

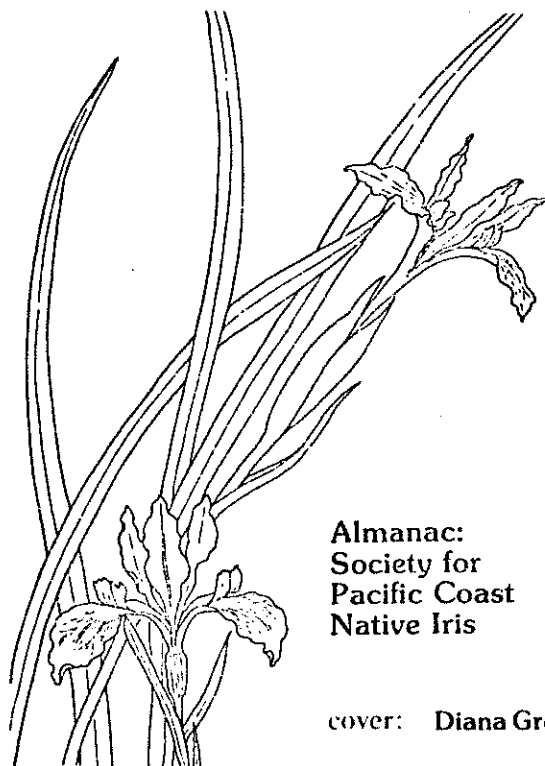
**Almanac:
Society for
Pacific Coast
Native Iris**

Fall 1981

Volume IX Number 1

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Almanac:
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Pacific Coast
Native Iris

cover: Diana Gregory

Letter From the Editor

Dear friends,

The October issue of *Sunset Magazine*, published for gardeners and homemakers in the western states, has a page devoted to the story of Pacific Coast Native Iris. It is a well written piece by Carol Malcolm, a staff writer, with some information on the irises, sources of rhizomes and seeds including the SPCNI, and with an invitation to contact the society to those readers interested in learning more. LaRue Boswell, in charge of our seed selling project, reports a good early response to the article.

Interest in Pacific Coast Native Iris has been documented in many articles in various publications over the years. Much of this information is interesting and still useful today. We are beginning a section in this issue which we have entitled *Early Observations* which will appear in coming issues as space permits. We are indebted to Bonnie Bowers, Volcano, California, for her diligence in searching out these published articles and providing reprints for our use. Thank you, Bonnie.

Pictures in the *Almanac* while being a pleasant change from the printed word are an additional expense. Personally, I like them. In this issue pictures have been kept to a minimum. Could we hear your reaction to this issue in that respect?

Our thanks to our willing contributors.

May all your Californicae bring you joy.

Jean Erickson

Word on a New Book

One of the most famous names in iris work, particularly where west coast natives are concerned, is that of Lee Lenz, whose work with *Iris munzii* at the Rancho Santa Ana Botanic Garden is documented in many issues of the *Almanac*. Just published by Rancho Santa Ana is the long-awaited book, *California Native Trees and Shrubs*, by Dr. Lenz, Director, and John Dourley, Superintendent. The book is fully illustrated in both black and white and in color, and is a credit to the institution which published it. To order, send \$29.50 for hardcover or \$23.50 for soft cover, adding handling fees of 65 cents for the first book and 22 cents each for subsequent copies ordered at the same time. California residents add sales tax.

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Consultant

Jean Erickson
Philip Edinger
Jean Witt

Treasurer's Report

SEPTEMBER 30, 1981

Cash on hand February 28, 1981 \$624.26

DUES AND RECEIPTS:

Dues Collected	\$178.00	
Dues Collected by A.I.S.	113.00	
Sale of Cohens	48.00	
Sale of Check Lists	9.69	
Sale of Almanacs	2.00	
Sale of Seeds	10.00	
Donations	11.00	371.69
		\$995.95

DISBURSEMENTS:

Membership cards	\$ 10.07	
Refund Trophy Engraving	5.33	
Spring '81 Almanac		
Printing	170.71	
Great Graphics	185.00	
Postage	60.24	431.35

Balance on hand September 30, 1981 \$564.60

DOROTHY E. FOSTER, Treasurer

For Pacific Coast Native Iris seeds send a stamped, self-addressed envelope and \$1.00 per packet to LaRue Boswell, 1821 Gross Lane, Concord, CA 94519. These are from open pollinated varieties.

**SEE US NEXT YEAR
FOR SEEDS FROM SELECTED,
HAND POLLINATED VARIETIES.**

The Society for Pacific Coast Native Iris is a section of The American Iris Society. membership in the latter is a prerequisite for membership in the SPCNI.

Dues:	Individual	Family
Annual	\$ 4.00	\$ 5.00
Triennial	10.00	12.00
Supporting Annual	6.00	
Life	50.00	

The Almanac is published in spring and fall, with copy deadlines of February 1 and August 1. For information on back issues, please address the editor.

Subscription price: \$4.00/year

From The President



After a busy spring and summer in the garden, at shows, regional meetings, and for some, the American Iris Society National convention, maybe we can all slow down a bit and enjoy the fall and approaching holidays.

Meeting so many of you at the Regions 14-15 meeting in Fresno was a pleasure to me. There we determined that the SPCNI is in need of raising some funds to help defray the rising costs of printing and mailing the Almanac.

The cost of typesetting is now quite high; paper and postage have also risen in price.

A good source of income for the society would be from the sale of native iris seed of planned crosses of named parentage. There is a demand for such seed from those who live in areas where transplants do not have a high survival rate.

LaRue Boswell has graciously offered to collect and sell the seed so I am making a strong appeal to all of you to be generous and send her any seed you can spare from the crosses you make.

Present terms of office for SPCNI officers will expire June 30, 1982. Our Immediate Past President, Glenn Corlew, has agreed to serve as chairman of the nominating committee which is also composed of Olive Rice and August Phillips. The committee will welcome any suggestions for new officers and the spring Almanac will list the nominees.

Please remember the seed sale. It is important to the society. Perhaps you could make some crosses especially for the SPCNI.

May all of you have a fine fall and winter and a wonderful New Year.

Virginia Del Judge



Hot and Wet

R. C. Richards Corona, California

One of the hamburger franchises advertises that its burgers are "hot and juicy". While that would be inappropriate as a title for this collection of observations and opinions, "hot and wet" is accurate. Consistent with this title, I will combine a number of observations on growing and hybridizing the Californicae in a hot climate, on transplanting, on cultivars that take the heat for me, and I will throw in some opinions on hybridizers who are active and whose named varieties I have some familiarity with. The opinions are more half-baked than hot and wet.

THE PROBLEM

Why "hot and wet?" Afficionados of the Californicae are aware that problems set in when two factors are present: heat and moisture. The irises are easy enough to grow along the coast of California, Oregon, and Washington, where it rarely becomes hot, but problems increase as one goes inland into a hotter climate. The problem is quite evident here in southern California, and from what I can learn the great central valley of California offers similar challenges to the grower and hybridizer.

Heat by itself is no problem. The native ranges of the various species and subspecies cover some pretty hot territory, but there is usually little or no summer moisture present. Some of the species do receive a lot of wetness during the summer; I have seen *Iris tenax* growing along the coast of Washington where it stays fairly moist all summer. But those irises receiving summer moisture get very little if any heat. The problem is heat combined with moisture.

THE BACKGROUND

Three years ago I moved from the mountains of southern California, with fairly hot summers and a very light sandy soil, to Corona, some forty miles away, in the citrus belt with a fairly heavy clay soil. Corona has an elevation of around 600 feet, and because of the presence of the Santa Ana mountains between it and the

Pacific Ocean, some thirty miles away, has a very hot climate. When I say "hot" I mean that it goes over 90 degrees Fahrenheit often from May until mid-October, with excursions into the nineties possible throughout the year. Summer temperatures over 100 degrees are not uncommon. Winter temperatures do not often go under freezing; last winter there was no frost in my garden at all. The climate is quite dry, with a few inches of rain falling during the winter, and very occasional dew on summer mornings. This is not native iris country; the only native stands are of *I. hartwegii australis*, some fifty miles distant and 6000 feet higher in elevation in the San Bernardino Mountains.

A SOLUTION

I do not know exactly what the problem is that Californicae species and hybrids have with hot, wet soil. It is probably viral or bacterial in nature. When the summer gets hot, and water is applied to the irises, they often die. A whole clump that was doing very well will turn brown and die. When this happens I will not attempt to doctor an ailing plant. If they cannot take the combination of hot and wet, they become permanently deciduous. I do not want them in my garden and in my breeding program.

It is my belief that most people who plant the native iris will keep them in a "normal" garden. A "normal" garden is one that receives water regularly throughout the summer. We need cultivars that can be happy in such conditions. My solution to the problem, then, is to water normally and let everything die that wants to.

This rather vigorous approach to the problem results in considerable loss in seedling lots and in acquired named varieties. I plant my seed in one gallon containers, one pod to the container. In some cases whole seedling lots completely disappear when the summer heats up. In other seedling lots, only a few survive. With each successive year of hybridizing, however, more and more seedling lots survive with few if any losses. Those that survive are lined out in the soil in the autumn or winter and given another year or two to show how well they like it hot and wet.

In those seedling lots that show a high survival rate I have not looked for any common ancestry, although such a study of my breeding records might be revealing. My approach is wholly pragmatic at this point. I cross heat hardy stock with heat hardy stock, or once in a while with especially beautiful stock that may not be as heat hardy. The goal of course is a gorgeous flower, preferably in new color ranges, on a plant that is robust and tolerant of heat and moisture. I have some of those. I also get quite a few ugly flowers on sickly plants. But most hybridizers will already have anticipated that result. If prizes are ever awarded for ugly, I have produced my share of contenders.

GARDEN CONDITIONS

Every iris gets watered in my garden at least once a week all summer long. Those planted near lawns get watered every three or four days, sometimes more often. Seedlings in cans are kept moist all summer long, in partial shade.

None of my irises get full sun all day long. At most some get half a day of sun, and the majority get an hour or two of full sun and then light shade the rest of the day. Some get filtered shade all day long. I believe that native iris hybrids will gain more acceptance if they can fill that location in the garden where not many other irises will thrive, and that is a shady location. In my garden, as in that of most iris fanciers, the tall bearded, arilbreds, and spurias get full sun. It is my suspicion that those native iris cultivars selected for their ability to thrive in partial shade will do better in full sun if they need to, than will those cultivars selected to thrive in hot sun be able to adapt to shady conditions.

SPECIES

I have learned the following about breeding with species to produce a cultivar that will thrive in hot, wet, and shady conditions. *I. munzii*, valued for its size and blue coloration, has trouble surviving hot and wet summers. I do have some hope here; several years ago John Weiler reported to me in a letter that he had seen *I. munzii* growing in its native habitat where it got water all summer long. However, the collected *I. munzii* I grow here just barely hangs on. I lost SIERRA SAPPHIRE, which is a collected clone, in one year, a phenomenon reported by many people in southern California. I have seen it thriving in a garden with light soil in which it gets shade and no summer water. In general the first generation of progeny from *I. munzii* parentage have strappy falls. I still use some third and fourth generation hybrids, but the collected *I. munzii* I keep only as a curiosity.

I. douglasiana seems the most tolerant of hot and wet conditions, and some clones will thrive on it. My own line of breeding includes a lot of this species, though by now it is a few generations back. *I. douglasiana* is not fond of shade, however, which makes it necessary to select seedlings carefully for further breeding.

I. bracteata is another species that seems intolerant of summer water. RIPPLE ROCK and GRUBSTAKE are two cultivars from *I. bracteata* background and are very beautiful yellow irises, but they disappear with disgusting regularity when things get hot and wet. Some of their hybrids can be very vigorous in a warm and wet situation, so it is tempting to keep the two parents around long enough to use their pollen on some nice, heat hardy stock.

I. innominata is present in many of our garden hybrids, but the species tends to do poorly here. It seems to like sun and little moisture, and in our normally heavy southern California soils it usually gives up after a year or two if subjected to much heat.



TRANSPLANTING

Perhaps my experiences in transplanting will trigger some experimentation in other people. When I moved my seedlings from the mountains to my present location in Corona, I was very pressed for time. I had several hundred seedlings to move, and when tags must be kept straight and each seedling wrapped in wet newspaper, I had a lot of work ahead of me. Another factor was my fear that the snow would come early to the mountains and I would not be able to dig seedlings easily with a foot or two of snow on the seedling beds.

Therefore I started in the middle of November. That is normally too early for southern California. The winter rains had not started, but I felt in this case I had no choice. The first seedling lots I dug had few if any new roots. They were moved anyway. I moved more seedling lots throughout December, which proved to be mild, and there were small, fresh roots at that time. I moved seedlings into January and early February, with longer, new white roots. I moved them into early March, by

which time the seedlings I was moving had quite long new white roots. I found out that as far as plant loss went, it did not make any difference when they were moved. The ones moved before there were roots, in November, did as well as those moved later. When the hot weather hit, losses were about equal in each seedling lot. What did show up in my unplanned experimentation in transplanting, however, was a difference in growth and flowering. Those seedlings moved in February and later did not establish vigorous growth that year and did not flower much. But they survived in about the same ratio as the seedlings moved earlier.

I don't know what to conclude from all this, except that when seedlings are moved rapidly—my seedlings were rarely out of the soil more than a few hours—there is more temporal leeway than we had thought. I still prefer to move seedlings in mid-December or early January.

NAMED VARIETIES AND HYBRIDIZERS

I have found some named varieties which have done very well here, and I will list them along with some qualifying comments in case someone wants to try them in his garden. The order of presentation is simply that of color. JOEY and NATIVE WARRIER both do very well here, and are the best for me in the "red" range. Of the yellows, GARDEN DELIGHT and CASILDA, along with COUNCILMAN and PACIFIC MOON are thriving. FLAMENCO QUEEN is a good lavender and brown for me. Of the whites, CANYON SNOW (it likes shade!), CHIMES and SANTA RITA have been dependable. The rest are in the lavender and blue range: RED EYE, DEL MAR, AMI ROYALE, FICUS, BRANCIFORTE, SOQUEL COVE, and MISTY LAVENDER.

Let me pass along some opinions about the efforts of different hybridizers with which I am familiar. In my estimation the most advanced hybrids come from Joe Ghio. I think he is ahead of everyone when it comes to new colors and patterns. A visit to his garden in the spring is a delight. But many of his irises do not do well in hot and wet areas. This must be qualified. We in southern California have the devil's own time getting plants shipped from other areas to grow here. If we could get them in one gallon pots, we would do much better. Thus there are not too many of Ghio's introductions growing in southern California, although there is a good selection at the Santa Barbara Botanic Garden, and I have a few here in Corona. Since Ghio's irises are bred in an almost ideal climate (cool and moist, in the native range of *I. douglasiana* and some natural hybrids), Joe has no good way of determining how they will behave in a difficult climate. My problem, of course, is the opposite. I have, however, had his COUNCILMAN for several years, and both it and BRANCIFORTE are happy. His SANTA RITA is a fine white, but it is not really doing well here. SOQUEL COVE, the 1980 Mitchell winner, hangs on here, but does not have the beautiful color it has in his garden. Perhaps his hybrids need more sun; I plan to move them to a sunnier location this winter to see how they will do.

Another source of excellent hybrids is McCaskill Nursery. Vern and his son Jack have some very attractive introductions, and since their climate is very much like mine, and they water all summer long, their hybrids do very well in hot and wet situations. CASILDA and CHIMES grow vigorously here. FLAMENCO QUEEN holds her own. MISTY LAVENDER does not like things in my garden, but it stays, which is fine because of my love for the fine pastel color of the flowers. It is in no danger of crowding out any of the crabgrass with its vigor, however.

The hybrids of Lee Lenz are an enigma. I can not get them to grow here at all. Lenz's approach to the hot-wet problem is different from mine. He simply withholds water most of the summer. His hybrids are exquisitely large and beautiful. I am willing to treat them like an arilbred in order to grow them, but so far I cannot keep them alive long enough to flower them. I intend to keep trying.

Bob Hubley is hybridizing about ten miles up the freeway from me. I am extremely fond of his RED EYE, which loves the heat, and produces a show of red and blue flowers on branches that seem to keep producing flowers for weeks. It is an excellent garden iris for me. I suspect he has some very nice things to introduce now, well suited to hot and wet areas, but I did not get to his garden this spring to see them.

CONCLUSION

With the number of hybridizers in southern California working on the problem of hot and wet, I think we are going to see an increasing number of introductions which will not only hang on, but which will love those gardens where they can have some shade, some water, and a lot of heat. The hope for my own hybridizing program is to produce such cultivars. I fear that I may be producing a race of monsters that cannot live outside my backyard. But even so, I will have the pleasure of their bloom from February into June, and perhaps that pleasure can be shared with others if my seedlings are as happy in other gardens as they are in mine.



EARLY OBSERVATIONS

Adapted from the *Bulletin of the American Iris Society*,
No. 52, July, 1934.

A CALIFORNIA SPECIES

J.N. Giridlian

Iris hartwegii australis:

Being neither a writer nor a naturalist, I am unable to write an article on our native iris, or tell their history. I am only going to write a few notes on my personal observations and what I have read on the subject.

It seems a botanical specimen of a plant was sent to the Kew Herbarium by a Mr. Parish who called the plant *Iris hartwegii australis* in order to differentiate it from the true yellow-flowered *I. hartwegii* which grows in the northern part of California. *Australis* is a Latin designation meaning southern. Therefore the name is appropriate in that it calls this iris the southern form of *I. hartwegii*. However some of the botanists I have talked with regard this as a distinct species and not merely a color form.

This iris grows on the high mountain ranges of southern California. It is plentiful on the San Bernardino mountains above 3,500 feet, and is to be found all along the Rim-of-the-World road from Crest Line to Big Bear Lake and no doubt extends far beyond these limits in all directions. It is also reported from Mt. San Jacinto and on the high peaks of the northern part of Ventura County.* They grow along the pine belt in decomposed granite soil; invariably the rhizomes are about four inches below the surface and often covered with six inches of pine needles. They will even grow in

the cracks of rocks. They seem to do equally well in dense shade or out in the open, but always grow on a slope. For association they are partial to deciduous ferns and often the two plants are so interwoven that it is hard to separate the rhizomes.

In the winter months they are frozen solid and are covered with a foot or more of snow but with the melting of the snow and the spring rains they grow quickly and bloom as the ground begins to dry out. They bloom in June, those in the lower elevations starting first and moving upwards at the approximate rate of a week for each thousand feet of elevation. By the first of August the seed pods are ripened and the plants themselves begin to die down because of the terrific heat and the lack of moisture in the ground.

These irises never seem to form colonies as the plants are found singly and loosely scattered over the hillside. Even the individual clumps are loosely formed and never seem to have more than a few fans of leaves. The leaves themselves are very narrow and lie on the ground so that it is not easy to locate a plant that is not in bloom.

*Editor's Note: It is understood that there have been great changes since these observations were made in 1934.

More On a Famous Iris

The following is extracted from a letter to Olive Rice from Cy Bartlett, editor of the *British Iris Society Year Book*.

Cy Bartlett, editor of the *British Iris Society Year Book*, in discussing his locale in the south west of England, mentions the PCI. "... There are clearly climatic similarities between the south west of England and parts of your West Coast. As Ben Hager said in an article on beardless irises in the Fall 1980 issue of *Pacific Horticulture*, we (the English) can probably grow PCIs better than you can in California. This is why Marjorie Brummitt has had such success with them over here, even going so far as to win a Dykes Medal with one!* Here at Somerset College of Agriculture and Horticulture, we use them as ground cover, they are so tough and will tolerate considerable shade growing under yew trees. We also find that they are not as calcifuge as generally thought, our normal pH being 7.0-7.2 and they are quite happy with that. We don't even have very high rainfall, about 35 inches per annum. It is spread though and we get reasonable rainfall in August.

*Winner of the Dykes Medal was NO NAME; it's the name which is confusing; its parents were an *Iris douglasiana* seedling X PACIFIC SPLENDOR and it was registered in 1968. In 1969 it won an award of merit at Wisley, and in 1970 the Royal Horticultural Society's highest Wisley award, the First Class Certificate for absolute excellence as a garden and show plant—only 'hum-dingers' ever get F.C.C.s—lots get A.M.s.

NO NAME received in 1973 the *British Iris Society's* High Miller award for the best non-bearded iris and its award of garden commendation, which is the B.I.S. setting its seal of approval of garden worthiness. These led to its Dykes Medal in 1976.

These dates may seem a bit confusing—R.H.S. dates preceding B.I.S. ones, but in this case the plant was selected for trial at Wisley in 1965 as Seedling 34/2, and consequently was three years ahead. *British Iris Society* awards work on a fairly rigid time scale from introduction.

NO NAME is given as a yellow self, though in fact the standards are just a little paler than the falls."

Planned Parenthood

Pacific Coast Native Style

Robert P. Hubley

It's easy to hybridize Pacific Coast Native Irises. To date, I have used the following procedures to make unsullied crosses.

A. PREPARE THE FLOWER TO BE POLLINATED:

Before the flower has opened enough to be pollinated by the bees:

1. Remove each fall by bending it down and gently breaking it off.
2. Remove each standard by bending it down and gently breaking it off.
3. Remove the anther by grasping it at the bottom with tweezers, bending it down and out, and gently breaking it off. Save the anthers. Those not used immediately for pollinating can be saved and used at a later time. I save anthers by putting them in empty gelatin capsules (No. 000) and keeping the capsules in covered jars in the refrigerator. The name of the plant from which they were taken can be written on the capsule with waterproof ink. Removal of the falls, standards, and anthers removes the incentive and/or the ability of the bees to pollinate the flower.

B. POLLINATE THE FLOWER:

Method 1. Holding the pollen shedding anther firmly in a pair of tweezers, brush the anther and its pollen against each of all three projecting stigmatic lips.

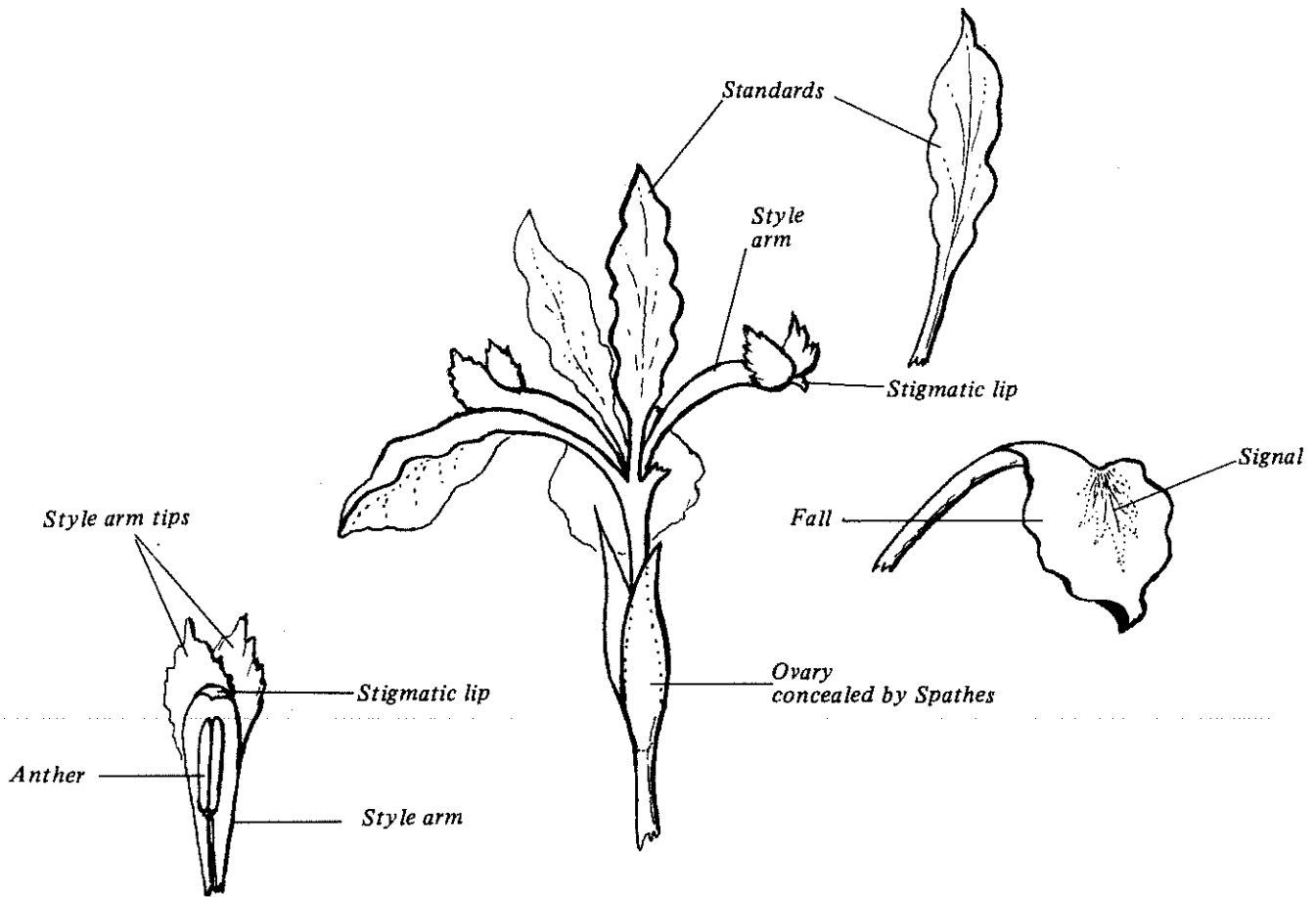
To increase the efficacy of anthers which have been in storage for a while, I rough up the pollen side of the anther with a knife blade before using it. To further increase the efficacy of the above method, I usually insert the pollen bearing anther into one of the pockets between the stigma and style crest and leave it there.

Method 2. Holding the pollen shedding anther firmly in a pair of tweezers, scrape off some of the pollen onto a clean plate. This pollen is then picked up on a very fine tip (1/16" to 1/8") brush and transferred to all three projecting stigmatic lips. Using this method it is necessary to dip tweezers, knives, and brushes into a vial of rubbing alcohol between uses, drying each carefully.

From Santa Cruz

Joe Ghio, on the other hand, doesn't believe that emasculation of the flower is necessary. He chooses a fresh, open flower making very certain that the stigmatic lip is flush against the style arm. He believes that the bees are not as responsible for the natural crosses as is the wind which causes shaking of the bloom. If there has been no wind, he feels safe to assume that there has been no pollination.

As a further condition, he cautions to watch mature pods carefully. After the tip turns brown and the green color has changed somewhat, they can burst open very quickly on a hot day spilling the seed. In order to stop confusion regarding the pods, he removes any self set pod, leaving only the deliberate crosses. He also cautions to put the tag of the cross below the pod for accuracy.



Questions and Answers

Questions by Dorothy Hujsak. Answers by Jean Witt.

Drawing by Jean Witt.

Q. When hybridizing Siberians or Californicae, do you have to tear off the standards and/or the falls? I hate doing this. Can't I just close the flower again with fine wire after removing the stamens and pollinating?

A. Californicae have very dry pollen which pops off the anther as it opens, so buds must be opened and anthers removed to prevent self-pollination. Keep petals closed until the flower wilts and will no longer attract the bees.

Q. After opening the flower, on removing the stamens, can I pollinate right off?

A. Yes. This is sometimes difficult as the stigmatic lip may still be in a closed position, rather than turned down but with practice you can pry it back enough to load it with pollen.

Q. How long will pollen stay viable when saved in paper packets?

A. I have found Californicae pollen in packets will keep two to three weeks in a tightly covered jar in the refrigerator.

Excerpted, with permission, from *The Siberian Iris*, Fall 1976, Peg Edwards, Editor.

And, gleaned from an exchange of letters between Peg Edwards and Dorothy Hujsak: Try using a pipe cleaner to apply the pollen, cutting off and discarding sections as they are used.

With this information in mind next spring, we hope you will make a few crosses for the SPCNI seed selling program.

Irisarian's Holiday

Dora Sparrow
New Zealand

The Pacific Coast Natives on display at the Fresno headquarters for the Spring meeting of Regions 14 and 15 captured interest as soon as they were staged. I loved Joe Ghio's deep mulberry *Iris douglasiana* type and if I'm not mistaken he was successful in seven classes. It was interesting to see DEL REY in person again; I was attracted to it at a garden on display at the 1978 San Jose convention. These iris for me are best in a garden setting but I must add that but for the generosity of enthusiasts showing us these newer varieties we might not be spurred on with our own endeavors.

The older types which I grew in the late 1940s did not seem to present the problems some of us meet with today, this dying back and browning off. Is it because they were closer to the species? From a letter written by Dr. Lee Lenz I learned that he is not unfamiliar with this problem. During my visit in 1978 he showed me his method of division and propagation and I have found that working with a variety one wishes to increase, taking off one small rhizome with a clean cut from the main plant at the right time, when the little white rootlets show activity, is a most satisfactory method of division. They are potted in five inch pots which are sunk into the ground so that they will not dry out before the autumn rains come. Since my return home we have had rain every day in June except three, the wettest June since records have been taken, but all pots are

showing new shoots, as well as those in the garden. Our temperatures are fairly low most days now, frosty mornings, and a high of 8 or 9 degrees Celsius during the day.

On this last visit I was very pleased to meet Mr. Jack McCaskill and my discussion with him has added more to my knowledge of these lovely iris, and I am heartened with his comment that my results are better than average.

My stay in that part of Los Angeles was not complete without visiting the Huntington Library, Art Gallery, and the Botanic Garden, three visits and still so much to see. How rewarding that so many thousands appreciate those attractions. Frederick Boutin wrote in the Almanac (Vol. VI Number 1) of the Native Iris plantings some twenty years old being used as ground cover. In the planting below the Zen Garden there were still a few flowering in quite a good shade of blue, on that steep bank.

At the Strybing Arboretum where I spent some days while in San Francisco, there were several drift plantings of *I. douglasiana* type of iris, as well as a nice cream type in the border beyond the Kiosk, and a good deep blue in another part of the garden.

A six week stay-iris all the way-ended with a lovely display at the St. Louis convention gardens. Thank you one and all for the warmth of your friendship and your hospitality.

Observations from Seattle

My PCNs are in bloom and are just lovely. I never get over how high the percentage of good ones is compared to bearded seedlings. Have been especially admiring an eyed blue, mostly *Iris douglasiana*, with perhaps a trace of *I. munzii*, that I hadn't noticed previously.

Several of the *I. tenax* from Silver Star Mountain twenty-five miles south of Mt. St. Helens are also eyed. I wonder how much ash now buries that area.

I also noticed for the first time that the loveliest of the Stambach whites must be an *I. munzii* hybrid, it has flared bracts. This accounts for the appearance of the seedlings that resulted from crossing this with *I. tenax*: great clumps of pale pastels with large, wide petaled tenax-like flowers, of high garden value.

There have been some very nice reds from assorted crosses which can perhaps be assembled into a race of really good reds. There are also what I take to be *I. innominatas* with red veins and red-bracted stems. These colored stems add a lot of interest, I think.

Jean Witt

The Mitchell Award

RESTLESS NATIVE, a red bitone registered in 1975 by Joe Ghio has received the 1981 Mitchell Award, followed closely by COUNCILMAN and SANTA RITA. According to Joe, RESTLESS NATIVE was the only good variety to come from the cross of CALIFORNIA NATIVE X VERDUGO.

It will bloom on short stems at Christmas time in his area and others of similar climate. COUNCILMAN and PASATIEMPO share the same trait. RESTLESS NATIVE has proven a good parent, has produced big, ruffled flowers for two or three generations.



THE ALMANAC has the following item FOR SALE. Please write to the treasurer.

Cohen, Victor A.,
A Guide to the Pacific Coast Irises
London: The British Iris Society, 1967. \$3.00

A Revision of Pacific Coast Irises

Lee W. Lenz

Director, Rancho Santa Ana Botanic Garden
Claremont, California

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Taxonomic Characters

Fortunately, the members of the *Californicae* possess a number of fairly distinct taxonomic characters which makes their determination relatively easy even on the average herbarium sheet. The principal exceptions are the shape of the floral segments and the flower color. As will be pointed out later, flower color is of very limited value in determining species within this group. The characters listed below are those which have been used in the present investigation. The measurements given were in all cases made from living material.

1. *Spathes*. The two spathe valves immediately below the flower (or first flower in inflorescences containing two or more flowers) vary in shape from ovoid to linear and in width from 3 mm. to as much as 14 mm. In length they vary from 30 mm. to 130 mm. and they may be sub-equal or one may be shorter than the other. In arrangement they may be opposite, or they may be separated as much as 92 mm. If opposite they may be connivent or divergent. In texture ours are all herbaceous, sometimes with scarious margins, and in a few instances they are somewhat inflated. In color they are usually green although in some species they may be flushed, especially on the margins, with red or pink anthocyanin pigment. The measurements given were in all cases made on the outer spathe valve; the width was taken at the widest place. Spathe valve width is one character in which measurements taken from fresh material and from herbarium specimens may not coincide exactly since there is a tendency for the spathe valves to curl on drying. For that reason figures given here may be somewhat greater than those usually given in the literature since in many instances the earlier measurements were taken from dried material.

2. *Sepals*. The two measurements made of the sepal were those of maximum length and width. Length was measured from the base of the stamen to the tip, and width was determined at the widest place on the sepal. Sepal shape is extremely variable within the limits of most of the species and in general is not of great taxonomic significance. In addition to size and shape of the sepals, characters which can be measured and scored, there are more subtle differences which can be seen in fresh material. Among these differences is curvature of

the sepal. The sepals on some flowers curve gracefully for almost their entire length; others bend back at an angle at the junction of the blade with the claw; while in still others the sepals remain nearly straight throughout their full length. In living material these differences combine to produce flowers that are very different from one another in appearance, and it is these differences which are of such great value to the plant breeder. Unfortunately they are for the most part destroyed as soon as the specimen is placed in the plant press. Sepal and petal margins may also be smooth and even or they may be crisped. Again this character is lost on making herbarium specimens.

3. *Petals*. As in the case of the sepals, the two measurements made on the petal were those of maximum length and width. Since there is no exact limit to the petal, such as there is in the case of the sepal, it was arbitrarily decided to measure the length as the distance from the tip to the point where the petal breaks off naturally when pulled over backwards. This length is in nearly all instances a few millimeters less than the length of the sepal. While there are some differences in petal form, they do not tend to be as conspicuous as they are in the case of the sepals. In some flowers both sepals and petals may be emarginate. While this character has been used by workers in the past, it has been found to be extremely variable and of no taxonomic value.

4. *Perianth tube*. The length and shape of the perianth tube is one of the most useful of the taxonomic characters in this group. In the *Californicae* it may range in length from 5 mm. or less to as much as 120 mm. The length is measured from the base of the stamen to the junction with the ovary. Of all measurements taken, perianth tube length is probably one of the most difficult to determine, at least in some specimens. The reason for this is that it is often difficult to tell exactly where the ovary begins and the perianth tube stops. Besides total length of the tube there are other characters which are useful taxonomically. Relative thickness of the tube is of limited value, whereas the nature of the upper portion of the tube may be of great use. The diameter of the tube may remain nearly the same up to

its junction with the perianth segments, or it may become bowl-like below the base of the perianth, or again the diameter of the tube may be abruptly increased in its upper part.

5. *Ovary*. As with the perianth tube, the exact length of the ovary may be difficult to determine because of its gradual fusion into the perianth tube on the one hand and into the pedicel on the other. However, in most instances a slight ridge, or demarcation, is visible and can be used as a point for measuring. On the whole, ovary length is not an especially useful taxonomic character. Shape of the ovary, however, may be of value, both longitudinal and cross section outline being significant. One species has a rather pronounced triangular cross section, whereas the others are, for the most part, nearly circular. One species also displays an unusual nipple-like projection on the upper end of the ovary.

6. *Pedicel*. The length of the pedicel may vary from 5 mm. to as much as 60 mm., and it varies approximately inversely with the length of the perianth tube. In certain species the length of the pedicel increases as the inflorescence continues to bloom so that the second flower has a longer pedicel than the first and the third a longer pedicel than the second. Measurements given here were always made at the time of anthesis of the first flower in the inflorescence.

7. *Style branch* and *Style crest*. Measurements taken were those of total length of the style branch and the length of the crest. The style branch was measured from the stigmatic lobe to the point of fusion of the three branches. The style crest was measured on a line running through the base of the stigmatic lip to the tip of the crest. In addition to differences to ratio of the style crest to the length of the style branch, the crests may vary in form from long slender rabbit-ears to broadly rounded overlapping structures.

8. *Stigma*. The stigmas in most of the members of this series are sharply triangular to rather tongue-shaped; however, there is one species in which it is distinctly truncate or even bilobed.

9. *Stamens*. In this group the stamens possess few if any characters which are useful taxonomically. One species has been reported to have stamens which are exerted beyond the stigmas but this has been found to be a variable condition within the species and consequently of no value taxonomically. Anther color varies from yellow through lavender to purple.

10. *Number of flowers*. In the *Californicae* the inflorescence may contain from 1-3 or even occasionally 4 flowers in an unbranched inflorescence and up to 9 flowers if the stem is branched. Flower number varies to a certain extent with the vigor of the plant. Most species are characterized as usually being single, or 1-2 flowered, whereas others usually have 3 and sometimes 4 flowers. However, flower number is of only limited value taxonomically.

11. *Flower color*. In the past, flower color has been considered to have value in separating the species within this series. Extensive field work has now shown that this character must be used with the utmost caution. Although there are several species in which only a

limited range of color is known, other species display a very wide range of colors, varying from deep purple, lavender blues, and lavenders to cream color and even deep golden yellow.

12. *Fragrance*. A distinctive and very pleasant fragrance has been noted in one species but it is not a constant character; one colony may be fragrant whereas a short distance away another one will be entirely lacking in odor. Only occasionally have collectors recorded fragrance, or lack of it, in their field notes.

13. *Seeds*. In general the seeds may be D-shaped, cubical, ovoid or pyriform, and they range in color from tan through brown to deep blackish brown. The surface may be finely reticulate to coarsely wrinkled. In no instance is there any rephae or aril.

14. *Flower stem*. In the *Californicae*, flower stem height is extremely variable and at the most it has only limited value as a taxonomic character. In the majority of the recognized species, forms are known which are nearly stemless whereas others may be several decimeters tall. Limits of extreme height, however, do vary, with the tallest forms of certain species reaching as much as 10-11 dm. Stem branching is common in one species, and it has been recorded in another.

15. *Basal leaves*. In our species the basal leaves are all tough and fibrous, varying in width from 2 mm. to 25 mm. and in length from 1 dm. to as much as 9 dm. In color they may be deep green on both sides, deep green on one side and yellow green on the other, or they may be bluish green or gray green and glaucous. In some species the leaves are strongly nerved. A widespread misconception is that the leaves of the *Californicae* are all evergreen. Although this is true for some of the species, others are definitely deciduous and in early spring, after the snow melts and before new growth commences, it is often difficult to find any trace of the plants. Even when grown in mild climates these species retain their deciduous character. In other cases the leaves remain green throughout the winter even though covered with snow. A second misconception, and one that has been used in the past as a key character in separating the *Californicae* from the *Sibiricae* is that in the *Californicae* the leaf bases are colored pinkish, red or purple. Again, this is a character which is variable and care must be exercised in using it taxonomically. Certain species usually have colored leaf bases, but occasional populations may be found which show no color. Again, species which usually show no color will, in some instances, have slightly colored bases.

16. *Stem leaves*. The flower stem usually bears one to several leaves. These are often tightly clasping with 1/3-1/2 of their length free. In other instances the stem leaves may be short, bract-like, inflated and overlapping with only the tips free.

17. *Rhizome*. In the past, the character of the rhizome also has been used to separate the *Californicae* from the *Sibiricae*; the *Californicae* were described as having slender reddish or pinkish rhizomes and the *Sibiricae* as having stout brown rhizomes. This criterion is not valid since the *Californicae* usually have dark brown rhizomes which may be slender; in at least two species, however, they are as stout as those of the *Sibiricae*.

Checklist Update 1980

Registrations and Introductions

ROBERT HUBLEY

ALMA ABELL (L. Lenz, R. 1973) Longview Iris Gardens 1980.

ANO NUEVO (J. Ghio, R. 1980) Sdlg. PS-197R. 12" (30 cm), EM. Yellow ground plicata, stitched and dotted rose-violet. PV-1631: (Pacific Moon x California Native) X Primo. EC 1980.

ARANA (J. Ghio, R. 1980) Sdlg. PT-303D. 12" (30 cm), VE. S. buff-apricot; F. rose-lavender with slight patterning in center; buff-cream signal; bubble ruffled. Las Flores X La Selva. Bay View Gardens 1980.

ARLINGTON ROYAL (R. Hubley, R. 1980) Sdlg. 77-23. 18" (46 cm), M. Dark royal purple self; yellow signal. *I. munzii* from collected seeds X Claremont Royal Purple.

ARLINGTON ROYAL PEACH (R. Hubley, R. 1980) Sdlg. 76-27. 18" (46 cm), L. Peach self, washed and veined royal purple, large royal blue spot on F., signals small, yellow. *I. innominata* purple hybrid X *I. douglasiana* light yellow hybrid.

BOB'S BIG BOY (R. Hubley, R. 1980) Sdlg. 75-25. 24" (61 cm), M. Mid blue-violet (Munsell 10pb) self; yellow signal. *I. douglasiana* hybrid X *I. douglasiana* hybrid.

CARBONERO (J. Ghio, R. 1980) Sdlg. PS-195K. 10" (25 cm), EM. Fluted deep blue black self, black signal. Californian X Pescadero.

CITIZEN (J. Ghio, R. 1980) Sdlg. PT 274M. 8" (20 cm), ML. S. bright violet; F. same, turquoise in center; black signal. Mayor X PV-154E: (California Native x Banbury Velvet). Bay View Gardens 1980.

CLAREMONT BLUEBIRD (L. Lenz, R. 1979) Longview Iris Gardens 1980.

CLAREMONT DARK VIOLET (L. Lenz, R. 1979) Longview Iris Gardens 1980.

CLAREMONT ROYAL PURPLE (L. Lenz, R. 1979) Longview Iris Gardens 1980.

CLAREMONT SIERRA BLUE (L. Lenz, R. 1979) Longview Iris Gardens 1980.

CLAREMONT SPRINGTIME (L. Lenz, R. 1979) Longview Iris Gardens 1980.

CLAREMONT TRAILBLAZER (L. Lenz, R. 1979) Longview Iris Gardens 1980.

EMIGRANT (J. Ghio, R. 1980) Sdlg. PS-AST-1. 12" (30 cm), EM. Brick red self, yellow signal. Hargrave seed of unknown parentage from Australia. EC 1979.

ENCIRCLE (J. Ghio, R. 1980) Sdlg. PS-186EE. 10" (25 cm), E. White ground with light blue plicata markings; light yellow signal. Hargrove seed of unknown parentage from Australia X Primo. EC 1980.

FORBRA (B. Mulligan, R. 1980) Sdlg. 1/54 CAL-SIB, 20-26", M.S. lemon yellow, brownish veining, lightly ruffled; F. lemon yellow with buttercup yellow

center veined and streaked purple; lemon yellow style crests. *I. forrestii* X *I. bracteata*.

GOLDEN WAVES (J. Witt, CAL-SIB, R. 1979) Witt 1980.

NATIVE STATE (J. Ghio, R. 1980) Sdlg. PT-304C. 8" (20 cm), M. Ruffled luminous cream, deeper on center of F. Casa Pacifica sib X PV202: (collected Santa Cruz Mountains hybrid x Western Queen) Bay View Gardens 1980.

NIGHT MESSENGER (J. Ghio, R. 1980) Sdlg. PS195GG. 6" (15 cm), M. Red-black self; black signal. Californian X Pescadero.

PACIFIC COASTLINE (J. Ghio, R. 1980) Sdlg. PT-304Q. 8" (20 cm), ML. Luminous cream with pronounced brown webbing in center of F. Casa Pacifica sib x PV-202: (collected Santa Cruz Mountain hybrid x Western Queen).

PESCADERO (J. Ghio, R. 1980) Sdlg. PV-232BF. 12" (30 cm), VE-M. S. light purple; F. black-purple with light purple hairline edge; black signal. Banbury Velvet X California Native. Bay View Gardens 1980.

POPPY (P. Edinger/G. Patterson, R. 1980) Sdlg. 32-76A. 15" (38 cm), EM. Tawny yellow self; gold signal. Canyon Snow X Ripple Rock.

PRIMO (J. Ghio, R. 1980) Sdlg. PU-210G. 8" (20 cm), EM. White ground with light blue-violet plicata markings; light yellow signal. Santa Rita sib X Canyon Snow. Bay View Gardens 1980.

QUINTANA (G. Corlew, R. 1980) Sdlg. NA15-A. 12" (30 cm), EM. Light yellow with quince undertone; yellow signal with brownish spray pattern. Ojai X unknown.

RIO DEL MAR (J. Ghio, R. 1979) Bay View Gardens 1980.

RUSTIC CANYON (T. Abell, R. 1980) Sdlg. 72-28-1. 12" (30 cm), E.S. light spectrum violet; F. medium spectrum violet, veined darker; tiny dull gold signal. Lenz *I. munzii* hybrid X Kittee.

SIERRA'S BRANCHED BROTHER (R. Hubley, R. 1980) Sdlg. 77-22. 20" (51 cm), M. Light purple-blue (Munsell 7.5pb) with darker veining on F., blue spot below yellow signal. Bob's Big Boy X Sierra Sapphire. Longview Iris Gardens 1980.

SIMPLY WILD (J. Ghio, R. 1980) Sdlg. PS-203H. 8" (20 cm), EM. S. metallic fawn; F. rose-pink, near black signal. ((Grubstake x (Ojai x Empire Grade)) x Sundance Eight) X Casa Pacifica.

Editor's note: Our thanks to Bob Hubley for again compiling the Registration and Introductions list for our convenience.

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A Review

It's Easy To Grow Pacific Coast Native Iris, Robert P. Hubley, 1981. 10 pp., 8 1/2 x 11 in., \$1.00 postpaid from Robert P. Hubley, Longview Iris Gardens, 9230 Colorado Ave., Arlington, CA 92503

This "fact sheet" may be especially informative to the novice PCN grower and to anyone who has experienced a consistently high failure rate with these irises. In the ten "chapters" are covered all aspects of culture—from an overview of their requirements ("Key to Growing PCNI") through soils, potting mixes, dividing and transplanting, watering, raising from seed, and even shipping. The presentation is in conversational outline form, good for easy comprehension and quick reference.

The major point that the reader (or prospective reader) should bear in mind is stated on page 1: **this is the author's experience in . . . successfully growing PCNIs in southern California.** The specific instructions are appropriate for the hot-summer/low-rainfall Riverside County region of the author's residence but some of the directions are less imperative in other regions. If you can imagine why thus-and-such is advised for Riverside County conditions, you can evaluate whether or not it might be necessary for you. In this context, and extending to advice on watering and garden placement as well, one point strongly implied but never spelled out directly is that PCNIs of strong *Iris innominata* (and *I. bracteata*) heritage—narrow, grassy and/or sparse foliage—are likely to be culturally demanding in regions of the Pacific States dissimilar to their native haunts, whereas the broad and coarse-foliaged *I. douglasiana* (and *I. Munzii*) types are much more adapted to less than ideal conditions.

One piece of advice is likely to be contradicted by many successful PCN growers from all regions, and that is item 4 under "Helpful Hints on Dividing PCNI" which states, "Dig up the entire clump that you want divided." Too many experienced growers have sad tales to tell of lost seedlings or precious collected plants due to total and unusual transplant failure. The advice could be easily qualified by the clause, "if you have an established back-up clump." If not, the safer procedure is to carefully remove a few rhizomes from the clump's perimeter and then proceed as the author directs.

PWE

