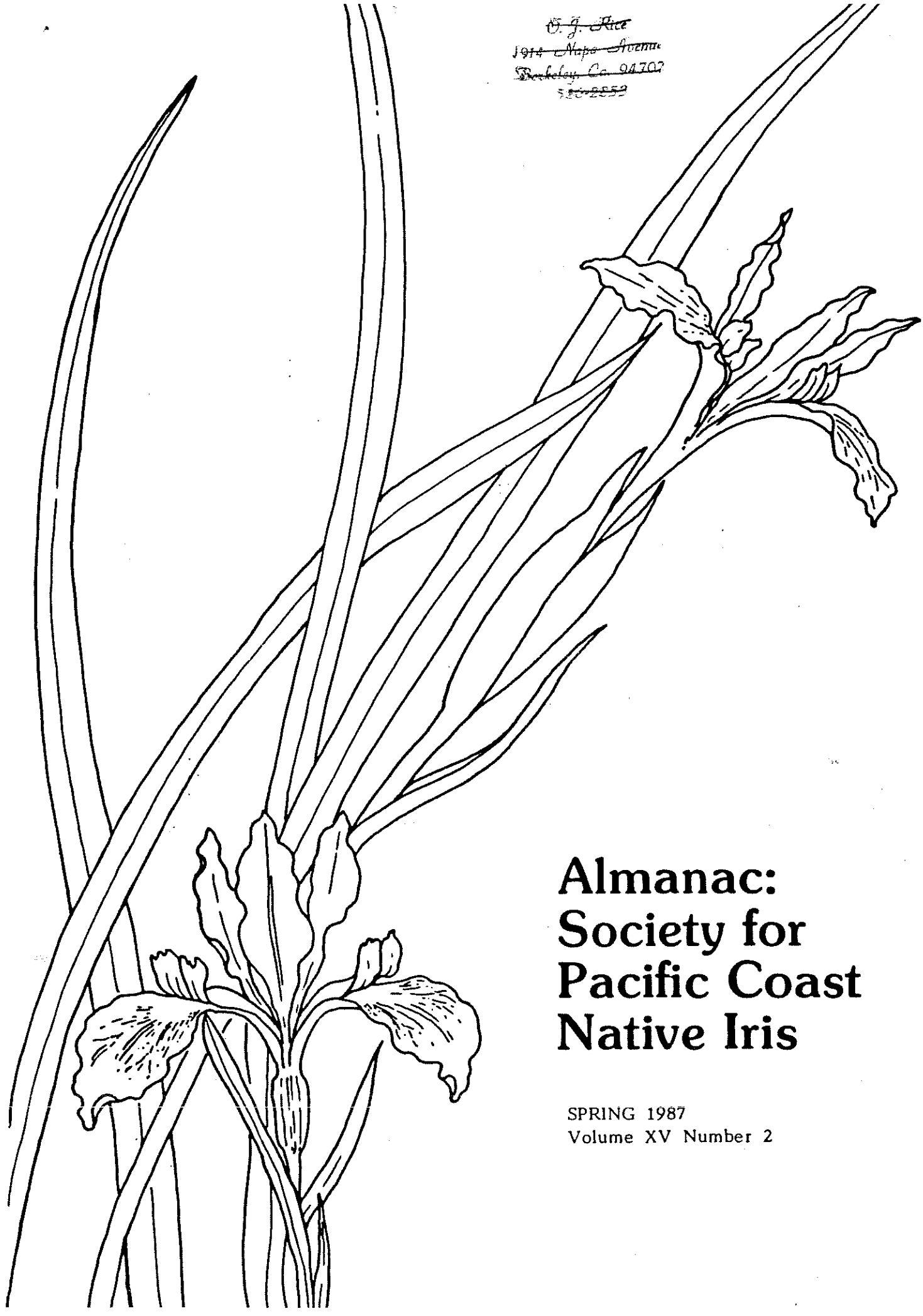

Almanac: Society for Pacific Coast Native Iris

SPRING 1987
Volume XV Number 2

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PUBLICATIONS AVAILABLE

Diseases of the Pacific Coast Iris
Monograph issue, Lewis & Adele Lawyer *Almanac, Fall 1986* issue. Available from the Editor for $3.50 postage paid.

Third Cumulative Check List
Pacific Coast Native Iris and their Hybrids 1985 edition. Copies are available from the Editor for $4.00 each, postage paid.

A Guide to Pacific Coast Irises
Victor A. Cohen: forward by E. B. Anderson. London: The British Iris Society, 1967. This 40-page booklet contains both colored and black-and-white photographs of selected species, line drawings and thumbnail descriptions of all species and major sub-species. There is general material on distribution and botanical affinities among the species, plus a map of western states showing distributions of species in general. Copies are available from the Treasurer for $3.50 each, postage paid.

EXECUTIVE COMMITTEE

MEMBERSHIP & SUBSCRIPTIONS

The *Almanac* is published in the spring and fall; copy deadlines are February 1 and August 1, respectively. For information about availability of back issues, please address the Editor.

Membership Rate	Individual	Family
Annual	$4.00	$5.00
Triennial	$10.00	$12.00
Supporting Annual	$6.00	
Life	$50.00	$65.00
Honorary Life	No Dues	

Please send membership-subscription monies to the SPCNI Treasurer.

The Society for Pacific Coast Native Iris is a section of the American Iris Society; membership in the latter organization is a prerequisite for *membership* in the SPCNI. If you wish only to receive the *Almanac* (two issues per year), the annual subscription is $4.00.

PRESIDENT'S MESSAGE

Hi!

Everything is finally together and "back on track" after some difficulties in issuing the Almanac.

We have a new Slide Program Editor, Colin Rigby of 2087 Curtis Drive, Pennsgrove, CA 94951. He needs your help in getting a collection of natives together, so please, the next time you are taking transparencies of our favorite irises, take some extra ones for our collection. Or if you have some duplicates, send them on to Colin. Even people pictures, or views of gardens in which Pacificas are included would be much appreciated. Sections of AIS, such as ours, will be the source of slides on our specialty, as outlined in the January 1986 issue of the AIS Bulletin, pps. 32-33.

Advertising in the Almanac will now be welcomed. If you wish to appear on these pages, please contact the editors. Rates will be $50.00 for a full page, $25.00 for a half page, and $15.00 for a quarter page. A Directory Page entry in each issue is $10.00 for both issues.

What about a "Letters to the Editor" column? I'd like to see this, and feel it would give you a good opportunity to express your feelings about whatever "bugs" you. Or maybe you'd rather have an "Ask Moe" type thing?

At the Board Meeting for Sections at the 1986 AIS Convention at San Jose, it was suggested that we start our own historical garden -type thing, wherein different people would grow and preserve some of the older Californicae, species as well as hybrids so they could be available whenever someone had need for them. What's your pleasure? This would be a prime subject to start out "Letters to the Editor".

Duane Meek

FROM THE EDITORS

Another bloom season has come and gone. As usual, it was mostly pure joy but mixed with just enough disappointment to keep us looking forward to next season. Those of you who don't do any hybridizing on your own, miss a little of the excitement when you go out in the morning to see a newly opened flower. There is just a bit more drama when the flower is on a plant with its first-ever bloom. You have watched the bud for a few days as it starts to show color and fatten up before unfurling. The color has become more intense each day, and then comes that magic moment and it is either ecstacy, despair, or blah!

Our prettiest new flower of 1987 was on a two-year-old seedling with 6 fans and 6 flower stalks, and as I write this it still hasn't sent up a new spike to show that it will survive. We made a lot of crosses on it and have gathered a lot of seed, but the returns on crosses and seeds are a long way off. It would be nice to have THAT plant show a little sign of life.

The first three articles in this issue of the Almanac were intended for the spring, 1986, issue which was not published. So you can look at this publication as a "Two-Springs-In-One" issue.

In the last "From the Editors" column we requested data relating to the height of flower stalk and the number of flowers per stalk for any named Pacifica cultivars which you are growing. So far we have not heard from any of you. Richard Richards has sent us information on how well certain cultivars have established themselves in the Santa Barbara Botanic Garden. I have also gathered this type of information in my garden, especially for *munzii*-derived things which seem to be a bit more tricky about letting themselves become domesticated. Each year we learn something new about this easiest or trickiest plant to grow. Don't forget the Almanac as the place to tell others about your experiences. Deadline is on or before November first.

Just one last word to call your attention to the availability of a lovely little pen and ink drawing by our Carolly Hawksdottir. We have framed a copy for our wall and get a lift each time we see it.

Lewis and Adele Lawyer

NOMINATING COMMITTEE REPORT

The nominating committee, chaired by Jean Erickson, and in accordance with our bylaws, has submitted the following names:

President	Duane Meek
First Vice-President	Gigi Hall
Second Vice-President	LaRue Boswell
Secretary-Treasurer	Adele Lawyer
Slide Chairman	Colin Rigby
Editor	Lewis Lawyer

Our bylaws state that if there are no additional nominations, these officers shall be installed without balloting. If, however, there are other nominations, the signatures of five members in good standing must be obtained as an endorsement and the document mailed to Jean Erickson. The nominee must then provide a written acceptance of the nomination. Following this, ballots must be sent to all SPCNI members for voting. Members have thirty days to submit additional names for nomination.

NATIVE IRIS PRINT FOR SALE

The iris print by Carolly Hauksdottir which decorates this page was originally reproduced on the title page of the Convention Issue of the 1986 Region 14 Bulletin. For our home, we have framed it with a grey-colored mat which is very attractive.

Full size copies are available on rag-content bond paper, 8 ½ by 11 inches, (typewriter size), for $6.00,which includes postage. Please direct requests and monies to the editors, with checks payable to SPCNI. Net profits go to the SPCNI treasury.

NATIVE IRIS IN OREGON

Joanne Mentz,
Estacada, Oregon

After attending the San Jose AIS Convention in late April, 1986, we drove home by way of the southern Oregon coast. This was the first time we had gone out looking for PCNs more than a few miles from our home, 20 miles southeast of Portland, and I highly recommend this trip to all iris lovers.

There were native iris blooming in most of the State Parks, some of which, it was sad to see, were being mowed off by lawn mowers. We were amazed to see the acres of douglasianas blooming along the road to Cape Blanco State Park. It was interesting to note that in pastures where there were cattle, the iris grew outside the fence. Where there were sheep, iris grew in large clumps on both sides of the fence. Also, they grew in abundance in areas that had been logged off a few years back.

As we crossed over Highway 101 and went inland we found more varieties, sizes, and colors. Being new at this, I would guess that the douglasianas had been hybridized with innominatas. At any rate we found a large, beautiful cream-colored *douglasiana*.

South of Eugene, near Pleasant Hill, we found *tenax* growing in shades of deep purple.

In Clackamus County where we live, we find *tenax* in a wide variety of wines and purples, and occasionally an almost white.

On the seventh of June, members of the Greater Portland Iris Society came to our home for a tour of the late blooming tall bearded iris. Afterwards we invited those who were interested to come along and we would show them the wild iris in this area. We had more enthusiasm out on the hillsides than we have seen in the iris gardens around town,(and there are always plenty of oohs and aahs there, also). Of course it is pretty impressive to see a whole hillside covered with the rare *Evansia*, *Iris tenuis*. And then, to walk over an area about the size of a city block and find clump after clump of *tenax* in bloom in many shades of wine and lavender tops it all off.

Leonard Wiley,(deceased), mentions in his book,"Rare Wild Flowers of North America", that he found *Iris gormanii, (I. tenax var. gormanii)*, near Scoggins Creek, forty miles west of Portland.

Not having seen a yellow *tenax*, we set off to Washington County to see if we could find one. Alas and alack, we found Scoggins Creek has been made into a recreational area and a dam has been built. Also, we were too late in the year. We asked around, however, and heard that there are cream or yellow iris in Yamhill County to the south. When we did find a patch of *tenax* they already had seed pods. If there was just some way to tell the color of an iris from the pods! A visit back to Yamhill County in late May or early June is on my list of priorities for next year.

About the end of June we made a trip to Lincoln City, on the coast directly west from Salem, and found a few *tenax* still in bloom. One was a dainty purple with very little white on it, - just a narrow strip of yellow on the falls. We also found a patch of *tenax* with pods near Siletz, about 25 miles south and 5 miles inland on Highway 229. Another place to visit earlier next year!

EDITOR'S NOTE: As stated in the "From the Editors" column, the preceeding article by Joanne Mentz was among those submitted for inclusion in the Spring 1986 Issue of the Almanac which was not published. This is also true for the two articles which follow, - the first by Robert Fabel-Ward of Little Rock, Arkansas, and the second by John Weiler of Fresno, California. Both of the latter articles deal in part with the disease complex to which the Fall 1986 Issue of the Almanac was completely devoted. Both add a little more to our eventual understanding of the disease complex, and since they were written prior to the publication of the monograph issue on diseases of the PCNs, both should be considered as valuable, independent research on the part of the authors.

SUMMER PROBLEMS WITH CALIFORNICAE SEEDLINGS IN ARKANSAS

Robert D. Fabel-Ward,
Little Rock, Arkansas

During the spring season, new foliage begins to establish itself on the Pacificas which I have been growing in several plots in my garden since 1978. The bloom season begins mid-March and lasts until Mid-May. I use "Miracle Grow", and fertilize at the end of February and mid-May, and at no other time. No watering is done, as we receive sufficient rain throughout the summer.

Problems start at the beginning of June and last until the end of September, which are the hottest months in Arkansas. *Rhizoctonia* seems to be the culprit at work, as this disease needs high temperatures and a lot of rain in order to do its damage. Tests at the University of Arkansas at Little Rock also indicate the presence of *Fusarium species* in three tests.

All seedlings are planted in plots in a circular fashion, - usually 30-50 seedlings in each group. During the invasion of *Rhizoctonia*, one seedling will collapse over into the soil, whereas another one within a few inches, will not be affected and will continue to grow throughout the summer and add fans. At other times, it will be one seedling here and two or three seedlings over there which will suddenly collapse.

Rhizoctonia always starts in the roots and invades the crown area of the fans by turning these areas a dirty brown. Usually within a few days, the leaves will fall over into the soil. I am using *Sisyrinchium sp.* as nurse plants, and for reasons still unknown, the seedlings growing in proximity to these nurse plants are not affected by this lethal pathogen.

Sand is dug into the soil in an attempt to overcome the spread of lethal pathogens. Three years ago, in two different plots, all the seedlings were lost to damping-off pathogens after growing 2-3 fans each. These two plots had sand added, and today all the seedlings growing in them have formed nice-sized clumps.

By the time mid-October arrives, I will know which seedlings will establish themselves and go through the winter with pine needles as protection.

It usually takes two and a half years before a seedling clone will bloom here in Arkansas. *Iris tenax, innominata,* and *douglasiana* cover themselves with many flowers each year.

After eight years of hybridizing, I have selected my first clump for registration. This clump is from several crosses made between *I. innominata* (received from Jean Witt), and several *I. douglasiana* hybrids (received from Dick Richards). The clump is a result of much labor and devotion; therefore I have chosen the name,"FRUEHLINGSCHOEN", (meaning Spring Beauty) for its registration name.

Finally, I would encourage persons in other regions of the country to use seed culture and start a program to plant these Pacificas, the most lovely of the American native irises.

SUCCESS IN TRANSPLANTING PACIFICAS IN THE CENTRAL VALLEY

John Weiler,
Fresno, California

Popularity of Pacificas has been rapidly expanding in recent years with the production of many new hybrid clones having improved form, color range, and color patterns. With the expanded interest has come the attempt to grow such hybrids over a broader geographic area than that in which they originate. Here in the Central Valley of California, several irisarians have been trying to grow many cultivars with varying degrees of success.

From the earliest days of interest in these irises, it seems to have been difficult to establish a new transplant. In recent years, though, we have come to understand that survival after transplanting can be greatly enhanced by waiting to plant until after fall rains

begin and new growth is starting. This bit of information has made it possible to grow several cultivars successfully. Even though some cultivars can be transplanted and easily reestablished by using such a technique, success is apparently confined to certain varieties while others repeatedly fail to become established. An article listing those successful varieties for the Central Valley was published in a recent issue of the Almanac. (Vol. XII No.2, Spr. 1984)

The difficulty in establishment and the occasional sudden death of what had been healthy plants already well established, intrigued Adele and Lewis Lawyer. Because of their interest and knowledge in plant pathology, an attempt was made to isolate, identify, and grow potential pathogens from diseased and dying plants. Their work, reported in Region 14 Bulletin, Fall 1985, page 10, resulted in isolation over a 3-4 year period of several kinds of fungi which are known to cause root diseases of other plant species. Using cultures of one fungal isolate to innoculate healthy seedlings resulted in death of all Pacifica irises innoculated, indicating that the one fungus is likely to by at least part of the cause of death of these irises.

Since the article by the Lawyers was published in time for fall, 1985 planting season, an attempt was made to use a fungicide developed to help control certain soil fungi causing root rot in a number of different plant species. The goal of the test was to determine if the fungicide might be effective in helping to establish new transplants or to stimulate improved growth of Pacifica iris hybrids. The chemical compound methalaxyl, sold under the trade name, Subdue, was used. The use of the compound and its trade name mentioned is not intended as an endorsement or recommendation for use.

Plants freshly dug and shipped moist from growers were dipped in a solution of Subdue at 6-8 drops per gallon of water. Rhizomes were planted in prepared soil and then watered in with the same fungicide solution to saturate the soil. Since manufacturer's directions state that soil should be treated at 3-4 week intervals, the same strength solution of the fungicide was sprinkled uniformly to wet the surface of the entire planting once each of the following two months and then irrigated with enough water to wet the soil to a six inch depth. Established plants in another bed were also treated by sprinkling with the Subdue solution which was then watered into the soil. This treatment was repeated three times at monthly intervals starting in September.

Not all clones of transplants responded equally, although not a single transplant failed to live through the winter and produce some new growth in the spring. This is an outstanding result since the mortality rate of untreated transplants in this garden ranges from 30 to 70 percent. It is not known whether different responses observed are the result of genetic differences between clones, lack of uniformity in treatment, a combination of both factors, or still other unknown causes. For transplants, the cultivars can be grouped according to apparent vigor reflected in leaf color, number of new growths, and abundance of foliage. Those with the best growth are the following:

BOTTOM LINE	MIRAMAR
CALIFORNIAN	MISSION SANTA CRUZ
CAMPAIGNER	NIGHT MESSENGER
CANYON ORCHID	HONTA YO
CASA PACIFICA	PAJARO DUNES
CITY HALL	PALO ALTO
ENDLESS	PESCADERO
GOING WEST	PRIMO
HALF TIME	RINCON
LA MADRONA	ROARING CAMP
LOMA PRIETA	SAN GREGORIO
LONG SHOT	SAN VICENTE
	THREE CORNERED HAT

Those which became established but do not appear as vigorous as those in the above group are:

CARBONERA	POPPY
DEEPENING SHADOWS	QUINTANA
GO WILD	RIO DEL MAR
PACIFIC COASTLINE	RUNNING WILD
	RUTH HARDY

In the less vigorous group above, two cultivars, POPPY and QUINTANA, are just surviving and appear to be the weakest of all.

Amongst older, established plants were some clones growing well whereas

others were rather small, with sparce foliage and weak plants. All these established plants responded to the fungicide treatment with much improved leaf color, abundant winter increase, and much more foliage than ever before. Those considered easy to grow in this climate which responded with tremendous increase were:

BIG MONEY	NATIVE WARRIOR
CANYON SNOW	PACIFIC MOON
CAMP CAPITOLA	ROVING EYE
ENCIRCLE	SHORT ORDER
FAIRY CHIMES	SUSIE KNAPP
JOEY	WESTERN MOVIE
MONTARA	WESTERN QUEEN
NATIVE JEWEL	WISH FULFILLMENT

Other established plants which are considered rather weak, difficult growers here in the Valley, but which have responded with much improved growth, better foliage, and ample increase are:

APTOS	FOREIGN EXCHANGE
CITY HALL	MAYOR
	SOQUEL COVE

Duplicates of established clumps for several of the clones were left untreated. Those used as controls in this test were FAIRY CHIMES, CANYON SNOW, ROVING EYE, SUSIE KNAPP, WESTERN QUEEN, ENCIRCLE, JOEY, and MAYOR. None of these untreated plants have the height, bright green foliage, or amount of increase shown on plants of the same cultivar which have been treated with the fungicide.

It would appear from this simple trial that soil fungi are causing cultural problems for Pacificas here in the Central Valley, both when they are recently transplanted and as established clumps. Furthermore metalaxl seems to be effective in enhancing both survival of transplants and growth of established plants. It may also be true that those plants considered relatively easy to grow in the Valley do survive and grow better than others because they have a resistance to or a tolerance of whichever of the soil fungi may be infesting the roots. If the speculation concerning fungal infection as a cause of disease is valid, gardners have two possible choices for growing Pacificas in warm, interior climates of the Central Valley. They may either choose only those cultivars known to be relatively easy of growth in that area or they may treat plants and soil with metalaxyl, perhaps repeatedly during the growing season. If the speculation concerning plant resistance or tolerance to soil fungi is true, enterprising hybridizers should be encouraged to use such plants as parents in breeding programs aimed at making one of our favorite plants adaptable to gardens over a broader geographic area.

WHAT'S NEW UNDER THE SUN?

Duane Meek,
Concord, California

What's new? This is what: In the past eighteen months there has been discovered a heretofore unrecorded area of *Iris fernaldii*, and its exact location is not going to be exposed here and now as we'd like to preserve it as long as possible.

Walter Dean, one of our regional members, works as a telecommunications trouble shooter, and in the course of his travels up to mountain satellite towers, he noticed this plant growing along the road. Being a relatively new irisarian, he mentioned it to us, and I asked him to bring a stalk of it in bloom so we could measure its perianth tube and check such things as color,(true creamy-yellow), spathe placement, and the inevitable red stain of the lower foliage.

It proved out well on all counts, and another check was done this bloom season.

It appears to be "clumpier" than the norm, and considerably hardier. And yes, it grows in nearly full sun in its natural habitat.

At present we are trying to collect some of the seeds and get some growing so that we can distribute it to the people most interested. We feel that, in this way, we won't destroy the original area near the conflux of Napa and Solano Counties.

HOW SOME NAME CHANGES BECAME NECESSARY

Roy Davidson,
Seattle, Washington

In browsing through the iris literature, old and new, it is shortly evident that there is great wisdom in certain old axioms: "Things may not be what they seem.."- "Here today, gone tomorrow" - "Knowledge is a cumulative process."

Applying these thoughts to the western irises, we note that the British Museum has a specimen of *Iris tenax* taken by David Douglas at Fort Vancouver shortly after his initial arrival here in spring, 1825, where he was to commence one of the most important of all North American careers in plant exploration and introduction. From seed gathered that same season, *I. tenax* flowered in England and was described using Douglas' designation, *tenax* = "tough" (the same root gives us tenacious = especially persistant or durable). This adjective had been applied by Douglas to the iris because of the tough fibers of the leaves which were plaited by the natives into cordage and then fashioned into snares, nets, and other useful objects. This name was adopted by Lindley in describing the iris in 1829.

We can note, too, that certain of Douglas's earliest collections made along the Pacific Coast were classified here as well. This was due to the obscure fact: *I. douglasiana* was not described by Herbert until 1841, and then, in the account of the"Voyage of the Beagle". Many of the plant names in this publication were discounted, but Herbert's *Iris douglasiana* endures, with Douglas's own collection from "Monterey" standing as the type specimen. We must remember that Monterey was the Spanish Colonial Capital of the time, whilst also remembering that today's Vancouver (the city in British Columbia, Canada) is a long way from the Hudson's Bay post of Fort Vancouver where Douglas found *I. tenax* on the Columbia River in the state of Washington.

We can note, also, that prior to 1897, *Iris purdyi* was included in the "catch-all" designation, *I.macrosiphon*. It was that year that Miss Eastwood honored its discoverer, Purdy, with the commemorative. Prior to 1902, the rather similar iris of Oregon, *I. chrysophylla*, was also included in *I.macrosiphon*, simply because it had not been recognized as something different until that year when published by Howell as *I.chrysophylla*. "Waters-under-bridges" this all may be; it does illustrate, though, how the system of iris names has evolved.

Far later, and in different circumstances, we find the same degree of indecisiveness, but for different reasons. From the Siskiyou sector of irisdom, R.C.Foster named *Iris thompsonii* in 1937; Lenz was to subsequently (1959) reclassify this as a hybrid of *I.innominata* with *I.douglasiana*. But a study reported in the"American Journal of Botany" in 1984 by Wilson, Petersen, and Levinson, has (to the satisfaction of the investigators) restored full-species status. They explained that in the past the true identity of the taxon has been misinterpreted and that in their detailed study of thirteen Siskiyou populations, no less than three distinct species could be distinguished: *I.douglasiana*, *I.innominata*, and *I.thompsonii*, the latter being of more variable nature than the other two; and that of the total populations, two could conceivably represent current hybridizations involving *I.thompsonii*.

We readily see that a good many factors influence what establishes the validity of the so-called "right" name, and that changes can be dictated by a variability of factors. We also realize that those persons who are responsible for changes have acted only because of what they perceive to be taxonomic necessity, NOT because they want their names in print. Sometimes it was because somebody had goofed, but not so often. We may have learned how "Today's Truth may be Tomorrow's Folly".

THE THORNTON ABELL *MUNZII* HYBRIDS

Lewis Lawyer

1. FROM THE LUIHN GARDEN

Shortly after the 1975 San Diego convention, Alma and Thornton Abell sent Walt and Vi Luihn some seed from three bee pods, one from SIERRA SAPPHIRE, one from a Lenz *munzii* plant, and one from a half-*munzi* hybrid. The seedlings so derived bloomed in the Luihn garden until 1980 when Walt Luihn informed me that he was going to dispose of them and that I could have whatever I wanted.

In October, 1980, I dug one start each of every plant I could differentiate in his planting. Each plant was marked as to its location in the Luihn planting so that if it turned out to be worthy, the rest of the plant could be located later. Of the 22 total plants, 21 survived the transplanting, and all but two of these bloomed in 1981. Six of these were saved, three pale blue selfs and three blue-violet with turquoise markings.

That fall I removed the remaining portion of the six selected plants from the Luihn planting and the rest of the plot was dug and discarded.

The plants which were saved at the end of the second year in my garden are as follows: (All are from the cross marked "Lenz *munzii* Open pollenated".)

Lu 10 This plant bloomed the first year (1980) in my garden. It can be described as a pale blue self, (Munsell hue 2.5 PB, 8/5) which, although quite pale, was a truer blue than any iris in my collection at that time. It has three faults: 1. The flowers have narrow petals, 2. The petals have a tendency to twist, and 3. The plant increases very slowly. By 1982 I had two fans. These two were separated and one was given to Duane Meek. The other is still in my garden,(1987), and has bloomed every year, but still has only one fan. The last time I checked, Duane's was also alive. I have used Lu 10 in eight different crosses, from which I have obtained some of my bluest selections. The best of these exhibit good increases and vigor, but only a slight improvement in flower form. Lu 10 has been a good source of blue.

We still grow one selection from a cross we made with Lu 10. This selection, XP 59C, is from a cross (Soquel Cove x XP 1F (a fast-growing selection with Sierra Sapphire-type flowers)) x Lu 10. XP 59C has the same true blue color as Lu 10 and several added advantages: branched flower stalks with 6 to 12 flowers per stalk, good increasing ability, and excellent tolerance to rust which plagues many *munzii* lines in our garden. Although this line isn't sufficiently refined to register and release, I feel that it is one of the best now available to carry on Thornton Abell's blue breeding, plus the added factors mentioned above.

Lu 11 This was a rapidly increasing clone with blue-violet flowers on relatively short stems. Plants were given to Duane Meek and Glenn Corlew. I have not used it in crosses because I felt it was not blue enough for my breeding goals. I no longer have this clone.

Lu 13 This plant was originally tagged in the Luihn garden by Duane Meek. It had two fans when dug, one of which was given to Duane. My plant produced three fans, but bloomed too profusely, and bloomed out the first year. The flower was blue-violet in color, with a pretty blue mark in the center of the falls, and was extremely large, but with petals that were thin and somewhat floppy. I did not make crosses, and I no longer have this clone.

Lu 15 This plant was divided and given to Duane and Glenn. In my garden it produced pale blue flowers, similar to Lu 10, but not quite as blue. Plant growth was slow, but better than Lu 10. I have used it in crossing, but have not saved any selections. In my opinion, Lu 10 is superior, and I no longer have this clone.

2. FROM THE ABELL GARDEN

I never had the opportunity of seeing Thornton Abell's Pacificas in bloom at his garden, but from everything I have heard from those who have seen them, he had produced some beautiful

and unique hybrids. When I learned of his illness and later his death, I thought of some other highly respected plant breeders I had known whose death brought an end, not only to themselves, but also to their genetic advances because no one had taken the time to save their collections of plants. I decided that, if possible, this should not happen to the Abell hybrids.

With this in mind, I contacted Dodo Denney, who was not only a next door neighbor of Thornton Abell, but also a personal friend who knew and visited his plantings probably more than any other irisarian. Dodo agreed to help. She also informed me that Thornton's son, Jared, lived in nearby Orinda. Jared Abell was most cooperative, and granted permission to get starts from his father's plants.

On November 16, 1984, Adele and I met Dodo and Howard Rigdon, caretaker of the Abell garden and home. They showed us the location in the Abell garden where both agreed that the best of the Abell hybrids were planted. On examination, we found that many plants from the center of the area had been completely removed. We were told by Howard Rigdon that some of Thornton's friends and relatives had dug plants from the area following his death.

We cut starts from each of the 14 plants still remaining in the area and placed them in plastic bags with wet sphagnum moss around their roots. No labels were left in the garden, so we have no way of knowing what we got. We simply numbered the plants 1 through 14. Roots of most of the plants were in ideal condition for transplanting.

We planted the cuttings in 4-inch plastic pots as soon as we got home. During the first week in January, 1985, all were removed from the pots and planted in the garden where all survived.

All but four bloomed the first year. Three of these four bloomed the second year, and one held out until this, the third year, (1987).

The status of these plants following their third bloom season in 1987, is as follows:

Abell 1 Narrow-petaled off-white was discarded the first year.

Abell 2 A narrow-petaled pale blue was dicarded this year as being inferior to Abell 11.

Abell 3 Similar in color to Abell 5 and 13 but poor plant growth. Discarded the first year.

Abell 4 Excellent color and shape with pale blue flowers having good quality. It produced four fans in addition to the bloom stalks the first year, but they were almost destroyed by rust during the winter. The second year, all four fans bloomed. The flowers were again beautiful, but the plant failed to start any new growths and bloomed out.

Abell 5 Because of its rust susceptibility, Abell 5 was discarded the first year in favor of Abell 13 which has a far superior plant and almost identical flowers.

Abell 6 bloomed for the first time in 1987. It has very pleasing deep, blue-violet flowers with darker signals. It had a total of eight fans, five of which bloomed in early April and one of which is sending up a bloom stalk in late June. It will be saved.

Abell 7 has bloomed all three years. It has pretty, deep blue-violet flowers of pleasing shape, three to five flowers per stalk. This year it had 10 bloom stalks averaging 24 inches high, and nine fans remain for next year.

Abell 8 The flower of Abell 8 is too tailored for my taste, and the color is a fairly common shade of purple. It had seven fans, three of which bloomed. I will probably not keep it.

Abell 9 turned out to be identical to Abell 12. Flowers were red-violet with very narrow petals. Both were discarded.

Abell 10 has a very pretty flower with pale blue petals and a darker blue-purple spot in the center of the falls. The flowers are produced, three per stalk, on 16-inch stems. For flower type, I feel that it is worthy of introduction, but its growth habits are too nerve-wracking! Each year it appears to bloom out, and then it sends up a few new fans to bloom another year. This year it had five fans, four of which bloomed, leaving one fan for next year. Also, it is quite susceptible to rust. I have crossed it to rust-free, fast-growing plants of mine, and the first blooms from these crosses appear to be very close in color and shape, with adequate growth and less rust. I will attempt to keep the plant as long as it survives, in order to compare its flowers to those of its children;

but it is not something that will be easy to grow.

Abell 11 bloomed for the first time last year. This year it produced ten fans, seven of which bloomed. Stalks were 23 inches high with three blooms per stalk. This plant has the bluest flowers of all the Abell lines, although quite pale. Flowers are well-proportioned and the plant makes a striking appearance when in bloom. It is very susceptible to rust, and in my garden looks quite ratty during the late summer. Its blue color is an important asset and it is being retained.

Abell 12 See Abell 9.

Abell 13 has a flower almost identical to Hubley's RED EYES, - violet with a darker red-violet spot in the center. It has been discarded following this year's bloom.

Abell 14 was a very strong grower, but its dull, gray-white flowers were not pretty enough to keep. It was discarded this spring.

Anyone who wants to see the Abell plants in bloom is invited to visit our garden next spring. Best timing will be around April 6 to 10.

THE SOUTHERN LIMIT OF *IRIS TENAX* IN OREGON

George Gessert
Eugene, Oregon

1. INTRODUCTION

The southern limit of *Iris tenax*'s range in Oregon is of interest to horticulturists because some of the darkest purple tenaxes can be found there, and because there *I. tenax* overlaps with the ranges of *I. douglasiana* and *I. innominata*. Hybrids involving *tenax, douglasiana,* and *innominata,* as well as *crysophylla*, occur, and some of these natural hybrids are of horticultural value.

The southern limit of *I. tenax* is in the northern Siskiyou National Forest. It is an area of extraordinary beauty and biological complexity. Fortunately for the wildlife, it has very few paved roads. Because of its poor roads, large parts of southwestern Oregon and adjacent California areas are unexplored by iris hunters, even though this area is the place of origin of the Pacific Coast irises, and the area in which Pacific Coast irises reach their maximum diversity.

Whenever possible, I followed roads just south of the southernmost tenaxes mentioned by L.W.Lenz in "A Revision of Pacific Coast Irises." Lenz mentions *tenax-douglasiana* hybrids near Langlois, in northern Curry County, just a few miles from the border of Coos County. In addition he mentions douglasianas with "probable tenax influence" from near Cape Blanco in Curry County, and from Myrtle Point in Coos County. He studied *tenax-crysophylla* and *tenax-innominata* hybrids from places even farther south in Coos and Douglas counties. Incidentally, Lenz's map misleadingly shows Curry County as the southernmost reach of *I. tenax* in Oregon. The symbols on Lenz's map correspond as much to county as to site; consequently the map is accurate to only about 25 miles.

2. FROM THE PACIFIC TO EDEN VALLEY

About 10 miles south of Langlois, along the Sixes River Road I found a small colony of tenaxes, containing both pure, or mostly pure, tenaxes, and a few *tenax-douglasiana* hybrids. This colony is about 12 miles from the coast just before the paved portion of the road ends. (In general *Iris tenax* is not a coastal species, at least south of Newport, Oregon.) It is an area of low but very rugged mountains, waterfalls, and mixed douglas fir-ponderosa-manzanita forest. The tenaxes along Sixes River Road were light lavender, and rather unexceptional horticulturally speaking, except that some of them have more complex signal venation than most tenaxes, perhaps due to *douglasiana* introgression.

From 42-S to the Rogue River, there are no connecting paved roads between Highway 101, which runs along the coast, and the Agness-Powers Road, which runs north-south about 25 miles inland. However, there are many logging roads. These should not be attempted except at times when logging trucks are not running. One should have a pickup or a 4-wheel drive vehicle, and, above all, an excellent, up to date map.

In addition to not having a 4-wheel drive, my car is twelve years old and unreliable. Following Elk Creek Road, where I found no tenaxes, but douglas-

ianas and innominatas were common, I drove into the mountains. Once I realized that my car was unsuitable for the road, I was lost. My map was several years old, and all the BLM road numbers had been changed.

It was an eerie trip. Drenching rain alternated with heavy fog. The roads, which branched frequently, were twisting,one-lane-wide, and scattered with small, freshly fallen rocks. I had the feeling that I was moving through a region which was not only uninhabited,but which humans had never inhabited, even preceeding the European migration. People might pass through,but they could not stay. The mountains were simply too steep. Whatever spirits inhabited the ravines were not human spirits. Eventually I saw a hiking sign to Barklow Mountain. Mountain names do not change quite so often as road numbers, and I was able to figure out where I was.

As I drove down toward China Flat and the Agness-Powers Road, I came accross a very large *tenax-innominata* hybrid swarm. It followed the road for about half a mile. Natural *tenax - innominata* hybrids are rare, and usually occur singly, or in very small groups. This colony consisted of hundreds, perhaps thousands of plants, and was the largest group of *tenax-innominata* hybrids I had ever seen or heard about. Most plants were only beginning to bloom, but every plant appeared to be different. Colors included white, purples, greys, lavenders, browns, creams, and the deepest yellows I've ever seen, either in the wild or cultivated. Some plants had striking venation. A few plants appeared to be *chyrsophylla* hybrids, but it would take a taxonomist to determine this for sure. At lower elevations, the only innominatas grew along the road.

I picked about a dozen flowers to take back to Eugene to pollenate garden irises. In general, I avoid digging wild plants, since even under the best circumstances, many will die, and those that do survive transplanting may increase slowly and bloom sparsely. I get better results by crossing promising wild plants with plants that have proven their capacity to flourish in my garden. I usually bring an eight-pack of soft drink bottles filled with water, and just stick the flower stems in. Even during hot weather, flowers will stay fresh for several days.

Along the Agness-Powers Road, typical medium purple-blue tenaxes are abundant from just south of Gaylord to Elk Creek Falls. I followed a logging road west of Powers, and there, at the higher elevations, *innominata* replaces *tenax*, with a few near-white, beautifully veined interspecific hybrids hybrids inbetween.

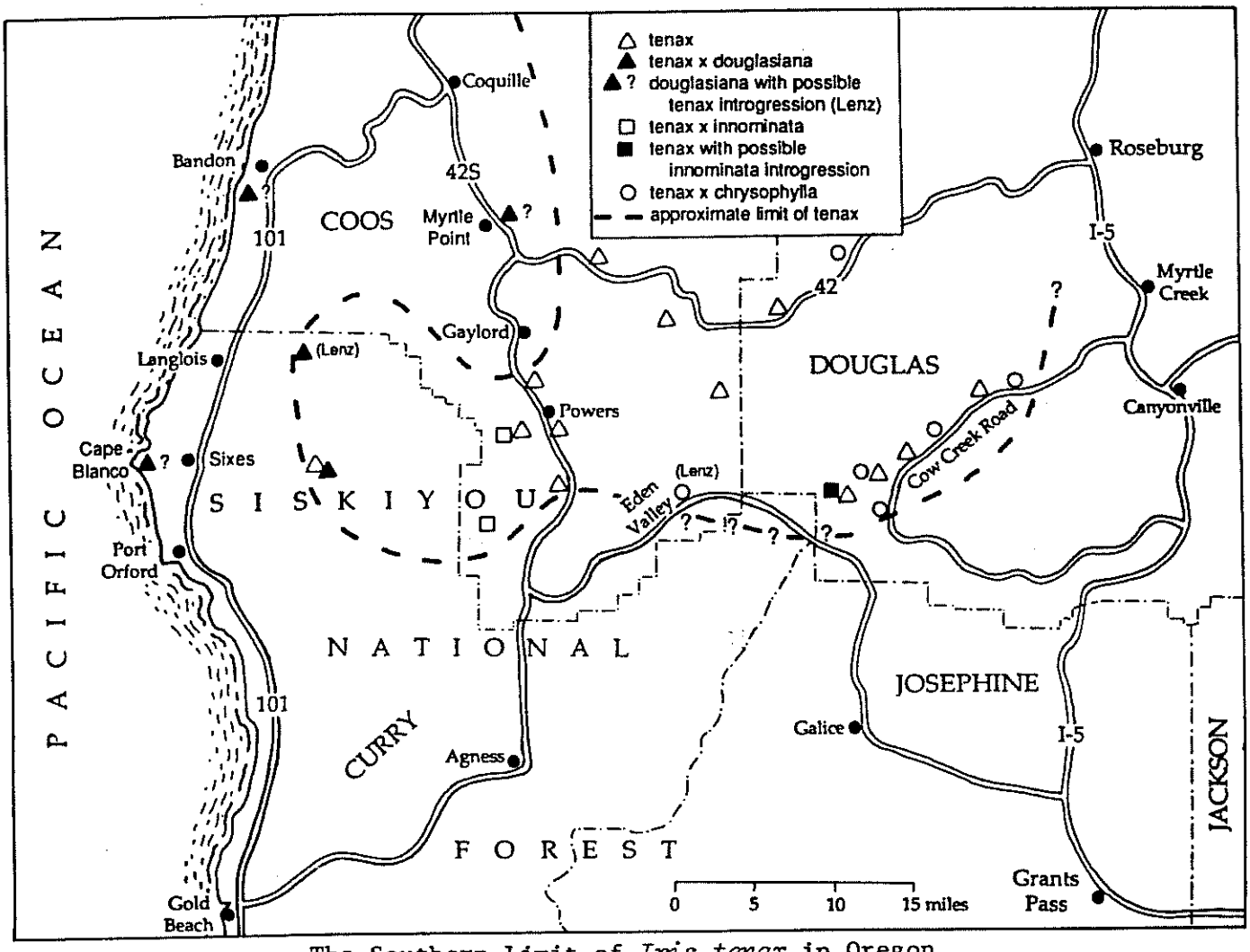
Connecting the Agness-Powers Road and Galice is a 40 or 50-mile-long gravel road. This road appears to approximately follow the narrow zone of overlap between the ranges of *tenax* and *innominata*. The full length of the road should probably not be attempted without a pickup truck. I followed it for about 5 miles and found only innominatas. Lenz mentions a *tenax-chrysophylla* hybrid from Eden Valley, but I didn't get that far. Exploring for iris is at heart a search for Paradise, or at least for fragments and reminders of Paradise. Maybe I'll get to Eden Valley next year.

3. EAST OF EDEN VALLEY

Off of Highway 42 are several paved spurs that go south for a few miles before turning to gravel. I followed two of the longer ones and found only typical tenaxes.

Very dark tenaxes become common from approximately the Coos-Douglas County line east. In places, *chrysophylla* is extremely abundant, even colonizing pastures as *douglasiana* does along the coast. Near Riddle there are some unusual chrysophyllas, including some with bloom stalks up to 15 inches(growing in full sun), and some with pinkish or dark red bracts. Farther west along Cow Creek Road are many tenaxes, including dark purples. *Tenax-chrysophylla* hybrids are common, and occasional Valley Banner type iris occur. Bloomtimes for *tenax-chrysophylla* hybrids are often different than the bloomtimes of either parent species, and whole colonies of hybrids can be found blooming along Cow Creek after most tenaxes and chrysophyllas are through.

Near the West Fork of Cow Creek, *tenax, innominata, and chrysophylla* can all be found. *Tenax-chrysophylla* hybrids are fairly common in this area but I saw no *tenax-innominata* hybrids until I had followed the road along West Fork for several miles. Tenax is very abundant along this road at lower



The Southern Limit of *Iris tenax* in Oregon

All iris identifications were made by the author, unless otherwise indicated

elevations. At higher elevations I found two large colonies of pale purple tenax-like irises. Many had the lax stems and horizontal grassy leaves of *innominata*. If these colonies are of hybrid origin, hybridization must have occured some time ago, since the colonies are relatively uniform in appearance.

The Canyonville Road has no tenaxes or innominatas that I could find, only chrysophyllas.

4. DOES YOUR PARADISE HAVE DISNEYLAND?

All of the hybrid swarms that I encountered in the northern Siskiyou National Forest area occured in places where people have significantly changed the environment with roadcuts, powerline cuts, lumbering, or mining. The disruptions are very minor compared with what other places have suffered in the last century, but nevertheless, the effects on irises, and undoubtedly on a great many other kinds of plants and animals as well, seem to be considerable. It is easy to forget that present day genetic experiments are not all occuring in the laboratory or garden.

Which, if any, of these new wild iris have horticultural value depends: if you prefer Pacific Coast irises that look as much as possible like Japanese irises, tetraploid Siberians, or award-winning bearded irises, round, ruffled, and maybe laced, then you will probably be uninterested in the new irises as garden subjects, except for what they may contribute to breeding programs for color or patterning. However, if you are not closed to trim, small-flowered, or narrow-petalled irises, you would probably find many of them promising for gardens.

Iris breeding, and ornamental plant breeding in general, is a hobby,a craft, a business, and a scientific endeavor that occasionally claims to be an art. Like the fine arts, iris breeding is both an enjoyable distraction from the rest of life, something made possible

by wealth derived elsewhere, and it is an activity that engages, usually indirectly, extremely important questions. Why change something as truthful as a wild flower when it does not directly effect our survival? What do our choices say about us? How much are choices governed by conformity, fear, and ignorance, and how much by the materials we work with? How much do our choices address our true dreams, desires, and memories? What would Paradise be like?

Painting is at least 30,000 years old and music, poetry, and dance may be even older than painting. Ornamental plant breeding is relatively young - in a sense it was only born with the discovery of Mendel, 87 years ago. At present most ornamental plant breeders take their aesthetics out of the air, the same cultural air that gave the world Madison Avenue, Socialist Realism,Hollywood, and plutonium. Consequently ornamental plant breeding today often seems like some extraordinary bizarre force for convergent evolution in which plants from widely separated groups all come to resemble crumpled tissue paper from parade floats. Our only reliable perspective on plant breeding is the perspective provided by wild plants. They tell us how far we have come, for better or worse.

THE PROPOSED SISKIYOU NATIONAL PARK

More than half of all Pacific Coast iris species, including three endemics, are found in a small southwestern corner of Oregon, and a few adjacent areas of northern California. At present this area is a complex mosaic of privately owned land, National Forest lands, and National Wilderness areas. The last seven years have been economically devastating to the region. In Oregon, one response has been to cut timber at a rate that is unprecedented in the history of the state, except for a few years during the 1950s. That, plus new developments in technology, which make possible harvesting of trees that previously would have been let stand, make many parts of southwestern Oregon vulnerable to lumbering.

The proposed Siskiyou National Park would encompass about 700,000 acres from the Rogue River south to the California border and would protect much of the Heartland of the Siskiyous.

The park would be of international importance. The Klamath-Siskiyou mountains are biologically the richest area in the Western United States, and one of the richest areas in the temperate zones. These mountains are an ancient and continuing birthplace of new life forms. I urge you to write your representatives to express your opinion about the proposed park. For more information, contact Oregon Natural Resources Council, 1161 Lincoln Street, Eugene, Oregon 97401 (503)344-0675.

George Gessert

EDITOR'S NOTE: We have never met George Gessert, author of the two foregoing articles. We had corresponded with him briefly when he was gathering information for his article,"Eight New Valley Banners", which appeared in the Fall 1985 Issue of the Almanac. It is obvious that he has a keen eye botanically, but at the same time he also sees beauty in his subjects and their surroundings. Finally, he can draw maps. We were curious about his background, but none of our iris friends closeby knew anything about him, so we called him at Eugene.

George Gessert is in graphic art at the University of Oregon at Eugene. (Well at least that explains the map.) He came to the Northwest on a restless, circuitous trail with numerous stop-offs to work awhile in various cities along the way. Immediately preceeding his migration to Oregon, he lived in New York City.

In school, he majored in art, and that is really his primary interest, but he also took enough botanical and horticulturally related courses to give him his taxonomic skills. He became interested in native plants, and especially native irises "because they were everywhere in the hills around me and were too numerous to ignore". Despite his background in botanical subjects he does not consider himself a scientist. Perhaps that is why the scholarly and well-organized style of his two articles are washed here and there by thoughts from an artistic and philosophical mind.

NATURALIZING THE PACIFICAS

Richard C. Richards,
Corona, California

One of the garden uses of the species and hybrids of the Pacific Coast Native irises is naturalizing. They have been put to such use in the Santa Barbara Botanic Garden in Santa Barbara, California. This is a report on the success of such a venture, as close to a clone to clone report as I can give.

The original plantings of the garden, devoted to the species of plants growing in the State of California, consisted of *I.douglasiana* clones collected from the wild. These have thrived in the garden, and have been in position for many years. And some clones of *I.innominata* have been growing on a half shaded slope since at least 1970. Some clones of *I.munzii*, collected in the early 1970s, are almost gone.

Over the years, the Santa Barbara Botanic Garden has acquired 61 named cultivars; and after growing them in containers until they were well established, they were put out into the garden where they have had to fend for themselves with other native plants, getting occasional water during the summer, from once a week to once every two or three weeks depending on what section of the garden they were put into. To supply a little information on what clones have been successful under these conditions, and armed with a list and location map of the various clones thoughtfully provided me by Dara Emery, Hybridizer for the Garden, I set out on two different days about a month apart during bloom season in the spring of 1986 to see how the clones had done.

The Santa Barbara Botanic Garden, for those interested in climatic information, occupies many acres in the foothills of the Coast Range. Here, several hundred feet above sea level,the ocean, which can be seen from the garden, is an important influence. The temperature seldom reaches 32 degrees F. in the winter, and is usually much milder. In the summer, 90 degrees is unusual more than once or twice a summer. The climate tends to be more humid than in the interior regions of California.

I was able to locate a number of the clones from the area maps, and verified the clone in its location by deeply set identification stakes and visual inspection of the flower. The following is a report on their type of location, their well-being as established by a visual inspection, and the date at which they began their stay at that site in the Garden.

The clones are listed alphabetically. Identification was made by means of the identification stakes and my usually reliable memory of the flower. I did not report on those which I did not see in flower during my two visits.

AROMAS This clone was growing well in light shade. There was some distortion on the stake, but the map showed that it had been planted in 1980.

ARIOSO is an old variety, and was growing well in a shaded location where it had been since 1974. It also grows well at the Rancho Santa Ana Botanic Garden, 100 miles to the south and much more inland than Santa Barbara. Its tan color makes it easily identifiable.

BANBURY FESTIVAL This English import was found in two different locations, one of which was mostly sunny and the other of which was shady. It was doing well in both locations, and had been in the sunny location since 1979 and the shady location since 1980.

BONNY DOON was doing spectacularly well in the sunny location in which it was placed in 1981. It was nice to renew acquaintance with a clone I had not seen for many years. I quickly discovered why I had been so attracted to it some years ago.

CABRILLO was planted in two locations in 1981. In part shade it was getting along, but doing much better in full shade.

CALIFORNIA MYSTIQUE is quite a striking flower. It was placed in a sunny location in 1984 and, although blooming, it was not prospering.

CANYON SNOW grew in numerous locations in its home garden. In full sun bloom stalks were a little short, but it was fine in partially or fully shaded locations. The earliest plantings were listed as 1976. Much bloom was present at my later visit.

CHIMES was experiencing partial success. One clump, growing on a shaded hillside since 1980, was doing great. In yet another location with a equal amount of shade, it was doing poorly, though planted in the same year. In a sunny location it was also doing poorly, though I have seen it thrive in full sun in its originator's garden in Pasadena. Its white flower appears early.

CLARICE RICHARDS, a yellow iris I am very partial to with its intricate veining on the falls, was in a sunny location where it had been since 1983, but was not thriving. A large number of dried bloom stalks indicated that it had bloomed profusely the previous year.

EMPIRE GRADE was thriving in several locations. In a shaded location, planted in 1980, the brown flowers were profusely produced. Another clump, planted the same year in full sun, was equally beautiful.

FICUS, planted in full sun in 1983 was hanging on.

GARDEN DELIGHT, in a partially sunny location since 1983, was just about dead. A beautiful yellow and brown, it has been difficult for me to retain in my own garden.

GOLDEN NYMPH, in the same location as GARDEN DELIGHT, was doing fairly well.

HALFTIME, in two separate locations, one sunny and one shady, was growing in both but thriving in neither. It had been in both locations since 1980.

MAYOR, having been on a steep bank in the shade since 1980 was alive but not doing very well.

NATIVE PRINCESS, in the ground since 1974, and which I identified by sight and memory of having been shown that location several years earlier by Dara Emery, was putting on a spectacular show in the shade. This delightful near-red had spread widely and should perhaps be reintroduced to the trade. I do not know of any commercial source for this fine little iris.

NATIVE WARRIOR, with its unique reddish-violet coloring, was doing escellently. It had been in one shady location since 1974 and a sunny place since 1981, and was doing fine in both.

OJAI, in a shady location since 1980, was not happy, although it was doing well in a more sunny location planted at the same time.

PASATIEMPO, my favorite purple with its very precise geometric spot of yellow on the falls, was observed in two locations, and was thriving in both of the sunny locations in which it was planted in 1980.

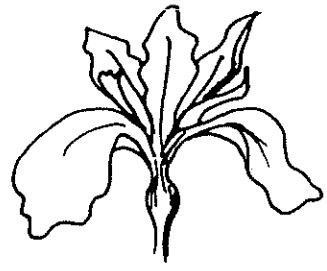
RESTLESS NATIVE, another good red that I am partial to, had formed a large clump in a mostly sunny location where it had been since 1980.

ROGUE, in two different shady locations where it had been since 1973, was doing just fine.

ROVING EYE, incorporating that unique eye-type blaze on the falls that George Stambach had worked on near the end of his life, was thriving in three locations: in shade where it had been since 1980, and in partial shade and mostly sun where it had been since 1981.

VIOLET ELF This uniquely-colored clone, planted in a mostly sunny location since 1980,appears quite happy.

These are all the clones I could identify for certain. In some cases there were irises in the vacinity of identification stakes, and they could have been the irises the stakes identified. But where there was no bloom I made no identification. Thus, it is probable that this list, though as accurate as I could make it, is incomplete. The staff of the Garden, especially Dara Emery, gave me much help, and I am appreciative of the list and location map they provided me. The irises have not been placed in the Garden in any particular order, but are planted along with various other native plants as different sections of the Garden are developed or replanted. Thus some clones are put in areas in which, due to sun and water factors, they may be particularly happy, or particularly unhappy. Nevertheless, I hope the list may be helpful in guiding people who may be interested in establishing naturalized clones of the Pacific Coast native irises.



EDITOR'S NOTE: The following article by Roy Davidson is of interest because it presents a new idea on a controversial subject. It was of special interest to me because of my own breeding work with VALLEY BANNER (VB). For those of you unfamiliar with the "VB pattern", the flowers of VALLEY BANNER are unusual. The standards and falls are white, the falls being overlain by a decorative veining of thin, dark purple lines. The most striking feature, however, is the contrasting color of the style arms, which are a solid, deep red-purple.

My interest in it arose when we wanted to grow it in our garden but discovered, as others have, that it doesn't grow well in California. I crossed pollen from VALLEY BANNER to a flower of SUGAR CANDY, which has a similar plant type but which grows like a weed, hoping to get the pretty VALLEY BANNER flower on a plant which would thrive.

Despite the fact that SUGAR CANDY was the pod parent, and much to my surprise, 45 percent of the plants from that cross had VALLEY BANNER-type flowers, none displaying the SUGAR CANDY pattern, and only one had a slight trace of the orange color of SUGAR CANDY, indicating a very dominant inheritance favoring the VALLEY BANNER pattern.

The second fact that some of our readers may not know is that VALLEY BANNER was discovered in the wild in Oregon and registered as an *I. tenax* x *I.chrysophylla* hybrid. You should also be aware that VALLEY BANNER, except for its flower type, has all the characteristics of *I. tenax*, leading some authorities to express doubt about it's interspecific hybrid origin.

The third thing which I think will help our readers in understanding Roy's new proposal is the mathematics of "introgression". Introgression is defined as the entry or introduction of a gene from one gene complex to another. When one gene complex, in this case *Iris chrysophylla*, gets close enough in nature to another gene complex, in this case, *I. tenax*, and a bee decides to bring some pollen from one to the other, an interspecific cross can occur.

The first generation plants from such a cross will be equally endowed with various characteristics of each parent and could easily give rise to the VB-type flower. However, if this new hybrid plant takes root among a group of plants of either of its two parents, for example in a field of *I.tenax*, and a cross occurs, the resulting plants will be 75 percent endowed with *tenax* features. Then, if one of these plants is again pollenated with pure *tenax* pollen, the new hybrids will have 88 percent *tenax* features. By the ninth generation of such occurences, the resulting plants will be 99.9 percent endowed with *I. tenax* features; yet one or more of the plants could still retain the dominant VB-type flower. If two such plants are growing side by side and happen to get cross pollinated, the VB pattern will be permanently instilled in a quarter of the resulting population and no amount of future self or sib crossing can eliminate it.

INTROGRESSION AND THE V.B. PATTERN

Roy Davidson,
Seattle, Washington

It was Edgar Anderson who, as recently as 1949, proposed the theory he called "introgression", now such an accepted truism we might ponder why it had not been self-evident a long time before! Probably this was only because the indecisions of the day didn't really clarify a lot of things, like what constituted such a thing as a"species".

I was particularly interested in the observations George Gessert put forth in the Fall 1985 "Almanac" about finding so many wild plants that flowered with the pattern of purple on white but otherwise looked like *Iris tenax*. When Ruth Hardy learned the extent of flooding that was to take place with the construction of water storage reservoirs in the headwater drainages around her, she, along with a lot of other people, began scouring these areas to salvage as much of the valuable wildflower populations as was possible. In the course of this, they came onto some remarkable irises that were not at all

like what they had been familiar with. The Noti Irises were thus brought to our attention and so was the lovely VALLEY BANNER which Ruth registered in 1958 as a hybrid, *tenax* x *chrysophylla*.

It was only one of many of this pattern they had found, and it has gone on to become a favorite of everyone who could grow it. (Unfortunately, *Iris tenax*, nor in fact the other northern PCI, do not prosper in more southerly gardens.) It is no happenstance, as Gessert has shown, that these VALLEY BANNER types are found nearby to the populations of hybrids between *I. chrysophylla* and *I. tenax*. Some people maintained that VALLEY BANNER itself couldn't be a hybrid because when they self-pollinated it, they got more of the same pattern. A"hybrid" is supposed to throw a segregation-progeny, the individuals looking more or less like one or the other of the presumed parents. This didn't happen.

Although Dr. Lenz's knowledge of the Californian members was first-hand and certainly vast, his report of a mere five hybrid collections between the Oregon *I. tenax* and *I. chyrsophylla* was taken strictly from prior herbarium records. In May 1956 I had been guide to his one and only foray north of the state line, his one sighting of *tenax*, though in several places. He was concentrating, for lack of time, on the *gormanii* form of *tenax*, although we did also go for *I. tenuis*. When I was making my own field study of these irises I, too, had found a lot of hybrid swarms between the two, and a lot of VB-type of flower. There are lots of them on Monument Peak, Marion County, Oregon, and they seemed to always be near to recognizable *chrysophylla*, but not necessarily near the supposed epicenter of hybrid swarms.

Evidence of introgression is usually very subtle; it is the result of many generations of follow-up crosses after an original hybrid population is established. The results at the "epicenter" after untold generations of further crossing among the original hybrids are fairly recognizable as a very mixed bag. At the perimeters, though, and off in all directions as far as a bee's-flight, are found the results of this introression. To introgress is to infiltrate. The genes of one species infiltrating into the territory of another species is the essence of introgression. In this case we have the pale background color of *Iris chrysophylla* imprinted with the purple of *Iris tenax* on the falls in a pattern of veins, on the standards with a median streak, and on the styles in a solid mass. In other visible characteristics, VALLEY BANNER seems to be pure *tenax*.

But it is probably unique among those of its coloring in apparently being dominant for the pattern; there are few PCI irises with pale coloring of the segments as a contrast to colored styles. Nourse's GREENBRIAR CONTRAST is such a one and it should be no surprise that it was found in a population of *I. douglasiana* adjacent to a hybrid swarm involving *I.macrosiphon*.

MORE ON THE NOTI IRISES OF LANE COUNTY, OREGON

Roy Davidson,
Seattle, Washington

Probably there is only a mild interest in such anomalies as this name covers, a small valley near Eugene, Oregon and its bright, early irises. They have been mentioned in the *Almanac* on several occasions and perhaps there are some readers who would be interested in knowing more about them.

Delora (Smith) Thompson is generally remembered as the one who "found" this colony. A contemporary of Ruth Hardy and another one of those who scoured the lowlands to save the wildflowers destined to be drowned by water storage impoundments, she collected seed and photographs of this strange plant which flowered ahead of all the other irises very close to the ground, colored in nice purple tones, and then matured purple-stained seed capsules right on the ground. Sometimes when these capsules were detached, they rolled about on the gentle slopes to then open and disperse the seed in a most unusual

way for an iris.

Consulting the books, she decided that they must be *Iris macrosiphon*, but that was a California species. In due course, Dr. Clarkson was consulted, as he had just recently published his findings on hybrids between *I.tenax* and *I.chrysophylla*, among others, and an investigation of this colony was carried forth, the results published in *Northwest Science*.

About 25 square miles are involved, mostly open woodland with extensive grass-covered openings and with low herbs. The soil is a sandy loam, and early settlers had taken a good part of the tract into cultivation for pastures, orchards, and gardens, many of these now derelict. Here, in March or early April, the irises come into flower, whereas *Iris tenax*, which grows in all directions adjacently, puts up flowers no earlier than mid-May to June. It is this earliness that is appealing to the gardener, and then it is a perfectly lovely flower in its own right.

Analysis of the stems, bracts, and flowers from four separate colonies in the area showed a rather remarkable uniformity (for the most part) and the conclusion was that this was a very old and stabilized hybrid colony between the tall purple *I.tenax* and the short pale-yellow *I.chrysophylla*, dating back probably to immediate post-glacial times, for the area with its fine, silty soil had been a natural pond or lake in melt periods. The unusual thing was that this was concluded to be an example of non-introgressive hybridization. "Since their origin they have been a source of morphological variability for *I.tenax*," the report states, suggesting that they be known as "Noti Iris".

EDITOR'S NOTE: For the benefit of our readers the following information was excerpted from the paper referred to above by Quentin Clarkson and Debra Thompson, "Analysis of a Hybrid Iris near Elmira, Lane County, Oregon." and which was published in *Northwest Science*, 35,1 pp. 27-31 (1961).

Hybridization between *Iris tenax* and *Iris chrysophylla* has been discussed at length in various reports. In the cases discussed, hybridization has for the most part been recent and introgressive in the direction of *I.tenax*. The discovery of a rather widespread hybrid colony near Elmira, Lane County, Oregon, by the junior author provides a good example of a presumably ancient crossing as well as hybridization between these subspecies which is not introgressive.

The hybrid occurs in small colonies in an area of approximately 25 square miles between Elmira and Noti, Oregon, about 20 miles west of Eugene. The area is characterized by Douglas fir as the major tree with considerable Oregon oak, Madrone, and Ponderosa pine. Much of the total area where the hybrid occurs tends to be open because of logging, construction of homes, or because of roads which dissect the area.

In general aspect the hybrids appear to resemble *I.chrysophylla* except for flower color which is blue with a reddish cast rather than the characteristic pale yellow. However, when analyzed, they are found to be more nearly intermediate except where currently interbreeding with *I.tenax*. No *I.chrysophylla* is near enough for present-day cross pollination.

The hybrids tend to resemble *I.chrysophylla* in regard to perianth tube length, stem length, and bract position and to resemble *I.tenax* in regard to flower color, petal width, bract shape, and bract length.

Ecologically, the hybrids occupy habitats typical of *I.tenax* and probably have persisted in the area because of this. Because of these ecological conditions, the hybrid seems certain to be swamped by the surrounding *I.tenax* colonies but probably not for a considerable number of years. Moreover, hybrid flowering occurs most abundantly in March and April rather than in May and June as in the paternal subspecies, and this should contribute to stability of the hybrid colonies.

Taxonomic distinction for the hybrid is considered unnecessary since it is not widespread, does not occupy an ecological nitch distinct from both parents, and is surrounded geographically by *I. tenax*. These reasons are advanced, not to define the subspecies but to clarify the senior author's application of that catagory to this race of plants. An English name such as "Noti hybrid" or "Noti race" seems sufficiently precise to identify the individuals concerned without overburdening the literature of the western American *Iris* with trinomials.

NUMBER OF BLOOMS PER STALK ON PCNs

Lewis Lawyer,
Oakland, California

In the "From the Editors" section of the last issue of the Almanac we requested our readers to send us measurements on height of bloomstalks and number of blooms per stalk for named PCNs growing in their gardens. To date we have not heard from anyone, but if any of you have recorded such data, please send them to us. Summarized below is information on blooms per stalk which we began taking in 1983 in our own garden here in the Oakland hills.

Three varieties: BANBURY TAPESTRY, FAIRY CHIMES, and *Iris innominata alba* have been consistently single blossomed over the five year period. Three varieties which we grew for the first time in 1987 were also single flowered but will remain unnamed because of insufficient data. Three other cultivars, AMI ROYALE, *Iris innominata* (a lined orange selection), and MOONLAD (a Roy Davidson *innominata* selection), were mostly single flowered but produced an occasional double on one or more of the years when records were taken. All of the above are dwarf types and tend to throw many stalks per clump, so there is no dearth of blooms. For all, however, the length of bloom season tends to be short.

Sixteen varieties produced approximately equal numbers of single and double-flowered stalks. These were mostly dwarf types but included some larger cultivars such as APTOS, NIGHT MESSENGER, PRIMO, RESTLESS NATIVE,and SANTA RITA. Two of the sixteen, though mostly single or double bloomed, produced at least one triple-flowered stalk during the five year period. These are LA SELVA and WESTERN HERO. Two others, GARDEN DELIGHT and LAS FLORES, even branched occasionally to produce up to four flowers.

By far the largest group, 32 cultivars, were those which were consistently double flowered. Eight more were mostly doubled but with an occasional triple, and 10 others threw an occasional branch with up to four flowers. A dozen had stalks with two or three flowers. So in the total group with mostly two or three flowers per stalk, there were 45 cultivars, or 43 percent of the total 105 measured.

Fourteen cultivars, 13 percent of the total, had at least some of their bloomstalks branched, and produced from two to seven blooms per stalk. These cultivars are AROMAS, BLUE SAGE, CALIFORNIA NATIVE, CITY HALL, EL CENTRO, GO WILD, LAS FLORES, NATIVE JEWEL, PASATIEMPO, PIQUE, RED EYES, SAN LORENZO, SUSIE KNAPP, and VIOLET ELF. The parentage of two of these is unknown, but all the others, several of which are inter-related,can be traced back to at least one *I.douglasiana* ancestor. You would expect that to be true since *I.douglasiana* is described as the only native species which has branched flower stems. Two of the cultivars also have *I. munzii* in their background, the only species described as having up to four flowers per spathe.

In my own experience with *I.munzii* by *I. douglasiana* breeding, only one selection out of over 200 has produced single-flowered stalks. This will, no doubt, change in the future; however, as we are beginning to cross the blue *munzii* material over to dwarfs such as FAIRY CHIMES and *I. innominata alba* to produce a blue-flowered dwarf.

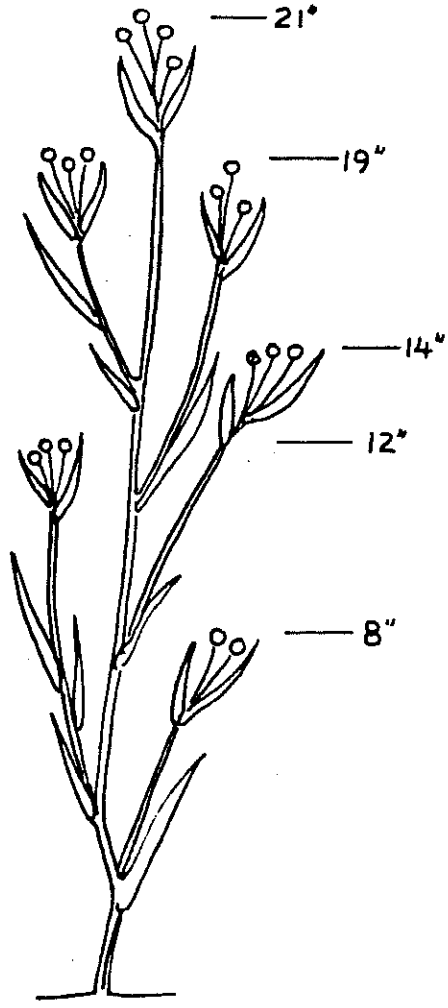
Twenty four percent of my selections have been double flowered compared to 48 percent for the named varieties. In my selections, 43 percent have three or four flowers per stalk compared to 33 percent for the named varieties. In my selections, 33 percent have been branched with four to nine or more flowers, compared to 14 percent for the named varieties, which to date have peaked at seven flowers per stalk.

The most floriferous selection of mine has been SIERRA BUTTERFLIES, for which I have data dating back to the seed planting in 1978. It was selected from a cross between SOQUEL COVE and XP 1F. SOQUEL COVE has never produced a flower stalk here with either less than or more than two flowers in the eleven years we have grown it. SOQUEL COVE is Ojai by Aptos. OJAI produces unbranched stalks with two to three flowers, and APTOS produces unbranched

stalks with one to two flowers. The only branched parents I can find in the ancestry of SOQUEL COVE is AMIGUITA which has produced 1 (ONE) branched stem with four flowers in the 12 years I have grown it.

The other parent of SIERRA BUTTERFLIES, XP 1F, came from seed from an open pollenated pod on Thornton Abell's 66-44-30 which, according to Abell's notes, is three quarters *I.munzii* and one quarter *I. douglasiana.* In the four years I have grown it, it has never branched, but has consistently produced three flowers on very tall stalks ranging from 23 to 37 inches in height.

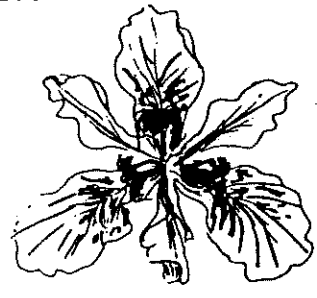
SIERRA BUTTERFLIES was selected in 1981 when it was two years old from seed. It produced one stalk having eight flowers. In 1982 it produced eight bloomstalks ranging in flower number from eight to eleven per stalk. A year later it was divided into several small plants, all of which produced branched stems with up to eight flowers. In 1984 it produced the only unbranched stem, (three flowers), it has had in our garden. Other plants had four to eight-flowered stalks. In 1985 it averaged seven flowers per stalk, with eleven being the highest number. In 1986, flower number ranged from four to eight. This year, 1987, we had five clumps of SIERRA BUTTERFLIES in the garden, ranging in age from one to three years. The three-year-old clump produced six bloomstalks with five to seven flowers each. A two-year-old produced six stalks with five to seven flowers each, and the three one-year-olds produced three stalks with eight to ten flowers each, three stalks with ten to fourteen flowers each, and one stalk with five branches and eighteen flowers. This plant, the most blooms we have ever produced on a single stalk in our garden, is depicted in the next column at one quarter scale.



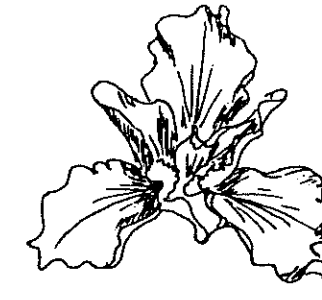
Schematic drawing of SIERRA BUTTERFLIES plant with a 21-inch stalk, having five branches plus terminal, and 18 flowers

This much height and branching has some drawbacks because about a third of them need some staking, especially those stalks having two or three open flowers during a rain storm. It does tend to lengthen the bloom season, however. This year, for example, the first SIERRA BUTTERFLIES flower opened on March 27, and the last folded on May 28. The highest number of flowers on any other cultivar this year was nine on XP67B, which has been registered as SIERRA DELL. This selection started blooming on April 2 and stopped on May 17.

CANDY BANNER



SIERRA DELL



HOW I GOT STARTED WITH PACIFICAS

Richard C. Richards,
Corona, California

In 1965 I moved to Mt. Baldy from Los Angeles. I had not been involved in horticultural efforts at all prior to that, being involved with a PhD program at UCLA. But I took a one year appointment at California State Polytechnic University, Pomona, as their first bona fide philosopher, and when I decided that I liked the school and they liked me, my wife and I began to look for a permanent residence in the Pomona area. (I had commuted from Los Angeles for the first semester.)

We decided we wanted to live in the mountains, away from the smog that was already a problem in the Los Angeles basin. Mt. Baldy, a small village 4000 feet up in the San Gabriel Mountains above Claremont, with a population of about 500, was very appealing, and we moved up there between snows in January of 1965. When spring came, we were both delighted with the wildflowers that bloomed all over the hills, and since water could be a problem in the autumn, we decided to landscape our home with California natives. We had heard of the Rancho Santa Ana Botanic Gardens, down the hill from Mt.Baldy, so we went to the office at the Garden and were given a list of nurseries that would sell us California native plants.

One name on that list was George Stambach, selling his own native iris hybrids out of his back yard in Pasadena. We visited George, and were sold on the natives, both by their beauty and by George's enthusiasm. We bought our first hybrids from him, and went back year after year, not only in the spring, but every time of the year as a friendship grew along with our enthusiasm for native irises.

Along about the second or third visit to George, he showed me how to hybridize, talked about the way he handled the seed, and I was on my way! My wife was not particularly interested in hybridizing, but I caught the hybridizing virus thoroughly. My first crosses were random, and the results usually showed it. Eventually, however, I got a sense of what was good and what was not, and what colors needed to be worked on. I have worked for some time for a good red, but have not gotten the size I want, though I have a very vigorous, branched red with small flowers. I also wanted to produce a good blue from the *I. munzii* genes, but found that many people were much further along than I was, and I had to bow to limited time, limited space, and limited stock.

During the early seventies I made my crosses, bloomed my seedlings, and thoroughly enjoyed myself. Then a divorce from my first wife moved me and my seedlings to Corona and new challenges. First, there was the heavy adobe soil instead of the decomposed granite of the mountains. Then, there was the heat! It never got much over 90 in the mountains during the summer, and the drainage was excellent. It was 90 degrees every day during the summer in Corona, and although the soil held moisture on the inside fairly well, it baked on the surface. The soil was also alkaline, as was the water. I determined at that point that I wanted to produce hybrids that could survive, even thrive, under these conditions. I was aware that Lee Lenz' hybrids at the Botanic Gardens were not watered much during the summer, but I wanted plants that would thrive under ordinary garden conditions, which to me means, water every few days during the summer, even when the temperature is high.

So I put my seedlings in and proceeded to water all summer long. The irises dropped like stocks during the start of the Depression. But a few survived to form the nucleus of my present program. Seeds get the same brutal treatment, of course, but more and more of my seedlings have survived. I think I lost a lot more seedlings than I needed to over the years, since I was mixing nitrohumus into my planting mix, and that seems to be exactly the wrong thing to do. But despite all this brutal treatment, not all the irises went "permanently deciduous," as I like to call it. Now I have quite a few plants which actually thrive under what I call "ordinary garden conditions".

Only one of these has been good enough to register so far, and I named it for my mother, CLARICE RICHARDS. I think I'm close to more introductions,

however, and I expect the same hardiness that CLARICE RICHARDS has shown me in this climate.

So it was the enthusiasm of George Stambach that got me interested in the natives, and the information he passed along to me that got me interested in hybridizing. He gave me hours and years of pleasure and joy,(as well as a lot of callouses and an occasional sore back). What a marvelous gift to someone! My interest in other irises stems from my start with the natives, and they will continue to hold a special place in my life and in my garden. If I can share some of the joy they give to me with other people, I'll have been a worthy spiritual son of old George.

CHECKLIST UPDATE

BRETFROTON (J. D. Taylor, R. 1986) Sdlg. MM3 10" (25cm) M. Ruffled orange self. From Hargrave seedlings. HC Wisley 1986.

BUBBLY (Ghio, R. 1986) Sdlg. PN-277KK 10" (25cm) ML. Red-purple self. PP-337J:(Go Wild x Oval Office sib) X (Oval Office sib x Carbonero).

CANDY BANNER (L. Lawyer, R. 1986) Sdlg. XP41E 13" (32cm) M. S. white with narrow purple rib; red-violet styles , darker purple rib; F. white, veined with thin purple lines, narrow pale yellow signal. Sugar Candy X Valley Banner. EC 1985. Lawyers, Inc. 1986.

CELTIC COPPER (M. Foster, R. 1986) Sdlg. 3P64 11" (28cm) E. S. pastel russet red, rimmed lemon; F. deep russet red, rimmed lemon, cadmium yellow signal lightly veined russet; lightly ruffled. Simply Wild X Quintana. SC (Wisley) 1986.

CHEZ PEYO (V. Wood, R. 1986) Sdlg. 85-4 12-14" (31cm) M. Lightly ruffled mid blue-violet, wide white band below signal with blue-violet veining, dark yellow signal veined darker. From Ghio seeds. Portable Acres 1986.

MORAGA (Ghio, R. 1986) Sdlg. PN-292J 12" (30cm) VE. Brandy peach self, red-violet signal. Montara sib X PP-337I: (Go Wild x Oval Office sib.).

NATIVE LAND (Ghio, R. 1986) Sdlg. PM-249C 12" (30cm) EM. Dark brown self. Going West X Peanut Gallery sib.

NIGHT EDITOR (Ghio, R. 1986) Sdlg. PN-277WW 10" (25cm) ML. S. purple; F. same with a black sheen. PP-337J: (Go Wild x Oval Office sib) X PP-375: (Oval Office sib x Carbonera.

PACIFIC CUTIE (V. Briody, R. 1986) Sdlg. 203-V 14" (36cm) M-L. White with blue wash radiating through center of F. Canyon Snow seedling X Soquel Cove.

PACIFIC HIGH (Lois Belardi, R. 1986) Sdlg. B-RDM1-5 15" (38cm) M. S. white with medium blue midrib; F. light blue, 3/16" dark blue border around yellow signal. SCB-1-3: (Ghio blue sdlg. x Soquel Cove) X Rio Del Mar.

REFUGIO (Ghio, r. 1986) Sdlg. PN-314GG 12" (30cm) ML. S. light brown; F. same, veined darker. PQ-2352Z: ((Californian x Casa Pacifica) x Emigrant) X PP-355B, Montara sib.

SANTA CRUZ BEACH (Ghio, R. 1986) Sdlg. PM-248-E3 8" (21cm) ML. S. gold; F. gold, red-brown center shading out to edge. Campaigner sib X Roaring Camp.

SMALL TOWN (Ghio, R. 1986) Sdlg. PN-285G 8" (20cm) E. S. henna; F. same with blue blaze. PP-354K: (Gone Native x Camp Capitola sib) X Mission Santa Cruz.

SMOKY BANDIT (H. Blyth, R. 1986) Sdlg. 2-13-1 20" (51cm) VEM-ML. S. smoky lavender-pink; F. smoky, gold signal. From two seedlings.

SOLID CITIZEN (Ghio, R. 1986) Sdlg. PN-312-0 10" (25cm) ML. S. light blue; F. deep blue-violet. Los Olas X PP-375: (Oval Office sib x Carbonero).

SOMBRIEL (V. Wood, R. 1986) Sdlg. 84-9 12-14" (31-36cm) M. S. mid-yellow with wine purple midrib; F. wine purple, edged mid-yellow, darker veining at end of small gold signal; ruffled. From Ghio seeds. Portable Acres 1986.

TACO (D. Meek, R. 1986) Sdlg. B217 23-24" (31-36cm) M. Pale yellow with dark red veining on F., gold signal ending in slight red flush. Garden Delight X Pacific Moon. Portable Acres 1986.

TIA MARIA (D. Meek, R. 1986) Sdlg. HA-111 12'14" (31-36cm) M. S. ruffled pale lavender; F. slighty ruffled deep lavender, fading lighter, darker flush below yellow line signal. From Hargrave seed.

VILLA BRANCIFORTE (Ghio, R. 1986) Sdlg. PH-306SS 10" (25cm) ML. Smooth apricot self. PP-406Q: (Big Wheel x (Pacific Moon x California Native)) X PP-355R, Montara sib.

WELSH AMBER (M. Foster, R. 1986) Sdlg. 3P75 14" (36cm) M. S. pastel gold and russet blend; F. gold, finely veined russet overall, 1/4" soft russet rim, hairline edge of pastel russet. Quintana X Simply Wild. SC (BIS) 1986.

WESTERN WORLD (Ghio, R. 1986) Sdlg. PM-279U 10" (25cm) E-L. S. lavender; lavender styles; F. near black, edged lighter. (Linda Vista x PS-AST-4, from Hargrave seed) X PO-2161:(Oval Office sib x Linda Vista sib).

WILD TIME (Ghio, R. 1986) Sdlg. PM-192R 10" (25cm) E. Maize gold self, maroon signal. Roaring Camp X PP-251L:(Simply Wild x PR-319M, Camp Capitola sib.