difficulty of where to draw the lines.

It once seemed easy enough to put the question off with the old idea that "Species are those found in nature". There are two obvious shortcomings to that attempt, since we now recognize that many hybrids also occur in nature, but more importantly, such a statement fails to define the bounds of any given species and gives no hint as to how to go about a delimitation.

In the many attempts at a good definition, it would seem that the expression David G. Leach, writing on the Genus *Rhododendron* has come up with the most nearly unhindered idea of the problem, an expression in concrete wording on an abstract plane. "Nature refuses to accommodate with conveniently rigid categories. It abhors the strait jacket which would represent frozen immobility. The difficulty in classifying rhododendrons is a reflection of the continuous lifestream that nature intends. We are dealing with the plastic and dynamic, with the pulses of creation, which has changed and developed since time began. These hosts of rhododendrons will continue to shift restlessly in the gigantic framework of evolution as long as they inhabit the earth." This statement is just as apt if one substitutes the word "iris" for "rhododendron". Leach then continues, "The wonder is, not that there are so many faults in classification, but that the botanists have done so well with the undisciplined legions of them." Of rhododendrons as well as iris.

This does not bring us any closer to a resolution that will answer all queries of what constitutes a given species, but does certainly shed a great light on why the problem is a complex one and why also there may never be a completely acceptable definition; since not all plants are in the same degree of evolution, there can be no formula to fit all.

And So Then, What is a Hybrid?

Technically, very technically speaking, all plants resulting from the fertilization of an ovule by pollen of any except the same plant are "hybrid". However, in general usage only those resulting from the mating of dissimilar parents are so-called. Thus we have various kinds, or various degrees, of hybridity, from "infra-specific" (as between two sub-species of a given species, "inter-specific" (between two species of a given genus), or "inter-series" (between two species belonging to separate series within a given genus), and so forth, even to

some "inter-generic" hybrids, which must constitute a "new" genus. Some examples would include Halimocystis (Halimium x Cistus), Solidaster (Solidage x Aster), Gaulthetia (Gaultheria x Pernettya), and Heucherella (Heuchera x Tiarella). In each case the hybrid genus serves to validate the close relationship of the two genera involved, and we may be grateful that no such involvements with the genus Iris are known. In fact, the various portions of the genus Iris are so well-differentiated genetically that we have no proven hybrids, even within the genus, between such as bulbous and rhizomatous, or even between the two major divisions of the bulbous kinds.

David G. Leach "Rhododendrons of the World", p.113. Charles Scribner's Sons, 1961.

.....

### UNGUICULARIS (STYLOSA)

Edith S. Cleaves

In Mr. Dillingstone's book, "DYKES ON IRISES", Mr. Dykes seems to have a difference of opinion about the name but I. unguicularis is used more often throughout his articles in the book. There is one article where Mr. Dykes states "Only one species. It is the iris generally known as stylosa; the name given fifteen years before was I. unguicularis, but it is a sad burden for so beautiful a plant." This is dated 1910. And another article, dated April 22nd, 1911: "The worst feature of this iris is its name, and it is indeed unfortunate that Desfontaine's name I. stylosa is 13 years junior to Poiret's uncouth appellation, and cannot, therefore, properly be used. Moreover, the name stylosa is eminently suited to the plant for it is one of the very few irises in which the style rises undivided for some distance above the top of the perianth tube before branching into three."

In today's notes the name I. stylosa is still principally in use, so let's settle on that.

Over ten years ago, I ordered I. stylosa alba, also the hybrid Imperatrice Elizabetha. Both grew well, although the white was a truly scraggy plant with very poor formed flowers, poor substance, poor everything. However I put the pollen of the hybrid (which was a very dark mottled purple, sort of crepe-like substance, narrow foliage) on the white and got about five pods. It was at this time that the discovery of the pods was purely accidental as I weeded around the plant. Who expected to find seed pods, opened, showing seeds, in a three-cornered cup down in the ground at the base of the stem? Planted most of them and got such a variety out of thirty seeds planted! Lots of lavenders and a few whites, but no dark purple except two.

Because the house was sold it was necessary to move and only took a few of the new hybrids plus the Imperatrice Elizabetha. The new hybrids turned out to be most interesting. Stems of both colours were all of 12 to 16 inches tall, large flowers and good substance. Some were dusted on the under fall with "gold", some were the same colour on both sides of the fall, the variations on the lavenders in the

in the veining patterns were fascinating, each so different. There was one that bloomed quite a bit later which was a dark pansy-violet, very narrow leaves and only had one bloom. After retirement, I moved to San Jose bringing this dark one and only five of the lavenders, leaving the whites. Wondering why I left the whites and decided to try and see if the new owner would consider sharing with me, when, wonder of wonders, they called me asking if I couldn't use some. Remembering their good qualities, I was so delighted because they were at least 10 inches tall, of good substance and had good sized blooms. They have been growing very well, no shock on the transplanting and most bloomed in December and on. Two decided types, one leaf is only  $\frac{1}{2}$ " wide, the other, not as long but  $\frac{1}{2}$ " wide. The  $\frac{1}{2}$ " leafed one is  $14\frac{1}{2}$ " tall-stem.

Surprisingly, there was one dark pansy-coloured one. Stems were no more than nine or ten inches but the flower itself was so different. The falls were "silvered" underneath and most of the blooms were scalloped along the edges of the fall. The standards formed a ruffled dome that stayed closed or rounded, I should say, for two days. On the third day the dome opened. Style arms too, were the pretty pansy-colour. Foliage was  $\frac{1}{2}$ " wide and about 24" in length. This one has not yet been registered, still watching the plant to see if this next year it will continue in this unusual style.

Give them a sunny spot, good drainage, just regular soil. In May, following the bloom period, the foliage is cut back to about 8 inches and at the end of August this is repeated. But if you want to have a bright flowered clump showing these lovely bits of gayety on a gray day, do not cut the foliage back in August, leaving at least 6" to 8" above the ground. This also helps to find the seed much easier. Also, at this time I clean out the dead foliage, so all is done at one sitting. By cutting back the foliage, the clump shows a big cluster of flowers and is so much more attractive. Some of the foliage will be a bit longer, but will not hide the bloom.

Having a most temperate climate in this valley, bloom will start in October, (though at times it starts in late September) and continues (through frost and rains) until mid-March at least. This is such a satisfactory little plant, needing so little care -- possibly snail bait at times. There is one other pest that can be more of a nuisance and that is gophers. Last year one gopher chewed up one plant, but I dug it up and made four plants. Three revived but the fourth is still struggling to grow.

These are hardy rhizomes I have found out. In the first move the rhizomes were in a wooden box with the foliage still on. Put under the weeping willow tree for protection they stayed in the box through the winter and summer for one year, occasionally watered a bit carelessly. Having so many other irises to get into their permanent locations, working at nights, it was a full year before these plants were to be cared for. There were just small rhizomes left, but I chanced it, planted them, although I thought I had lost them all. But in three years the size of these clumps was at least 20 inches in diameter.

Apparently they survive frosts and snow from reading... about them in some of the robins. The white *I. stylosa* is more tender than the others. Should you ever plant seed, when they bloom, just take an interest in the patterns on the falls. Some are so pretty and unusual.

And what more satisfying to look out through the window on a winter day and see at least thirty or more flowers on one plant, bringing colour to an otherwise colourless garden, even if mine have not one iota of fragrance as do those from Algiers?



## BRITISH IRIS SOCIETY SPECIES GROUP

Bruce Richardson

The British Iris Society Species Group held its first meeting on Tuesday, February 1st, 1966 in London, having been organized shortly before. At the time of the first meeting it had 37 members and was already an enthusiastic group very interested in learning as much as they could about the species iris. Being a compact group in a small country and with many members centred around London, it is possible for them to have frequent group meetings to discuss their favorite subject. These meetings have been reported in the form of bulletins, of which there have been ten in the years 1966 and 1967, and each has contained some very worthwhile species information, usually as given by a guest speaker and faithfully reported by their Secretary Mrs. Angela Marchant, as well as the usual business affairs of the Group. Mrs. Marchant has kindly consented to allow your Editor to reprint in SIGNA any part of these Bulletins and it is your Editor's intention to select the parts and features that will be useful for the members of our Species Study Group to study and have readily available as reference material.

With this ideal in mind the following material has been extracted from the reports of the first two meetings of B.I.S. Species Group which took place on Feb. 1st and March 22nd of 1966.

\*\*\*\*\*

### A REPORT ON THE DISCUSSION OF THE IRISES OF THE EVANSIA SECTION

Including extracts from an introductory paper by Mr. E. Luscombe.

(Formerly subgenus *Evansia* (Salisb.))  
                   section *Evansia* (Dykes)  
                   sub-section *Evansia* (Lawrence)

Now re-classified sub-genus *Crossiris* (Rodionenko '61)

We shall continue with the more familiar *Evansia* Section at present but suggest adopting the new classification as soon as possible.

Species in the section:- *I. japonica* (Thunberg), *I. confusa* (Sealy),  
                   *I. wattii* (Baker), *I. formosana* (Ohwi), *I. tectorum* (Maximowicz),  
*I. milesii* (Foster), *I. cristata* (Aiton-or Solander), *I. lacustris*  
 (Nuttall), *I. tenuis* (Watson), *I. gracilipes* (Gray), *I. pseudo-rossii*  
 (Chien), *I. speculatrix* (Hance).

#### NATURAL DISTRIBUTION:

Eastern Asia, i.e. N. Burma, Assam, Manipur, parts of China, Japan, N.W. Himalayas in India. Also U.S.A., the Eastern States and northwards to the Great Lakes region, continuing over into Ontario Province, Canada, and one species in Oregon on the Pacific Coast.

DISTINCTIVE CHARACTERISTIC:

An incised crest borne on the medial line on each of the falls. This crest is mostly in the form of a single, linear ridge, but is sometimes triple, e.g. *I. cristata* and *I. japonica*. In *I. milesii* the margin is finely divided and fringe-like. Apart from this prominent crest, some of the species show little resemblance to other members, and the group as a whole is not homogeneous. There are groups within the section which show close resemblance to other species in the same group.

INDIVIDUAL SPECIES, divided for the purposes of discussion into 3 groups.

GROUP 1.(a) *I. japonica*

The type plant with pale lilac flowers and greyish green leaves is not hardy, and rarely grown or offered in this country; the plant known as Ledger's variety with pallid flowers and yellow-green leaves being in general cultivation. The petals are fringed, and the flower stem arises directly from the rhizome with a more or less regularly patterned branching unusual in iris. The inflorescence is paniculate. There are no records of seed being set in this country or of an albino form.

(The hybrid JAP-WATT is *japonica* by *confusa*, not *wattii*.)

PLANTING:

Transplants best during May-June. Could be killed by dividing in autumn. Division seems desirable after two or three years as the soil becomes exhausted unless well-enriched, and the number of flowers decrease.

SOIL:

Seems indifferent to lime although by nature a woodland plant, and will thrive (or NOT) in any fairly rich medium with good drainage.

SITUATION AND ASPECT:

Best in a site sheltered from Cold winds, as the evergreen leaves are subject to damage by snow and freeze, and from early morning sun following spring frosts. The rhizomes require ripening by summer sun. The form with variegated leaves is less hardy and is probably better under glass. All forms flower better under glass. Outside a raised bed is preferred for soil warmth and good drainage.

CONCLUSIONS:

In gardens where this species thrives, it will flower in an open or even north aspect but better in a south. There are some gardens where it grows but will flower nowhere, and another clone begged from a good friend with a flowering clump may be the only solution.

(b) I. confusa

Distinct from all other varieties, this species and *I. wattii* support the main leaf-fans on an elongated basal stem a foot or more high, which is produced from June onwards and over-winters. The flower-stem grows from the leaf-fan at the top of the basal stem. The flowers are similar to those of *I. japonica*.

PLANTING:

Division in May - June.

SOIL:

Any fairly rich medium. If grown in a pot under glass extra feeding is necessary in the growing season. A leafy, gritty loam is recommended, also the use of plastic pots to conserve soil moisture.

SITUATION AND ASPECT:

Although this species may be grown outside in a warm sheltered position, it may not flower, and will give certain pleasure in a cold greenhouse.

(c) I. wattii

A tender plant with flowers similar to the above species. The elongated stem, as in *I. confusa*, may reach 7 or 8 feet in height if the plant is contented.

PLANTING:

Division in May, but one grower reports a special method of propagation - removing sections of the jointed basal stem to strike as cuttings.

SOIL AND ASPECT:

John Innes No. 2 potting compost is suitable and a sunny or partly shaded site is of equal merit.

ED: The following information on species comes from the March 22nd meeting, as reported in Bulletin # 2 of the B.I.S. Species Group.

## GROUP 2.

(a) I. tectorum

The Japanese roof-iris. This appears to be hardier than any species in Group 1. The flower is mauve with darker mottling and veins, all six flower segments are ample and broad, the stem 12 - 18 inches tall, either simple or with only one branch. There is also an albino form, which seems as hardy as the type.

PLANTING:

Transplant in late July; every two years is sometimes recommended

but in places where it thrives and increases without difficulty it will persist happily in the same site for many years. It has flowered magnificently, undisturbed, at Kew.

#### SOIL:

In spite of the rotting reeds on the roof-tops, this plant seems to do well where there is lime in the soil and a good handful of dolomite chalk (Magnesium Carbonate limestone) is beneficial. A good fertile soil, not too dry, supplied with organic fertilizers, Hoof and Horn meal, Bonemeal or hop manure is recommended and in early summer a mulch of good potting compost helps the developing young side shoots to root well. Slow, weak rooting may be one of the chief causes of failure to establish this species initially, as this is a common problem. The rhizomes tend to climb out of the soil, and shrivel away, therefore the use of a gritty medium to stimulate root formation is most desirable. The use of slug bait is also necessary, as these creatures love the tender new shoots.

#### SITUATION AND ASPECT:

Although both forms appear quite hardy, the resting flower-bud may suffer from frost-bite, and a sheltered, south-facing aspect gives best results. A pane of glass over young plants in winter may help establishment. Artificial ripening under a cloche has been recommended. Good drainage is essential.

#### (b) I. milesii

This species is isolated from the other species in the section. Natural distribution is in the Himalayan region. The flowers are mottled, pinkish-violet, smaller and more slender than *I. tectorum*. The margin of the crest is finely divided and fringe-like. The stem is 2 - 3 feet tall with 2-4 branches. The plant is deciduous and hardy, but may suffer damage to flower-buds in late Spring frosts. Reported badly damaged but recovered, after prolonged winter temperatures of 0° to -60°F.

#### PLANTING:

Seed, or division in August infrequent.

#### SOIL:

Prefers rich gritty loam, good drainage, seems indifferent to lime, but probably prefers it. Applications of cow manure are much appreciated, also by *I. tectorum*. Happy plants are voracious feeders. May set seeds plentifully in this country (a cross with a diploid tall bearded is recorded by Mr. Patton; flowers awaited with interest).

#### SITUATION AND ASPECT:

Open and sunny, but perhaps protection from early morning sun following late Spring frosts. Winter protection for seedlings advisable until well established. Beware slugs! Otherwise an easy and accommodating plant.

### GROUP 3.     The smaller species

(a) and (b) *I. cristata*, *I. lacustris*, grouped together, sometimes *lacustris* considered a variety of *cristata*, but is quite distinct in flower and cultivation requirements. The flowers are tinier, of light violet, the standards and falls being of precisely the same wedge-shaped outline. In spite of its name, *I. lacustris* is not a bog plant, being found on the shores of and not in, the Great Lakes. Both species have fast-creeping rhizomes on the soil surface.

#### PLANTING:

Division in the active growing season, late Spring and early Summer. Simple transplanting of the plant or clump at other times of the year, keeping roots intact in a ball of earth.

#### SOIL:

Both species prefer moist gritty soil, neutral to acid, though *lacustris* will stand a slightly alkaline medium, with leafmould and sharp drainage. Feeding does not encourage flowering. Attractive to slugs.

#### SITUATION AND ASPECT:

*Cristata* thrives best in full shade, with consistent moisture. *Lacustris* will tolerate more sun with ample moisture. This tiny plant flowers abundantly from May to October, climbing out onto rock from moist gritty soil, and sets seed in this position, but still dislikes strong sunshine.

#### CONCLUSION:

It was noted that members rarely succeeded with both species; in fact in no case reported. It might be considered that one species substitutes for another in a given locality. The Group would appreciate wider comments on this observation.

#### (c) *I. gracilipes*

The flowers are small, pinkish-lilac with a conspicuous white blotch on the falls and a distinct pattern of deep violet veins and flecks. The plant has one unique feature, i.e., the spathe consists of one member instead of the normal two or more valves. There is a good white form in cultivation which seems to have more vigour than the type. A Japanese woodland plant; hardiness or the lack of it, does not seem to be the reason for its temperamental behaviour.

#### PLANTING:

Late Spring or early Summer; best from seed.

#### SOIL:

Leafy acid soil with sharp drainage. On alkaline clay soils this species has succeeded with the addition of weathered coal dust and peat. An accidental mulch of dry leaves during winter helped where there was

a suspicion of rotting at the 'collar' resting shoots. A dressing of lime-free grit might act in the same way and help deter the most determined slugs.

#### SITUATION AND ASPECT:

Full shade facing north preferred, but will tolerate a little sun in moist positions. Like many woodlanders, root association may encourage flowering, but no specific companion is suggested and competition for moisture would not help.

#### (d) I. tenuis

Has small pale flowers on deeply forked stems. The crest on the falls is entire, not incised as in other species in the section. When happy, it will rebloom on and off till Autumn. Cultivation notes incomplete, but treat as for *I. gracilipes*. May take more sunshine and be more tolerant of lime. A dressing of pine needles might be effective.

(This species was transferred in 1959 by Dr. Lee Lenz from Series Californicae of *Apogon* irises to Section Evansia, and it was felt that convincing evidence was produced to show that this species had affinities with *cristata* and *gracilipes*. A native of N. Oregon, it is found in dense undergrowth, or in great numbers on the floor of Douglas Fir forests.

#### THE ODD MEN OUT:

##### I. speculatrix

Found only in Hong Kong and the adjacent mainland. Not hardy. The flower is lavender-lilac, the falls heavily marked deep violet-blue for three-quarters of their length, except for a conspicuous orange yellow patch flanking the outer end of the single, linear yellow crest. All six petals appear elongated and somewhat slender, the falls tucked under. The leaves are slender dark evergreen, and it has a creeping rhizome not unlike *I. verna*. Light compost, leafmould and grit, and out of strong sunshine, seem to be its requirements. The plant from which Mr. Venables exhibited a flower at the B.I.S. Show last June (for details see Mr. Killens' Report on the Species at the Show in the 1965 Year Book), still thrives. Mr. Boussard grows it in Verdun. Dr. Marr kept this species alive for seven or eight years, and those interested might refer to the Year Book 1952, where Mrs. Anley describes her experiences with this plant.

*I. formosana* and *I. pseudo-rossii* have not been reported in cultivation (yet). But many members are anxious to obtain them, and no rhizome will be left unturned until they are found.

ED: This concludes the descriptions of the Evansia species, with the exception of the members' later comments. It should be remembered that the instructions given for growing these irises are intended for the English climate, and due allowances should be made for growing them in other climatic zones. Our thanks once again to the British for the privilege of using this material, which your Editor suggests should be read in its entirety by interested members, as it contains many very useful suggestions and ideas to numerous to completely reprint here.

## HYBRIDS AS IDENTIFICATION TOOLS

B. LeRoy Davidson

Since the times of Leichtlin, Foster and Dykes the results of attempting matings of dissimilar Irises has played an important part in their phylogentic classification. Dykes published in 1913 (The Genus Iris) the sum total of the conclusions to be drawn at that time as to which of them formed natural groups, based not only on their gross morphology, the basic tool of taxonomy, but also on their cytology, according to their known abilities to intercross. Although all these terms were not in use at the time, it was a distinct advance in the understanding of the genus Iris, and has proven sound in the light of recent new technology, and the basic arrangement is still in use by modern phylogenists, updated and latinized to conform to the rules of nomenclature. Within Apogons especially, this pioneer work showed great understanding of the basic problem and the way to a solution.

A good many of the resulting "natural groups" (or taxa) of Irises consist of a number of morphologically distinct species, but which among themselves are capable of gene-exchange through interbreeding, even to producing fertile hybrids in the process so that such exchange may continue for many generations; they have become morphologically recognizable from one another but not sufficiently differentiated to have become genetically isolated. This is considered evidence of close relationship and is particularly evident within Pogiris of subgenus Iris, the majority of garden forms occurring here, including, within subsection Pogoniris, the series Pumilae or dwarf bearded, series Elatae or tall bearded, and the new series Intermadaeae, to include those species, forms and hybrids of the horticultural groups not included in either of the two other series. Also as examples of Pogiris of gardens are subsections Oncocyclus, Hexapogon (Regelia), Pseudoregelia (not much in cultivation), and the hybrid groups, Oncogelia (sometimes called Regeliocyclus) and Arilpogon, to include hybrids of Pogoniris with any of the other Pogiris, as oncocyclus, Hexapogon or their Oncogelia hybrids. A good many of the hybrids of extremely mixed ancestry within all these kinds of Irises are at least partially fertile.

There have been a very limited number of hybrids derived from most dissimilar parents, and their value has been chiefly in inter-relating these dissimilar sorts, as for instance 'Paltec', from a Pogoniris and an Evansia, (I. pallida x I. Tectorum) indicates that subsection Evansia, though beardless, is more nearly allied to the bearded sorts than to any other natural group, because there are no hybrids to substantiate any other relationship. Aside from this, 'Paltec' has proven itself of garden use for well over fifty years and is still widely grown. There are other portions of the genus Iris at least as well isolated; for instance there are no proven hybrids between the bulbous and rhizomatous sorts.

But it is within Apogon Iris particularly that curiosity still prompts attempts to mate the dissimilar ones, and with infrequent though surprising results. Though many of those reported have not been cytologically proven, their intermediate morphology and sterility indicates beyond reasonable doubt their hybrid origin. As a few examples the following are cited: 'Longsib' (I. longipetala x I. siberica), 'Longwat'

(*I. longipetala* x *I. douglasiana*), 'Montwat' (*I. missouriensis* x *I. douglasiana*), 'John Wister' (*I. fulva* x *I. aurea*), 'Orientosa' (*I. orientalis* x *I. setosa*) and 'Tenosa' (*I. tenax* x *I. setosa*). Several of these have received careful cytological analysis, substantiating their reported origins. Possibly the most famous of these inter-series crosses within Apogon was the mating which gave 'Margot Holmes', *I. douglasiana* x *I. chrysographes*, of Californicae and Sibiricae series respectively. A great many further crosses between members of the two series leads to the conclusion that, among the Apogons, these are clearly the most nearly related. Dr. Lenz published an analysis of the sort of intermediate morphology to look for in this general type of cross, wherein the morphology of the Sibiricae species tends to be dominant. A similar tabulation might be possible for any of the other types of cross if sufficient population could be induced to allow such a study. Beyond its novelty, 'Margot Holmes', like 'Paltec', has proven garden worthy and is widely grown today. The sterility of these wide hybrids often gives them tremendous vigour, allowing their strength to hold undiminished through countless vegetative divisions. Some others of these are not so blessed, with both beauty and vigour; 'Longsib', though strong enough, has been described as "appearing as if frosted at the moment of emerging from the bud"! Such an unlovely aspect has been paraphrased with "sent for, but couldn't come". Nevertheless, it is an example of a rather delightful "intermediate", clearly looking somewhat like both ancestors, and sterile.

Marc Simonet, working in France on cytological studies within Irises, produced 'Tenosa' and it is figured and described in the literature of the day, though the plant is not known to exist to this time. Yet by a curious circumstance it has been "reconstructed". Miss Elvie Page, wishing to increase her planting of *I. tenax*, saved and planted seed from them. On their germination, she noticed several plants that did not look like the rest and when they came to bloom a few seasons later, they seemed much nearer in appearance to the *I. setosa* which had also been in the garden. A comparison with Simonet's figure and description leaves little room for doubt that the bees had crossed the *I. tenax* with *I. setosa*. Though the gross morphology is much more akin to that of the latter, it shows considerable "intermediate" tendency, and is sterile.

The study of hybrids can tell us much about a species, as much perhaps as a study of the species populations, and along the way is that incentive of the "curio", and the worthwhile NEW garden plant.

.....

#### SLIDES REQUESTED

There is a need for slides of various species, either as they grow in the wild or are growing in cultivation. A SLIDE COMMITTEE for obtaining slides, either original, or the making of duplicates is asking that if anyone has what they consider typical or superior quality slides of any of the species irises, that they get in touch with the SLIDE COMMITTEE, of which Robert Schreiner is Chairman. Address is Rt. 2, Box 297, Salem, Oregon 97303.



## CAUCASIAN IRIS

N.A. Kacheladse

Species of the genus *Iris* have been in garden culture for a long time and with all nations. Only the decorative wild iris of the Caucasus are up to now hardly obtainable in trade. Here we work with the *Iris* of the subsection *Oncocyclus* (Siemss, Benth), the species of which are little known with us (in Russia).

The basic features for classifying them in a group of their own are seeds. The name "*oncocyclus*" means in Greek "Seed with collar". And indeed, with all species and forms of this subsection the seeds are oval and show on one side a white rider.

According to indications in literature, this subsection comprises about 20 species. For the better part, they are found in mountain sections of the Near East and Asia Minor.

In the following Caucasus, the following 10 species are found: *I. iberica* Hoffm.; *I. paradoxa* Stev.; *I. camillae* Grossh.; *I. lycoris* Woron.; *I. grossheimii* Woron.; *I. acutiloba* C.A. Mey; *I. lineolata* (Trautv., Grossh.). With the exception of *I. elegantissima*, these species are endemic in the Caucasus.

Under natural conditions the diameter, shape and colour of the of the inflorescence vary considerably. That is why, in literature, nearly 50 species are described.

Among the Caucasus *Iris*, *I. iberica*, found in the surroundings of Tiflis, is the most beautiful one. First it was described in the beginning of the last century by the botanician Hoffmann. The famous scientist N.A. Troitzkij, write in 1928 that this iris gives colour to the small mountains in the surroundings of Tiflis, and some years earlier it covered every Spring - in April - completely the slopes of the mountains in the surroundings of Grena-gele with its flowers.

Before the war, German flower firms exported the bulbs in such quantities that this iris is found but rarely nowadays, and might possibly disappear in the future altogether.

Under favorable conditions of climate, the iris exported from Grusinia of course perished. That is why, up to now, They are not available from flower firms. (Ed. Perhaps unfavourable conditions?)

The wild forms of *I. iberica* var *robustasohn.f.cremea* Matv. and *f.coerulea* Matv. are more beautiful than all the following. From the ordinary species and forms they distinguish themselves by the colour of their flowers. The standards (mostly erect) are diaphanous with a cream or light blue tint. Especially beautiful are the falls. They are often curved like a spoon, light brown towards the edge, covered with a dense net of dark brown to violet veins. Between these, there are often dots and spots which get denser towards the lower part and run together. In the centre of the falls, there is a dark brown, nearly violet velvety patch which gives the flower its peculiar colour.

The exploration of the Caucasian iris is a matter to which the Botanical Institute of the Academy of Sciences of Grusinia has devoted many years. In its test garden, there is now a large collection of fundamental species and hybrids.

Pollination for obtaining crosses is simple. As a result, the fundamental species have been split up and new forms came into existence, so-called spontaneous hybrids. These are hybrids which arise without man's helping hand. The large variety of species and forms of the subsection *oncocyclus* which grow on a relatively small area (Eastern Caucasus), indicates their hybrid nature.

Under natural conditions, the wealth of forms becomes all the greater, the more species grow near each other and viceversa. Nature in crossing out not only creates forms, but also fundamental species, i.e. *I. camillae* Grossh.; *I. grossheimii* Voron.; *I. chalcownicowii* Fom. and others. All this goes to show that natural crossing plays a great part in creating the wealth of forms. The method of crossing has been equally used by us for clearing questions in dispute concerning the origin of the Caucasian *Oncocyclus* species and for creating new forms. Some forms found in nature and equally spontaneous hybrids which came into being at the Institute, have been incorrectly described as species. The clearing of questions of origin by crossing gave remarkable results. An experimental analysis on the origin of *I. koenigii* had the following result: This spontaneous hybrid was first described by D.J. Kosnowski. As parents he named *I. paradoxa* and *I. iberica*. C.N. Matween pollinated *I. paradoxa* with pollen of *I. iberica*, and as a result obtained two hybrids: *I. sosnowsky* and *I. ketzhovelli*, which are not dissimilar to *I. koenigii*. By a reciprocal crossing of both species, the result was wholly different. The crossing of *I. paradoxa* and *I. iberica* resulted in hybrids of the type *I. sosnowskyi* and *I. ketzkhovelli*, the reciprocal crossing the type *I. koenigii*. Consequently, the parents of *I. koenigii* were indeed *I. paradoxa* and *I. iberica*.

From 1950 to 1960 we obtained more than 50 "forms". As material to begin with we used principally specimens of *Oncocyclus*. We endeavored to improve the decorative qualities. We crossed all lowgrowing species (*I. lineolata*, *I. acutiloba*, *I. koenigii* and others), with *I. iberica* var *robusta*. The hybrid forms: GOYA, MERZGHALA, MSCHWIDOBASAMSCHOBLO have a taller flower stalk and their decorative value represents a wholly new type. Also the time of bloom could be changed by crossing. In Tiflis, the early iris of the *Oncocyclus* group, flower in the first half of April and the late ones at the beginning or in the middle of May.

By crossing, hybrids (MAKASCHILI, OTHELLO) were obtained with a later and longer time of bloom. Crossings between different species of *Oncocyclus* are simple. More difficult they are between the species of different sections. But also here we have had some results (*I. iberica* var *robusta* with *I. sulphurea* var *lutea*). The work of crossing with the section *Oncocyclus* has just begun and will be continued in the next years.

ED: From N.A. Kacheladse "Caucasian Iris" in the periodical "FLOWER BREEDING", Moscow, Nr. 12/1962.  
Translated by George Hacklander from the Newsletter Nr. 5/1963 of the German Iris and Lilium Society.

QUESTIONS PLEASE

"HE THAT NOTHING QUESTIONETH, NOTHING LEARNETH" - Thomas Fuller  
(1608-1661)

Q - I am confused by the use of the words "perianth" and "tube" which seem at times interchangeable. The word "crest" applied to irises is also cloudy; I thought only Evansia Irises were crested.

A - The perianth is the collective name for the floral envelopes, in the irises consisting of the calyx, made up of the three falls (sepals), and the corolla, made up of the three standards (petals). In all irises the basal portions of these six perianth segments are constricted and fused together to form a "tube" which serves as the attachment of the perianth to the "inferior" ovary (which is a way of saying the ovary is situated below rather than within the perianth, as in lilies for instance). This is the perianth-tube and when for convenience it is to be abbreviated, it is preferable to say "tube" since it is but a part of the perianth.

Such widely different species as I. pumila (Pumilae Pogoniris), I. chrysophylla (Californicae Apogon), I. unguicularis (Unguicularis Apogon), I. tenuifolia (Tenuifolia Apogon), and I. kamaonensis (Pseudoregelia) have to all intents and purposes no true stem (or at best, only rudimentary vestiges), the floral display being elevated by a perianth-tube that may be up to ten inches long. Since this tube is technically part of the flower, some of these species may have flowers that are truly ten inches long?

The word "crest" when used in describing irises does usually refer to the rather feathery appendages to the upper blade of the falls of the Evansia irises, in the position of the beard in bearded kinds. However, it is rather commonly and unfortunately used to describe two other portions of iris flowers: In the Hexagonae Apogons, the term "crest" has been applied to the heavy ridges of the claw of the fall and are more definitely termed "median-ridges". The pair of ornamental appendages to the terminus of the style-arms of irises are also called "crests". but no confusion results if they are further defined as "style-crests".

Q - What would be the cause of an iris seedling changing its colour after its first flowering? I've read it can happen and now I know it, for it did!

A - The initial vegetative growth of irises is orthotropic (vertical) and the increase or secondary growth is plagiotropic (horizontal). In some cases there can be a basic instability within the factors controlling the production of pigments or the disposition of them within the tissues; thus flowers produced on the plagiotropic growth may vary in some small, or in much larger ways. Some few never do reach a stability of these factors and the result is like the TB 'Humoresque'. Another anomaly is represented by 'Good and Plenty'; technically one clone, the increase on one side gave white flowers while the other side gave only blue. This may also account for variegated foliage from other similar disturbances within the tissues.

ED: Answers by B. Leroy Davidson - 911 Western Ave. #200  
Send questions to - Seattle, Washington 98104

SPECIES FOR EVERY IRISARIAN

Charles E. Rhodes  
St. Louis, Missouri

In a normal year (is there such a thing) the few Junos will bloom at about this time (April 19th) or a little later. This season they were up in late February and had all their buds frozen. Worse, it seems now that I will lose all but one very vigorous plant to freeze damage. Along about the end of April I. japonica and I. cristata will bloom just ahead of the TBs. Usually the various forms of I. pumila and I. mellita have just about come to peak bloom, or on the down-hill side. The TBs follow with the Siberians, Louisianas, Spurias and several forms of I. pseudacorus. This just about does it until July when I. dichotoma comes on stage. In October there may be a few flowers on I. fulva and on two different rust-maroon coloured TB irises. That very briefly sums up the usual bloom sequence.

Today, there are a lot of tulips blooming nicely, the last clump of pink trumpet narcissus is looking good; I. japonica and I. cristata are blooming and there is colour showing in the terminal buds of several TB cultivars. The pumilas and mellitas along with old Atroviolacea are long gone. Only Enamel Blue is left from all the early dwarfs to co-bloom with my seedlings from Blue Beyond x Orchid Jewel. This is simply ridiculous. I cannot recall ever having seen bloom so early. Last year I won a red at our spring show with a stalk from our wild yellow Baptisia on May 14th. This year will see it in full bloom in a day or two. Where do we go from here?

There are some peculiarities to be seen among the more unusual irises despite the season. All the onco and regelia species and hybrids are looking exceptionally well. No doubt they thoroughly enjoy this dry warmth. They are not so much out of tune with a normal season either. Had we experienced some freezes in the last few weeks all would have failed as they so often do. Lady Mohr, Kalifa Baltis and Eastmont, Theseus, Vera and I. hoogiana will bloom very soon now. This will be the first time in four years that Kalifa Baltis has come through for me.

I do like the oncos, but find difficulty in storing them after digging in early summer. Our climate is much too humid for them and they begin to vegetate stored away in sand or paper sacks. This has a tendency to weaken them by the time fall comes. Oten, you find that in October you have a sackful of growing plants to be set out to face the cold winter, and it just does not work out too well. I lost I. hoogiana this way last year, and I had hung it away in a blistering hot attic for the summer.

My prime interest is in species of all kinds. I like to dabble with wide species crosses. These are almost always complete failures. Several friends and I have undertaken a typical project of some long range timewise. This will be to re-constitute our own native blue I. versicolor from its parents, I. virginica shrevei and I. setosa interior. It is Dr. Anderson's postulation that this species is an amphidiploid hybrid of the latter two, but was never able to produce anything but inviable seed from his attempts.

When we began last fall, we had not a single plant of I. setosa interior to work with. This is a species type that is not in commerce, and I doubt that it is grown in the continental U.S. at all. It was our very good fortune to have fresh seed collected for us last October near College, Alaska, by a botany professor at the University of Alaska. We have also obtained plants of Russian allied Setosal types and some have the eastern I. setosa canadensis for use as well. Most of the growers in this endeavor have plenty of forms of I. virginica at hand to initiate the program until our seedlings mature.

I do not know if any of you grow the old Vesper iris, I. dichotoma. If you do not, you should, for its habit of instantly opening its flowers in late afternoon is excuse enough. No one believes in the "instant" iris until they have seen it for themselves.

At one time I supposed that this could be crossed with the co-blooming iris relative, the Blackberry Lily. I have tried this cross both ways several hundred times and finally produced 58 seeds. A very few of these proved to be viable. The seedlings were all so different from each other that I suspected that I had a true cross. The two year wait for maiden bloom nearly gave me ulcers. It was a bitter disappointment. All the flowers were typically Blackberry Types. One strange thing was that the huskiest plants bore the smallest, palest flowers; while the sickly seedlings had large bright red-orange blooms. I had the opportunity to discuss this with a taxonomist who pointed out that in such a wide cross the foreign pollen will, at times, stimulate a plant into a seed set. These seeds are not the product of the foreign pollen, but are the product of the stimulus the plant receives from the pollen. In effect, I merely had another piece of the mother plants. It was also noted to me that seedlings would normally vary from extremely strong growing ones to weak spindly little things. Evidently this is exactly what happened to my crosses of Blackberry Lily x I. dichotoma.

Another group that interests me is the Louisianas. I should think that some of these will be found to be cross-compatible with several other beardless groups. The most likely suspect species now in mind is our eastern I. tridentata. It is my personal opinion that the two Longipetalae may have some relationship to the Louisianas in that they are both nearly exactly doubles in chromosome constitution. In pollen exchanges last year with a friend in Montana, we produced three shriveled seeds from the cross of I. missouriensis x I. fulva. I anxiously await some signs of germination. These wide cross seeds should have been handled as excised embryos, but I cannot do this.

A friend in Michigan tells me that our little lake iris, I. lacustris, is very reliable as a species rebloomer and that it has responded in other climate zones. My own I. fulva sometimes blooms in October.

Did you know that the Abbeville Fulvas, or Abbeville Reds, have been named by Dr. L.F. Randolph as a distinct species under the name I. nelsonii? How about that, a brand new American species iris whose fate has hung in the balance for a quarter of a century!

There have been a couple of seedlings of TB x I. balkana extraction that have bloomed. Two of these are quite remarkable in that they have excellent branching and bud placement for such small plants. One is a white with golden yellow beard which is a little narrow of haft, but

still quite handsome. I hope to try some of its pollen on something like Arctic Flame or Frost and Flame to see if I. balkana's deep blue beard will show up in the progeny on a light flower. Another is very like a fuller rounder Sable Night about 10-12 inches tall but unbranched. The falls tuck in and clasp the stem after about 24 hours, and there are some haft marks, but still it is quite a nice plant with flowers of good substance. The beard of this one is a striking deep blue.

I. korolkowii typica bloomed and is quite beautiful. It is a white, very delicately veined all over with a true chocolate brown. Its beards are the most true brown that can be imagined. This one is most difficult here and is a full 44 chromosomes, to make it most compatible with other tetraploid bearded types. I would like very dearly to have a TB iris the colour of I. korolkowii typica's beard.

ED: Reprinted from the September, 1967 issue of the NEWSLETTER of Region 18, of the American Iris Society, with the kind permission of the author.

.....

#### THE INTERESTING ORIGIN OF IRIS VERSICOLOR

Roy Davidson

Dykes in THE GENUS IRIS (1913), p.80, first writes of the confusion that surrounded the two American species, I. versicolor and I. virginica, as follows; "In his first edition of the Species Plantarum (1753), Linnaeus describes as numbers 10 and 11, two American Irises under the names versicolor and virginica. For the former he refers to two plants in Dillenius, Hortus Elthamensis (1732), t.155, figs. 187 and 188, and also to Ehret, Plantae Depictus (1748), who gives a good figure of the red-purple variety. It is curious therefore, to find that, though Linnaeus included under versicolor the three forms just mentioned, he did not also include with them Clayton's number 259 (BM), which is the type of Gronovius' I. virginica (Gren. Virg. p.7). This plant is now in the herbarium of the British Museum and is obviously a form of what we know as versicolor, and cannot be separated from the specimen by that name in Linnaeus' own herbarium at the Linnaean Society."

Edgar Anderson published in 1928 the results of his study of I. virginica and I. versicolor, as "The Problem Species in the Northern Blue Flags", undertaken as a biological and taxonomic study to determine how these two confused species were morphologically and ecologically separable. The results showed good definite ways to tell one from the other and gave a detailed range map one might use in predicting which was to be expected in a given area, and also showing the occurrence of a limited number of hybrids between the two, to which was applied the name Iris x robusta Anderson 1928. (The "x" indicates hybridity.)

However, the most interesting point revealed was that, although there are great similarities between the two (and which had led to the study in the first place), the differences between individuals of the two species were of entirely separate natures from the differences separating them as species. I. virginica remained I. virginica and

I. versicolor remained I. versicolor; only where the occurrence of the hybrid was found were there any breakdowns in their morphological separation, and here the parent stocks accompanied the unusually vigorous hybrids.

The nature of this study had necessitated much detailed fieldwork and the recording and comparison of countless minute measurements, and before the day of the computer, as the consistent differences proved in the main to be dimensional in their nature. It was discovered that the populations of I. virginica of the Mississippi valley differed materially from those of that species from the Atlantic seaboard, particularly in a longer and more slender ovary, resulting in longer, more slender capsules. For this taxon the name shrevei of Small was retained, though in varietal rather than specific application, and the Mississippi valley population became I. virginica Linnaeus var. shrevei (Small) E. Anderson 1936, the year of publication of the second paper on the subject.

Futhermore the evidence accumulated in the study of the more northerly I. versicolor seemed to indicate that it was intermediate in a striking number of ways between the shrevei taxon and the I. setosa var. Canadensis (= I. hookeri Penny) of Eastern Canada. A study of that species surviving as a depauperate relict of the Ice Ages suggested that a forerunner, rather than the existing relict form, was more likely as a putative parent. The study postulated that it should have had a taller and better branched stem, and be possessed of the same number of chromosomes,  $2n=38$ . It was this number of 38 that indicated most strongly that the other parent must have been a setosa, for that number plus the 70 counted in many forms of shrevei (it can vary between 70 and 72) makes the amphidiploid number for versicolor  $2n + 2n = 108$ , the highest known chromosome count in an iris species.

A careful recheck of the herbarium material accumulated in the study was to reveal that some of the Alaskan specimens, those from the upper Yukon, an area unglaciated even while coastal Alaska and virtually all of Canada lay under the great Polar Cap of the Ice Ages, were of the dimension that fitted the prediction as the putative parent, and could have been expected to have been a continuous population across Canada in preglacial time. This taxa was given the name I. setosa L. var. interior E. Anderson 1936, and is taken as the type which at the edge of the glaciation entered into hybrid combination with the shrevei (which had spread northward as the post-glacial climate warmed) to give the amphidiploid, vigorous I. versicolor, of such invasive nature that it eliminated by competition all evidence of the setosa, only the starved weaklings now known as var. canadensis remaining, and those in ecologically isolated situations which could not support the robust versicolor. Eventually the new species spread to successfully colonize the post-glacial landmass, where it is now recognized as a major species.

Bibliography: Annals of the Missouri Botanical Garden XV:3 (1928)  
Annals of the Missouri Botanical Garden XLIII:457-509  
(1936)

NOTES FOR FIELD IDENTIFICATION

Thomas J. Buckley

	<u>Iris virginica</u> L.	<u>Iris versicolor</u> L.
Sepal spot	Conspicuously bright yellow and visibly pubescent.	Often without spot; if present greenish-yellow; inconspicuously pubescent.
Style branches	Inwardly-eared (auriculate) at their convergence.	Not eared, or only weakly so.
Spathe valves	Comparatively long, up to five inches; scarious or sometimes foliaceous.	Less than two inches, firm, almost never foliaceous.
Stem branching	Usually one branch, almost equalling the terminal flower of main axis.	More freely branched; one or two branches, seldom equalling terminal of main axis.
Anthers	Coloured white or yellow.	Coloured blue.
Standards	5.5 to 6 cm long; 1 to 2.5 cm wide, obovate to ovovate-spatulate	2 to 4.5 cm long and 1 cm wide, lanceolate-acute to lanceolate-oblong.
Seedcoat	Heavy, dull-coloured, corky.	Thin, hard and shiny.
Range	Southerly; from SE and Cnet. USA, N to Wisc. and Minn. and Bruce Peninsula in Ontario.	Northerly; Great Lakes region of USA and Canada, W to Wisc. and Minn., E to Maritime Prov., N. Eng., N.Y., N.J., Penn.

I. shrevei Small 1927 is I. virginica var shrevei (Small) E. Andersson 1936, the consistant variant of the Mississippi Valley, separable as follows:

	<u>I. virginica</u>	var <u>shrevei</u>	<u>I. versicolor</u>
Capsule	Practically spherical or ellipsoid, up to two in. long.	Long-cylindrical and generally asymmetrical, over three inches long.	Short-cylindrical and usually symmetrical under three in. long.
Range	Coastal Plain	Mississippi Valley	Northerly. (See above)

Viosca stated (A.I.S. Bul. 57:10 (1935)) that, in his opinion, there is good reason for recognizing three distinct populations within the Virginia Complex. In addition to type virginica for the coastal forms, and var. shrevei for those of the Mississippi Valley, the recognition of I. carolina Radius 1822 as I. virginica var. carolina would describe those of the southeastern range. I. versicolor, being a younger species is not so geographically variable, though there are several named garden selections, e.g., kermesina, fosteri, Claret Cup etc.



# NOTES ON SOME SEEDLOTS

Ruth Hardy & Roy Davidson

There will be some persons to take exception to the seedlist in some way or another, its manner of presentation, its format, its content or the names used. It was presented and organized in a manner that will allow future expansion on the same basis and which is coded to relate to the page numbering system the forthcoming species study manual will take. SECTION A of the manual will cover the *Pumilae Pogon* Irises, SECTION B the Median (Intermediate) Irises and so forth, down to a SECTION Z for some related plants that were once included in the genus.

It was heartening this initial year to have such cooperation and to find the listing included over 150 separate lots of seed, but particularly at receiving and dispersing some more or less unusual seeds. Lot number 67K014 named "notiensis" requires some explanation, being from a colony that apparently is of very ancient hybrid derivation in Lane County, Oregon, in the flat meadowlands of a site that was a vast lake-bed at one, inter-glacial period. Dr. Clarkson wrote of this that it arose between *I. tenax* and *I. chrysophylla*, and did not apply any name, stating that to do so for any or all of such hybrid colonies would only be to clutter up an already over-numerous list of species. However, this little orchid-coloured, early flowering member of Californicae Apogon is quite distinct from other similarly derived hybrids in that it has stabilized to form a colony covering some acres, where, although surrounded by *I. tenax*, it remains quite recognizable from that species, and more like orchid-coloured *I. chrysophylla*. Although an unpublished illegitimate name, it was used in the seed list to denote this colony from near the village of Noti, as distinct and separate from any and all others of the numerous *tenax-chrysophylla* hybrid situations, and is as distinct a natural population as is *I. tenax* ssp. *klamathensis*, for example.

Where there was indecision regarding the correct name of a seedlot, the name under which it was received was retained and as far as possible an explanation was added. Thus several offerings in the Spuria SECTION M may not be properly named, since it is impossible to tell from seed morphology. However the morphology of several lots received as *I. ensata* was relatively simple; those that belong with the *Laevigatae* Apogon are put here. This includes lots 67N080 and 67N092, which the Japanese botanists insist is properly called *I. ensata*, but which traditionally have been known as *I. kaempferi* or "Japanese Irises" to the Occidental world. There is a similar controversy regarding the "right name" for *I. setosa* var. *canadensis* (or *I. hookeri*) and so both names were offered for two lots in SECTION Q.

Within SECTION R several variants of *I. ensata* appear, the one as 67R049 came originally from southern Asia and was named *I. moorcroftii* at one time. *I. tenuifolia*, received as *I. tianschanica*, 67R047, is a species not at all well known. Farrer writing in the journal of the Royal Horticultural Society 42:335, reporting on his fieldwork in Asia in 1915, says of it "The most beautiful of the year.....its wide old grassy hassocks do not love the loess soil, but delight in the open green lawns of the alpine foothills, especially about the folds of the fell in which Chebson Abbey lurks. Here in May it was lavish with its

large and lovely flowers of rich blue, each on what seemed a stem of six inches or so, but all of which was nothing but the preposterous tube of the flower, for actually in the ground developed the fat rosy pads, just protruding their pink bulges sometimes, but often, it is evident, lurking undiscovered for years in the heart of the clump, nursing what seems to be still good seed. Seems slow of growth even at home, where the clumps show masses of dead foliage, stumps and even hassocks of dead matter, from which spring scant sprouts. Nor does it seem certain either in flower or seed. The species has an enormous range, and the specimens already in cultivation hail from Quetta, not a land of promise as far as our gardens are concerned, so that their sulkiness need not give any rule for the behaviour of a fresh stock from so far away, and from conditions so absolutely different as the cool high down of Chebson, far up on the northernmost limits of Tibet." The article was illustrated with one of Farrer's paintings of this species. Writing in "The Rainbow Bridge", p.164, he comments .... "old hassocks.....from which sprout grassy fountains of foliage and large flowers of limpid blue, with a white throat and a golden flame down the throat, suggesting in colour and approximately in shape a bright but thinly-built form of I. sibirica, though only springing from the earth on a stem of four or five inches... ..but that stem is only a delusion....". Dykes in his "Handbook of Garden Irises", p.132, writes "Of I. tenifolia I raised seedlings from imported seeds but they were slower growing than any other iris I have ever seen and showed no sign of flowering even after several years.... all the more disappointing because the plants seemed quite healthy. This extends from the Volga through Turkestan into Mongolia and must be not unlike I. unguicularis." In the Gardener's Chronicle, April 8, 1916, he wrote "Some plants that I once received from the neighborhood of Quetta (near the Afghanistan border of Pakistan) survived for a year or two but made no satisfactory growth, while the solitary seedling that I have raised has contented itself with producing three leaves in as many years." The diagnosis Dykes wrote of this species in "The Genus Iris", 1913, does not tell us much more except of the rhizome..... "growing in crowded tufts but occasionally sending out short stolons.... and root fibres hard and wiry grow out from the rhizome at different angles, not vertically downwards as in other Irises." It would seem therefore, that anyone trying to grow I. tenuifolia from seed should be prepared to be patient but also to be disappointed, though if successful, to be rewarded with a lovely exotic, which, once established, will probably remain as sturdy as it now appears reticent. It should probably be best planted where it is to remain, or at least put into that position as soon as possible as a pot-grown seedling.

An effort will be attempted in future years to secure more seed of these which seem to be in greatest demand. This year's supply of I. cristata alba, I. forrestii and the small Spuria species were the most popular items in the list, along with I. flavissima, the laevigatas and I. milesii. It was the one disappointment of this first year of the exchange that seed received late could not be listed nor sent out, except as premiums. There was originally no intention of storing seed from one season to the next, and therefore to supply only strictly fresh seed. Up to the date that the list was, at long last, readied for the printer, seedlots kept arriving, necessitating a revision and creating further delay; then persons requesting the list became impatient at the delay. Well, we tried and hope it was worth the effort.

MEMBERSHIP LIST

As of May 2, 1968

ONE YEAR MEMBERSHIPS:

Verna C. Cook	6924 Pacific Highway East, Tacoma, Washington 98424
Mr. Roy Oliphant	40 Senior Avenue, Berkeley, California 94705
Kevin Vaughn	2017 South Athol Road, Athol, Massachusetts 01331
Mr. Tommy D. Graham	#2 Jeanne Court, Antioch, California 94509
Mrs. Florence Champion	100 Lind Road, Grants Pass, Oregon 97526
Mrs. F.P. Walther	414 Upper Mountain Avenue, Upper Montclair, New Jersey 07043
Mrs. Bonnie Bowers	7607 Meadowlark Lane, Roseville, California 95678
Mrs. T.J. Worland	4700 - 31st Avenue South, Seattle, Washington 98108
Mrs. Lorena M. Reid	17225 McKenzie Highway, Route #2, Springfield Oregon 97477
Mrs. Sarah W. Highley	1068 Hunt Valley Drive, Reynoldsville, Ohio 43068
Mr. Samuel N. Norris	R.R. #2, Owensboro, Kentucky 42301
Mr. Charles E. Rhodes	3423 Manhattan, St. Louis, Missouri 63143
Robert L. Shatzer	P.O. Box 126, Albright, West Virginia 26519
Mrs. Clifford Barnes	1806 N.E. 73rd Street, Seattle, Washington 98115

THREE YEAR MEMBERSHIPS:

Alice M. Gordon	15 Stephens Way, Berkeley, California 94705
Mrs. Bernice Roe	1050 Bird Avenue, San Jose, California 95125
Mrs. Peg Dabagh	1325 Sacramento - Apt. 5, Berkeley, California 94705
Naoma R. Neyerlin	1827 Telegraph Avenue, Stockton, California 95204
Mr. Homer Metcalf Professor of Horticulture	Montana State University, Plant & Science, Bozeman, Montana 59715
Mrs. Grover C. Carter	Route 4, Box 192-A, Hood River, Oregon 97031
Mrs. Zeh Dennis Jr.	Rt. 1 - Box 337A, Hot Springs, Arkansas 71901
Mr. Robert Schreiner	3625 Quinaby Road, N.E. (Rt. 2), Salem, Oregon 97303
Mrs. Leona Mahood	11250 First N.W., Seattle, Washington 98177

Mr. Bruce Richardson	492 Twenty Rd. E., R.R. 2, Hannon, Ontario, Canada
Miss Alice Atchison	Apt. 31, 306 Hitt, Columbia, Missouri 65201
Mr. Larry L. Harder	Ponca, Nebraska 68770
Mrs. Edith S. Cleaves	676 Downing Avenue, San Jose California 95128
Mr. B. LeRoy Davidson	911 Western Avenue #200, Seattle, Washington 98104
Mrs. F.W. Warburton	Route 2, Box 541, Westboro, Massachusetts 01581
Mr. Earl R. Roberts	Median Iris Test Gardens, 5809 Rahke Road, Indianapolis, Indiana 46217
Mrs. Daniel Dugan	901 Society Avenue, Albany, Georgia 31701
Mrs. Valeria Laking	37605 Lakeville, Mt. Clemens, Michigan 48043
Mr. Julian M. Ross	3504 Bermuda Road, S.W., Huntsville, Alabama 35805
Mrs. W.N. Tiffney	226 Edge Hill Road, Sharon, Massachusetts 02067
Mr. Bernard Venables	27 The Close, Rayners Lane, Pinner, Middlesex, England
Mr. E. Freeman Wendall	24 Irving Terrace, Kenmore, New York 14223
Fr. W.P. Austin	27 Washington Avenue, Stamford, Connecticut 06902
Mr. Hubert Fischer	Meadow Gardens, Rt. #3, Hinsdale, Illinois 60521
Mr. Robert Brooks	6513 Monterey Road, Los Angeles, California 90042
Mrs. Elizabeth H. Rowe	588 East End Avenue, Pittsburg, Pennsylvania 15221

.....

#### EDITOR:

At the time this is being written (May 2nd), the Cohen booklets from England have not as yet been received, so the Bulletin will have to go out without them. As far as I know now, it is the intention to send them separately as soon as they arrive, and it is hoped the delay will not prove to be too lengthy.

This first bulletin is coming out very much later than was originally intended and the reasons are several. First and foremost there was the lack of sufficient local items of general interest and this problem is still with us; the illness of Tom Buckley was another problem which is also unsolved and lastly there was a final delay in obtaining a complete membership list.

A sample of some of the recent problems is the attempt to airmail parcel post some 50 copies of the bulletin to be on hand at the Berkeley Convention and it was found that there was no parcel post airmail service between Canada and the United States. Yet it is no problem to send parcels by air to anywhere in Europe - Why?