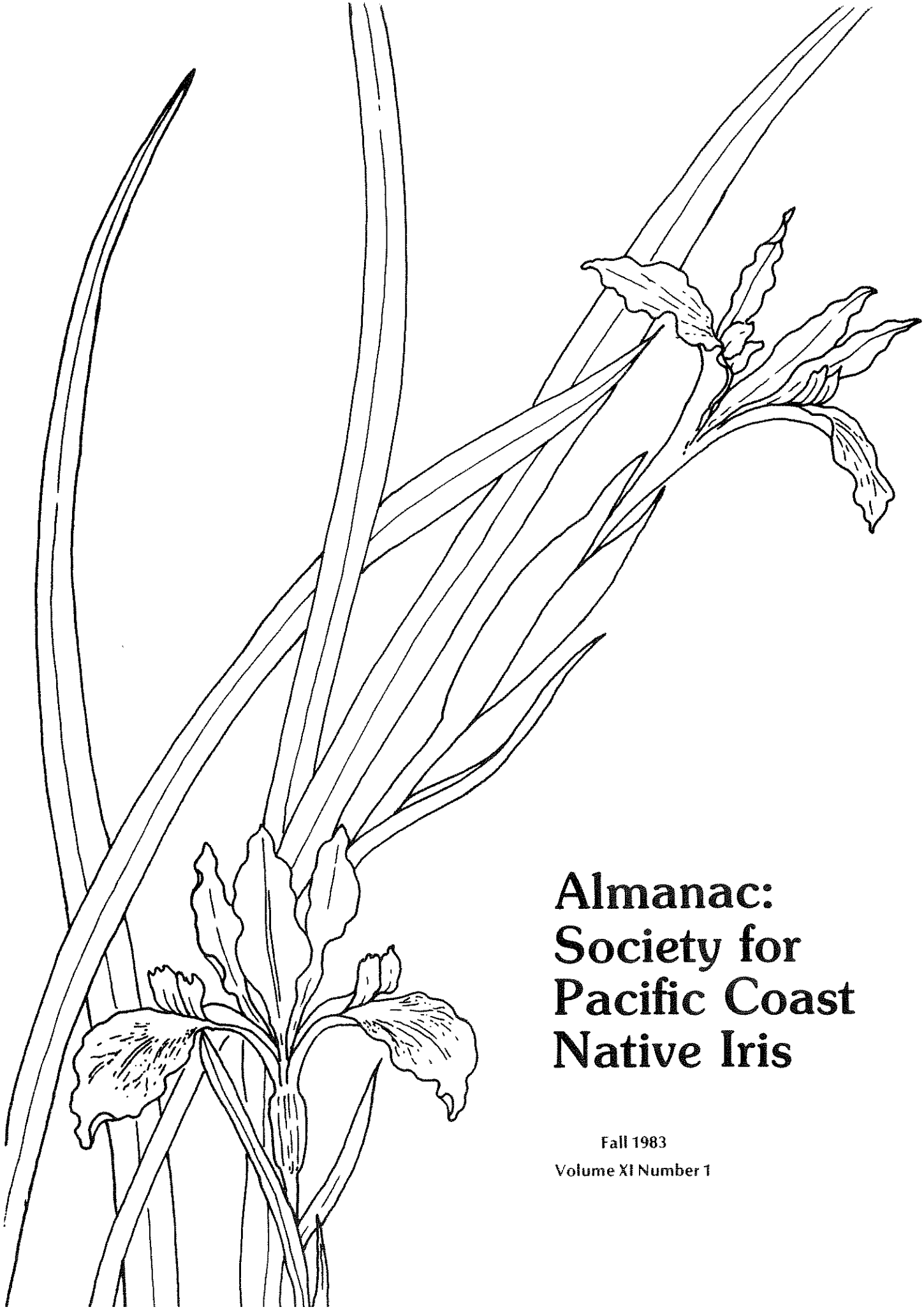
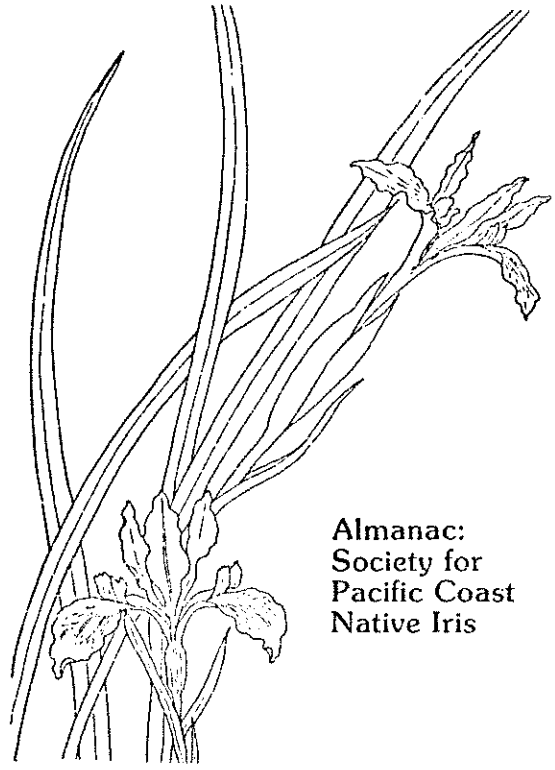


Almanac: Society for Pacific Coast Native Iris

Fall 1983
Volume XI Number 1

cover: **Diana Gregory**



Almanac: Society for Pacific Coast Native Iris

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Editor	Philip Edinger P.O. Box 637 Cloverdale, CA 95425 (707) 894-3225

PUBLICATION STAFF

Editor	Philip Edinger
Associate Editor	Jean Erickson
Consultant	Jean Witt

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MEMBERSHIP, SUBSCRIPTIONS

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.

Membership rate:	Individual	Family
Annual	$4.00	$5.00
Triennial	10.00	12.00
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Please send membership, subscription monies to the SPCNI Treasurer.

PUBLICATIONS AVAILABLE

Seed Planting

Almanac, Volume VII, Number 1 (Fall 1980) contains several valuable articles on raising Pacific Coast native irises from seed. Copies are available from the Editor for $2.00 each, postage paid.

Species Distribution, Recognition

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 subspecies. There is general material on distribution and botanical affinities among the species, plus a map of western states showing distributions of the species in general. Copies are available from the Treasurer for $3.50 each, postage paid.

President's Message

Bloom season always is the most exciting time for any iris grower, and last spring was no exception for me. There were natives to be seen in northern California gardens. I had the great pleasure of seeing some splendid hybrids in southern California at their Region 15 meeting and trek. And at the AIS convention in Boston I had the pleasure (?) of presenting a slide show of species and hybrids for the SPCNI section meeting. The question mark would be deleted had I had a cooperative projector!

It was, to say the least, interesting to receive ballots that came to me in the poll-by-mail for common-name choice for our irises. I was particularly pleased that so many of you took time to comment on the "whys" (and the "why-nots") of your choices. Such comments helped quite a bit in trying to interpret the results, inconclusive though they are. A report on the balloting appears on page 13 in this issue.

At this writing, we in northern California are hoping for a return to more "normal" winter weather and less soggy spring. The AIS convention in spring 1984 will headquarter in Seattle, where, we hope, irisarians from other parts of the country may have a good exposure to the irises from *our* part of the country–whatever you want to call them.

JEAN ERICKSON

Up Front

Feeling like the White Rabbit in "Alice In Wonderland" – late for a very important date – and seeing no assurance of better performance in months to come, I am with regret ending with this issue my brief term as *Almanac* editor. Considering the lateness of this issue, I imagine the regret will be quite one-sided; I know *I'll* be glad to receive un-delayed issues, unaccompanied by nagging conscience! Involvement with a second business has gobbled up a fair share of "spare" time and has forced, therefore, some sacrifices and efficiencies. On the one hand, this is good, but it forces some painful choices of which this is one.

As a parting message, I want to say, "see more" and definitely "raise more" -- from seed, both of hybrid crosses and from wild populations that might bring in new genetic material. Just from my somewhat limited observations, it is obvious to me that there is a large surface to be scratched and that more of us should be scratching. Acquisition and sharing have been somewhat problematical, unless by seed or exchange of established plants. More experimenting ought to be done with transport (shipment) of plants so that we do not end up with purely local races that depend on distribution of plants and pollen by personal contact. Perhaps Jean Erickson's article in this issue will facilitate distribution of live plants to all areas where they might be tried. In short: don't just *watch* the development of these irises; *contribute* to it!

PHIL EDINGER

1983 Mitchell Award

Nineteen AIS Judges were of one mind, casting their votes for Mitchell Award to winner-by-plurality Santa Rita (Ghio 1977). What – *another* Ghio, you say? Well, yes (who else introduces *and* ships widely?)... but with some interesting asides that take its story far beyond Santa Cruz.

Recorded parentage for Santa Rita is Western Hero (Ghio) X Western Queen (George Stambach), thus bringing in one of the best known products (and previous Mitchell Award winner) from one of southern California's pre-eminent hybridizers of these irises. Western Queen is a seedling of Marion Walker's Ojai (also recipient of the Mitchell Award), so we are taken back to a prominent hybridizer of an earlier era in PCN development. And Ojai is a child of Amiguita (also a Mitchell Award winner), the best known introduction of pioneer PCN breeder (or at least dabbler) Eric Nies.

Joe Ghio's Western Hero comes from his Califia X Ojai -- again. Califia is listed in the check list as being "from *I. innominata*", but in Joe's old catalogs is further information of a general sort that applies here. In a footnote to introductions he states: "Our ... line is based on the Mitchell-Danks-Craig breeding that goes back several generations to the original *douglasiana X innominata* crosses." Sydney Mitchell's *I. innominata* stemmed from the collections of Oregon's Dr. Matthew Riddle, and the Mitchell strain was continued by Jack Craig and Australia's Fred Danks. So the simple cross of Western Hero X Western Queen brings into genetic combination the work of nearly all significant breeders and promoters of our native irises.

Two Gardens Through Four Eyes

In fall of 1982, President Erickson and Editor Edinger vowed to go garden touring in spring when the natives would be in season. How could we have anticipated that such a simple plan would have to be shuffled around the calendar to avoid the near-incessant rains of winter and spring? Our more grandiose ideas scuttled by weather, we finally ventured out as far as the San Francisco East Bay on a one-day trek. "Rewarding" is a word that certainly would describe the day.

The Lawyer Garden

Under cloudy skies (what else?) we arrived in the latter part of the morning at the Oakland hillside garden of Lewis and Adele Lawyer. Anyone who has read this publication in the last several years knows that the specialty of the Lawyer house is *I. munzii* and its derivatives. We were particularly eager to see seedling results of this interest, wondering what besides blueness this species would contribute to its hybrids. In previous articles for the *Almanac,* Lewis had referred to a blue halo pattern in this line, also that increase was slower than the norm. What struck us immediately, though, when we reached the seedling plots, was the size of plants and flowers. Plants of exclusively *douglasiana* "blood" may have foliage as broad and long, and flower stalks as high, but there was a more upstanding appearance of these *munzii* derivitives that set them apart. Isolated from other PCN hybrids they appeared robust and lush; in comparison to named hybrids of the usual *douglasiana-innominata* heritage they were a different race. One in particular fascinated me - number XP7A which in my notes I referred to as "Japanesque." The photo, lacking a yardstick or human body to suggest scale, fails to capture the magnitude of this individual. As border beardeds are scaled down versions of tall beardeds, this seedling might have passed for a "border Japanese." Parentage is Lawyer XP1N X Soquel Cove; the Lawyer seedling is a *munzii* derivitive grown from seed from August Phillips, while Soquel Cove is a *munzii* grandchild.

The major failure of black-and-white photographic reproduction is, of course, the inability to show the famous *munzii* blueness as it is carried into its children and grandchildren. Fortunately this striking color can be transmitted to broad and ruffled flowers, quite different from the rather long and narrow petals of the species. Two photos of other Lawyer seedlings prove this point; of the two – XP32A, and XP60A – only the last shows the *munzii* form to any degree (the pointed falls), but here it contributes to the style of an already attractive flower. One selected seedling was of a stunning, solid blue with wide petals, but we had to coax it open to get a good look so the photograph is worthwhile only as a color transparency.

An intriguing diversion from all this large blueness was a patch of seedlings raised from Valley Banner crosses. Valley Banner is a collected hybrid of *Ii. tenax* and *chrysophylla* noted for its striking contrasts of purple veining over white falls topped by solid purple style arms. In the Northwest it may be an easy grower, but the farther south it is grown, the harder it is to satisfy. The Lawyer seedlings appeared to be husky growers that managed to retain considerable of Valley Banner's characteristic charm in flowers that were larger, better formed, and in a range of colors. Two crosses were represented. Valley Banner X (Canyon Snow x Sierra Sapphire) produced white and blue to violet seedlings, two of which are shown. Sugar Candy (Brummitt) X Valley Banner shifted the background color to a sort of biscuit tan which altered the blue parts to violet; SP41F is from this cross.

The cloudy skies made good their threat, so we waited it out over lunch indoors, then set out for our other scheduled visit of the day.

The Meek Garden

From hills of Oakland to level ground of Concord was just one of several differences. Where the Lawyer garden featured cool, tranquil blues and whites, the PCNs at Duane and Joyce Meek's hit us with a veritable rainbow. There was lots of "What's this," "What's THAT," and finding that most were Duane's seedlings, both from planned crosses and from seed collected on various wilderness trips. There seemed to be no color missing from these plantings, and there were patterns or color combinations not anticipated. Unfortunately, the husky

OPPOSITE PAGE: Upper left: Lawyer XP7A, a Soquel Cove seedling. Upper right: Lawyer *munzii* derivative XP32A. Center left: Valley Banner. Center right: Lawyer XP60A, a *munzii* derivative. Lower left and right: Lawyer seedlings from Valley Banner X (Canyon Snow x Sierra Sapphire). Lower center: Lawyer SP41F from Sugar Candy X Valley Banner.


SP41F

beverage we were served right away did nothing to encourage good note-taking or photography, though it didn't hurt the conversation! But even lacking the details of notes or pictures, we left with one clear impression: that there was much interesting work that had been done here with PCNs with little publicity attached to it. Looking at the quantity of healthy seedling lined out, we could imagine how exciting spring 1984 will be.

OPPOSITE PAGE: A *munzii* photo gallery. Irises seen, and photographed, in spring 1983 by Jean Erickson at southern California's Rancho Santa Ana Botanic Garden – where *I. munzii* was introduced to cultivation. Upper left: Claremont Blue Lightning (Lenz); upper right: Claremont Trailblazer (Lenz). Center and lower photos: Mitchell Award-winning *I. munzii* selection Sierra Sapphire (Lenz 1972).

An Experiment in Shipping

Jean Erickson

Tracking this idea to its source may never be possible. Shipment of growing plants in Australia was alluded to in a 1958 article by Roy Oliphant in AIS *Bulletin* 150. Your editor first heard of this possible method in 1978 from southern California's Bill Hawkinson, who outlined the general procedure described below and said someone ought to try it. Finally someone has . . . .

Losses of live, bare-root PCN plants are unfortunately not uncommon. Plants mailed within a climatic region have the best chance of survival, but the success percentage doesn't begin to come up to that of bearded irises. And in shipment to areas where climate and change of seasons are different from climate of plant's origin, the success rate plummets. Cold-winter-climate gardeners have best luck from plants received in their spring -- which poses a problem for west coast shippers. Even sending plants from northern to southern California presents problems, since plants from the north are ready to ship -- at the proper state of root initiation -- too soon for best time in southern California for plants to become established. It has been known that plants growing in containers are the easiest to establish, but transporting the containers has been the obstacle. Perhaps this experiment in "containerization" will point the way toward greater successful mobility of these plants.

To begin, I made cylinders from 9 x 6-inch rectangles of tar paper. These were rolled and stapled to produce tubes 6 inches long and about 2 1/2 inches in diameter. I then lined each tube with a 1-pint plastic freezing bag and filled the bottom of each bag with a fairly light weight planting medium (Stone's All-Purpose, with a small amount of vermiculite added) and firmed it down. The top of each bag was folded over its tarpaper tube about 1 inch and secured with a couple of staples.

Next, a healthy division – with new roots at least 1/2 inch long – was placed into each tube and potting soil firmed around the roots. I saturated the entire planting medium with a transplanting solution; then when soil was thoroughly wet I punched 2 to 3 holes in the bottom of each plastic bag for drainage. These planted tubes were placed on end and packed into a straight-sided enamel container. During the rainy season it was necessary to pour off the excess water periodically; but later when it was necessary to water, the solid container proved to be an asset.

Within several months the plants were growing well, white roots showing at the bottoms of the bags. It was necessary to fertilize once because of the large amount of winter rainfall which rapidly leached nutrients from the soil.

Upon shipment, the plant – bag and all – was removed from its tube and a clean bag was placed over the one in which it was growing. I brought the new bag up around the neck of the plant and secured it to minimize loss of planting medium. Then these "established" plants were sent off to their destinations – points as distant as Michigan and New York (Long Island). Subsequent reports have indicated complete success of the *method;* any losses were from other causes, e.g. rodents, drought.

If I were to do this experiment over, I believe an 8-inch length tube would have been better, allowing more room for root development. For this I'd use a 1-quart freezer bag; these are the same diameter as the pint bags but longer.

And, no – I didn't tell the Postal Service what was in the packages!!

A Revision of Pacific Coast Irises

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Lee W. Lenz

Director, Rancho Santa Ana Botanic Garden
Claremont, California

IRIS DOUGLASIANA Herbert. Hooker and Arnott. Bot. Voy. Beech. 395. 1841

Iris beecheyana Herbert. Hooker and Arnott. Bot. Voy. Beech. 395. 1842. *Type* preserved at Kew according to Dykes. (1913). Type not seen by me.

Iris douglasiana var. *bracteata* Herbert. Hooker and Arnott. Bot. Voy. Beech. 395. 1841. The varietal name was spelled 'bacteata' in the original description but as R. C. Foster (1937) has pointed out, this was probably a misprint since the description reads "caule superne bacteata (ut in *I. tenace*)..."

Iris douglasiana var. *nuda* Herbert. Hooker and Arnott. Bot. Voy. Beech. 395. 1841. According to Dykes.

Iris douglasiana var. ? *major* Torrey. Pacif. Rail. Rep. 4:1444. 1857. *Type* from Corte Madera, California. Bigelow 1854. Type not seen by me.

Iris watsoniana Purdy. Erythea 5:128. 1897. Collected at Eureka, Humboldt County, California.

Iris douglasiana var. *alpha* Dykes. Gard. Chron. (third series) 55:392. 1914.

Iris douglasiana var. *altissima* Purdy ex Jepson. Fl. Calif. 1:325. 1921.

Iris douglasiana forma *alpha* Dykes (R. C. Foster). Contr. Gray Herb. No. 119:35. 1937.

Iris douglasiana var. *oregonensis* R. C. Foster. Contr. Gray Herb. No. 119:35. 1937. *Type*.-Near Myrtle Point, Coos County, Oregon. 13 May, 1924. L. R. Abrams and G. T. Benson 10545. Rocky Mountain Herbarium. (Isotype seen.)

Iris douglasiana var. *mendocinensis* Eastw. Leaf. West Bot. 2:263. 1940. *Type*.-Near Point Arena, Mendocino County, California. 11 July, 1938. A. Eastwood and J. T. Howell 6249. Calif. Acad. Sci. Herb. (Type seen.)

Rhizome moderately stout, to 9 mm. in diameter, covered with the remains of old leaves; leaves to 2 cm. wide and 1 m. long, prominately ribbed, yellow-green to very deep green, upper surface dull to shiny, leaf bases usually bright pink or red; flower stalk 1.5 to 7-8 dm. tall, mostly shorter than the leaves, flower stem usually but not always branched, up to 4 side branches on some plants; spathes 2-3-flowered, usually 3-flowered; spathe valves usually opposite but occasionally separated and divergent, or opposite and divergent, lanceolate-acuminate 7-12 mm. wide (aver. 9.6 mm.), 60-120 mm. long (aver. 92 mm.); pedicels variable, 20-53 mm. long (aver. 30 mm.) at anthesis; ovary elliptic-oval, 24-48 mm. long (aver. 36 mm.), strongly triangular in cross section, tapering to either end, upper end with distinct nipple-like projection; perianth-tube 15-28 mm. long (aver. 22 mm.); sepals oblanceolate to obovate, 50-87 mm. long (aver. 64 mm.) and 14-30 mm. wide (aver. 23 mm.); petals oblanceolate, 45-70 mm. long (aver. 58 mm.) and 9-18 mm. wide (aver. 14 mm.); flower color extremely variable from pale cream color through light and dark lavender to deep red-purple; style branches 17-35 mm. long (aver. 28 mm.); style crests subquadrate, coarsely toothed, 10-20 mm. long (aver. 14 mm.); stigmas triangular; filament about 8 mm. long; anthers 10-15 mm. long; capsule sharply triangular in cross section, 25-50 mm. long, tapering at either end, not dehiscing as widely as other members of the *Californicae;* seeds dark brown, pyriform, finely wrinkled.

Type.-Collected by David Douglas probably somewhere near Monterey, California.

Distribution.-CALIFORNIA. Del Norte, Humboldt, Marin, Mendocino, Monterey, San Francisco, San Luis Obispo, San Mateo, Santa Barbara,

Santa Cruz and Sonoma counties. OREGON. Coos and Curry counties.

Representative specimens.-CALIFORNIA. Del Norte County: Coast hills south of Klamath River, *J. P. Tracy 8581;* Wilson Creek between Requa and Crescent City, *L. R. Abrams* and *R. Bacigalupi 8320.* Humboldt County: Big Legoon, *L. R. Abrams* and *R. Bacigalupi 8274;* Bald Hills road east of Orick, *J. P. Tracy 14001;* Mattole Valley, *J. P. Tracy 12257;* Among Redwoods, White Thorn Valley, *J. P. Tracy 6306.* Marin County: Bank of Hare Creek near its mouth, .5 miles south of Noyo, *L. Constance 2499;* South of Van Damme State Park, *L. W. Lenz 14429.* Monterey County: Laffley Creek, Big Sur, *E. K. Balls 7886;* Pfeiffer State Redwood Forest, *R. C. Foster 206;* Point Lobos State Park, *E. Lee* and *H. Mason 9151;* Little Sur River, *J. R. Davy 7310;* Anderson Canyon, Santa Lucia Mts., *J. A. Ewan 9089.* San Francisco County: Northwest base of Mt. Sutro, *L. Constance 2237;* Twin Peaks, *R. F. Hoover 2812.* San Luis Obispo County: San Carpoforo Creek near ocean, *R. F. Hoover 6678.* San Mateo County: Upper Pescadero Creek, *W. R. Dudley;* Crystal Springs Lake, *C. F. Baker 343;* Millbrae, *J. B. Davy 1021.* Santa Barbara County: Canada Hondo Creek, *L. W. Lenz* and *E. K. Balls 16359.* OREGON. Coos County: Open bluffs and beaches at Bandon, *J. W. Thompson 12787;* 1 mile north of Broadbent, *W. H. Baker 5422.* Curry County: Cape Sebastin, *L. E. Detling 5918.*

Iris douglasiana is geographically the most widespread species in the *Californicae,* extending along the Pacific Coast from Coos County, Oregon, south to Canada Hondo Creek in Santa Barbara County, California. It is also one of the most variable species. In addition to its natural variability, *I. douglasiana* is hybridizing with several other species and through introgression is increasing its overall variability. In the past, various workers have segregated certain forms and have given them varietal standing. In 1897, Carl Purdy described a plant from Eureka in Humboldt County calling it *I. watsoniana* in honor or Sereno Watson. The dimensions given in the original description are such that an error must have been made; the sepals were said to be "1 3/4 inches long and 6 inches wide" and the petals "3 inches wide." The description was made from a fresh flower and no type specimen exists. In discussing this variety, R. C. Foster (1937) says that Dykes, working with living material, came to the same conclusion that he had reached from studying herbarium material; that the variety has paler green or yellow-green leaves which are wider and less conspicuously ribbed than in the species. Foster also says that the spathes are narrower, more linear-lanceolate, divergent and usually distant rather than opposite, although he says that there is some variation in this respect.

After studying a photograph of the type of *I. douglasiana* variety *bracteata* Herbert, which is preserved in the Kew Herbarium, Foster concluded that *I. watsoniana* was identical with it, and he applied the earlier name to the plant described by Purdy as *I. watsoniana.* Foster gives the distribution of the variety as "Coastal regions of California around Humboldt County, apparently occurring infrequently elsewhere." Yet specimens of *I.d.* variety *bracteata* bearing Foster's annotations are to be found from Curry County, Oregon, and from Humboldt, San Mateo and Monterey counties in California–areas widely separated from one another. In almost every instance the only distinction between these specimens and *I. douglasiana* is that the spathe valves are separated and in general tend to be rather narrower than the average *I. douglasiana,* yet well within the limits of the species. Field work has shown that spathe valve arrangement is somewhat variable in this species; usually they are opposite, but in some areas certain plants will have separated and divergent spathe valves, whereas in others they will be opposite but divergent; the majority however will have opposite and connivent valves. Foster suggested that the plants which he called *I. d.* variety *bracteata* might have had their origin as a stabilized segregate from a cross between *I. douglasiana* and *I. tenax,* a cross that he says is not impossible from the present range of the two species. He says further, "the occurrence of variety *bracteata* on the southern edge of the limits of *I. tenax* and north of the principal location of *I. douglasiana* would favor such a hypothesis." It is difficult to see how much such an hypothesis could be arrived at from the known distributions of *I. tenax, I. douglasiana,* and *I. douglasiana* variety *bracteata.* The only area where the ranges of the two species approach one another is in Curry County, Oregon, which is the southernmost locality for *I. tenax.* From the Curry County locality (where the two species are known to hybridize) to the localities in Humboldt County where *I.d.* variety *bracteata* occurs is a distance of 100 miles, and from the southernmost locality for *I. tenax* to San Mateo and Monterey counties in central coastal California is a distance of perhaps 500 miles. And finally, many of the plants from Canada Hondo Creek in Santa Barbara County, the southern limit of *I. douglasiana,* have separated and divergent spathes and would, according to Foster's interpretation, be called *I. d.* variety *bracteata.* This population is well isolated from other populations of *I. douglasiana* and is

nearly 700 miles from the nearest *I. tenax*. Since the principal difference between typical *I. douglasiana* and *I.d.* variety *bracteata* is the separated spathe valves, and since field work has shown that this character is not constant even within a single population and that it occurs sporadically throughout much of the range of *I. douglasiana,* it seems best not to separate it as a variety but to recognize it as one form of variation to be found within the species, a conclusion reached earlier by Dykes (1913).

Iris douglasiana variety *oregonensis* was described by R. C. Foster (1937) who said that it was known to him from six cited specimens. It is described as having more nearly ovate spathes than the species, a shorter perianth tube, and usually only one flower. It is also reported as being different in sepal shape and color, the latter being recorded as lavender-gray. The distribution is given as Coos and Curry counties, Oregon. Of the six specimens cited by Foster, four have been seen, including the isotype preserved at the Dudley Herbarium. This specimen bears broad leaves, 17 mm. wide, with broad spathe valves 11 mm. in width; the number of flowers in the inflorescence cannot be determined from this specimen. Field work conducted at the type locality, near Myrtle Point, Coos County, has shown that the plants there vary considerably, but many of them have 2-3 flowers in each inflorescence and have spathe valves 6-9 mm. wide and 77-118 mm. long. Perianth tube length varies from 15-18 mm., somewhat shorter than normal for the species. It is my feeling that many of these plants show introgression of genes of *I. tenax* into *I. douglasiana*. These plants will be discussed in detail in Part II.*

The specimen at the Dudley Herbarium collected at "cliffs at Bandon Beach" by Abrams and Benson (10606) has a perianth tube about 8 mm. long, with narrow spathes 5 mm. wide and is 1-flowered; the capsule is unlike that of *I. douglasiana* and more like that of *I. tenax*.In citing this collection Foster says "possibly a hybrid," a conclusion that I fully agree with. The third collection, also one make by Abrams and Benson (10633) at Cape Blanco, Curry County, Oregon, shows two plants both of which are 2-flowered, the spathe valves are relatively narrow (about 7 mm. wide), and the perianth tube is about 13 mm. long. These plants are probably of hybrid origin but show less of the influence of *I. tenax* than the plants collected at Bandon Beach. The fourth specimen, also at the Dudley Herbarium was collected by Abrams and Benson (10660) on the "hills back of Gold Beach." This specimen appears to be a hybrid between *I. douglasiana* and *I. innominata,* and it comes from an area where field work has shown that these species are hybridizing. Thus, it would appear that of the six specimens of *I. douglasiana* variety *oregonensis* cited by Foster, the four that have been seen by me represent hybrids, three of which are probably hybrids between *I douglasiana* and *I. tenax* while one appears to be a hybrid between *I. douglasiana* and *I. innominata*.

More recently Clarkson (1955) studying the Oregon irises, came to somewhat the same conclusions that I have regarding *I. douglasiana* variety *oregonensis* except that he postulates that the variety represents crossing and back-crossing only between *I. douglasiana* and *I. tenax* hybridizing. From his work it does not appear that he has detected this combination in the field. He apparently has not seen the herbarium material cited by Foster and says that his assumptions concerning the varietry are largely hypothetical.

Iris douglasiana variety *mendocinensis* was described by Alice Eastwood in 1940 from material collected near Point Arena in Mendocino County, California. The type deposited in the herbarium of the California Academy of Sciences shows a rather slender plant with somewhat narrow spathe valves and small flowers, but the plant is well within the range of variation of the species and thus is not accorded varietal rank here.

Iris douglasiana var. *alpha* was described by Dykes in the Gardeners' Chronicle in 1914. According to him, the plant was like the species except that the flowers were creamy-white with a few deep crimson-purple veins, and he further states that "I can see nothing in this plant that is not typical of *I. douglasiana,* which is so variable a species that in my experience, no two plants produce flowers exactly alike..." R. C. Foster reduced this taxon to *I. douglasiana* forma *alpha* saying that there are no specimens available. "However," says Foster, "forma *alpha* seems, *ex desc.*, to be sufficiently unlike the usual *I. douglasiana* in color to warrant the retention of the name..." Because of the extreme color variability known to occur in *I. douglasiana* it seems best to include forma *alpha* Foster within the limits of the species since there appears to be nothing else that would separate it from typical *I. douglasiana*.

As mentioned earlier, *I. douglasiana* is a widespread and extremely variable species whose total variability is being increased due to introgressive hybridization between it and other species with which it has come into contact. Well marked and distinct geographic races cannot be detected; how-

* "Part II" is *Aliso* Vol. 4, No. 2, pp. 237-309 (June 26, 1959): "Hybridization and Speciation in the Pacific Coast Irises"

ever, pronounced variations are to be found within a single population. For these reasons no attempt is made here to segregate subspecific taxa within such a polymorphic species.

Ecologically *I. douglasiana* is a maritime species abundant on the grassy knolls and hills along the Pacific Coast from Coos County, Oregon, south to Santa Barbara County, California-a north-south distribution of nearly 700 miles. It also occurs on large rocks and small islets just off the coast, but it has never been found on any of the large islands farther off shore such as the Farallones or the Santa Barbara Islands. This species also extends up sunny river valleys for distances of pehaps 35 miles, and it may be found in coniferous forests in places where there is considerable sun. Of all the *Californicae* it probably requires, or at least tolerates, more sun than any other species in the series. Edaphically it appears to be most adaptable, being found in heavy clays and even boggy places as well as in areas of well-drained gritty soil with much leafmold. It also appears to tolerate more competition from other herbs than do some of the other species. Indeed, it even thrives in pasture land where there is a heavy sod of grass and sedges. In such situations cattle apparently avoid the iris leaves, preferring instead the grasses, thus favoring the spread of the iris. On grassy hills the plants often form colonies 4-6 feet in diameter, each clump resulting from the spread of a single plant. Because of its aggressiveness, this species will quickly spread into any coastal area which has been logged or burned. Also because of its aggressiveness it has become a weed in certain areas in north coastal California and farmers and ranchers have taken steps to control it by the use of sprays.

Natural Hybrids.-

I. douglasiana X I. fernaldii. CALIFORNIA: Marin and Santa Cruz counties.

I. douglasiana X I. innominata. CALIFORNIA: Del Norte County. OREGON: Curry County.

I. X thompsonii R. C. Foster (pro sp.)
I. thompsonii R. C. Foster. Rhodora 38:199. 1936. *Type.*-Rocky hillsides about Douglas Park, Del Norte County, California. J. W. Thompson 4510. Gray Herbarium. (Type seen.)

I. douglasiana X I. macrosiphon. CALIFORNIA: Marin, San Mateo, and Santa Cruz Counties.

I. douglasiana X I. macrosiphon X I. purdyi. CALIFORNIA: Mendocino County.

I. douglasiana X I. purdyi. CALIFORNIA: Humboldt and Mendocino counties.

I. douglasiana X I. tenax. OREGON: Coos and Curry counties.

Garden Hybrids.-

I. X aureonympha C. S. and E. H. English. Nat. Hort. Mag. 27:161. 1948. *Iris douglasiana X I. innominata Type.- Garden hybrid.* C. S. and E. H. English 3037.C. S. and E. H. English Herbarium.

Hybrids between *I. douglasiana* and *I. innominata* are very common in Curry County, Oregon, where they are found in a number of places, especially along the Rogue River. These hybrids will be treated in detail in Part II.

In 1936 R. C. Foster described *I. thompsonii,* a plant reported by him as occurring in Del Norte County, California, and in Curry County, Oregon. However in his *Cyto-Taxonomic Survey of the North American Species of Iris,* published in 1937, he does not mention the Curry County plants. As he wrote in his 1936 paper, *I. thompsonii* would not be confused with any other member of the *Californicae* except perhaps its nearest relative, *I. innominata.* These plants, Foster says, can be distinguished by having shorter perianth tubes, more narrowly lanceolate spathes, cauline leaves free for a greater portion of their length, perianth segments smaller, slighter, more nearly spatulate, and filaments and anthers equal in length.

From field work conducted in Del Norte County over a period of years, as well as garden studies make on plants grown from seed collected at the type locality, I have concluded that the name *I. thompsonii* has been used to cover a series of hybrids usually between *I. douglasiana* and *I. innominata* but occasionally also for plants showing introgression with *I. bracteata. Iris douglasiana* and *I. innominata* are known to hybridize in the area of the mouth of the Rogue River in Curry County, the next county north, and Henderson, in his original description of *I. innominata,* remarks about them by saying, "*I. douglasiana* in that area (the mouth of the Rogue River), shows more yellow color than elsewhere." Field work at Saunders Creek, also on the Rogue River, has shown that these species are hybridizing there at the present time and many of the intermediate forms are to be found in herbaria labeled as *I. thompsonii.* However, the forms found at Douglas Park and elsewhere in Del Norte County, California, have in no instance shown any signs of yellow flower color such as they do farther north. They are, rather, a uniform deep blue-purple to medium lavender, except near Hazelview Summit where there has been introgression with *I. bracteata.* This can be explained by assuming that these plants have arisen through hybridization of *I. doug-*

lasiana with the deep blue-purple form of *I. innominata* which is found at higher altitudes in the Siskiyou Mts. of Del Norte County (the High Divide form of *I. innominata* is identical with that from the Rogue River area except for color).

If large numbers of plants from Douglas Park are studied they will be found to be segregating for the various characters which separate the two species. Perhaps the most obvious characters are the nipple-like projection at the tip of the ovary in *I. douglasiana,* as well as the triangular cross section of the ovary found in that species, and the short but proportionally broad spathes of *I. innominata.* Plants labeled *I. thompsonii* are often intermediate in these characters or sometimes very much like one or the other of the two species. Leaf width and length also vary, *I. innominata* having narrow grass-like leaves and *I. douglasiana* having long and usually quite broad leaves. Seed collected in 1948 from plants of *I. thompsonii* growing at the type locality produced in the experimental garden a population of plants varing from ones having leaves 5 inches long and very grass-like to other with leaves almost 1 cm. wide and up to 24 inches long. Flower color varied from lavender to deep purple.

The type specimen of *I. thompsonii* shows a plant that is very slender with grasslike leaves and small delicate flowers, and it could almost be considered as a depauperate form of *I. innominata.* However, other specimens annotated by R. C. Foster as *I. thompsonii* show plants much more intermediate in character than the type specimen.

Clarkson, working independently, reached very much the same conclusion regarding *I. thompsonii.* He says: "There is a strong suggestion of the hybrid origin of that taxon." He says further that *I. thompsonii* has been collected along the Rogue River and along U. S. Highway 101 from Carpenterville to Brookings, Curry County, Oregon. According to him, the principal differences between *I. thompsonii* and *I. innominata* are, in the former, the more lanceolate spathes, in the purple to lavender color, and the greater height of the plant. All these he believes could be fixed by backcrossing *I. douglasiana X I. innominata* to *I. innominata.* However, from my own work I do not believe that *I. thompsonii* at the prsent time represents a "fixed" population, but merely represents hybridization and backcrossing between the two species.

Hybrids between *I. douglasiana* and *I. fernaldii* have been observed several times. One specimen, preserved in the Dudley Herbarium, was collected by R. C. Foster (241) at Corte Madera Ridge, Marin County, and a second, also from Marin County, was collected by L. Constance and A. A. Beetle (2568) above Alfred Lake southeast of Fairfax. The latter specimen is also in the Dudley Herbarium. In 1955 the author studied a large hybrid population of this cross at Eagle Rock in Santa Cruz County (L. W. Lenz and E. K. Balls 20768 RSA Herb.). This population is treated in detail in Part II.

Hybrids between *I. douglasiana* and *I. macrosiphon* have been detected in Marin, San Mateo, and Santa Cruz counties. A specimen collected on Inverness Ridge, Marin County, by J.T. Howell (25316) and deposited in the California Academy of Sciences Herbarium appears to be such a hybrid. A second specimen, deposited in the Dudley Herbarium, was collected by W. R. Dudley in the Santa Cruz Mts., Santa Cruz County, in 1883. This speciman was annotated by R. C. Foster as probably a hybrid, a conclusion with which I agree.

Hybrids between *I. douglasiana* and *I. purdyi* are fairly common in western Mendocino and Humboldt counties. Among the localities in Mendocino County where it has been studied is one 10 miles west of the junction of Highway 101 with the road to Rockport (L. W. Lenz and E. K. Balls 16522 RSA Herb.). In Humboldt County it is found along the Eel River between Fortuna and Pepperwood. The finest hybrid population so far observed was along the Mattole River southeast of Petrolia along the Old Coast Road (L. W. Lenz and E. K. Balls 20742 RSA Herb.). This population will be discussed in detail in Part II.

The trihybrid *I. douglasiana X I. macrosiphon X I. purdyi* is known only from a single locality along the Faulkner Park road near Boonville (L. W. Lenz and E. K. Balls 16530 RSA Herb.).

The only hybrid population between *I. douglasiana* and *I. tenax* known to me occurs on Langlois Hill near the town of Langlois in northern Curry County. However, a number of herbarium sheets have been seen which seem to be plants of this parentage. These include one collection made by L. R. Abrams and G. T. Benson (10606) at "cliffs at Bandon Beach." This specimen, as well as others believed to be hybrids between these two species, is discussed under *I. douglasiana* variety *oregonensis.*

You Say To-MAY-To . . .

Mailed with the Spring 1983 *Almanac* was a form of questionnaire to be answered, one hoped, by all members and subscribers. All of you out there were being polled so that the SPCNI might learn the preferred common-name term of reference for these species (and their hybrids) from the Pacific coast of the United States. You were given four choices (with abbreviations for three) from which to indicate a preference, the idea being that if a consensus was reached the *Almanac* would forevermore use the chosen term in print and, ultimately, we all would use it in spoken reference to these irises.

This has been an interesting excercise in democratic processes. Tabulation of the preferences was simple, but evaluation of comments and interpretation of the results has been far less clear-cut. Several familiar phrases come to mind: "Tempest in a teapot;" "Much ado about nothing;"and the title of this piece, a line from the Gershwin song "Let's Call the Whole Thing Off"–which may be the best advice yet!

First, the results:

PACIFICA . . . . . 25 votes
PACIFIC COAST NATIVE (PCN). . . . 19 1/2 votes
PACIFIC COAST NATIVE (PCNI) . . . . . 16 votes
PACIFIC COAST IRIS (PCI) . . . . . 13 1/2 votes

Added to the above choices in the poll were four maverick votes for CALIFORNICAE and two 1/2 votes for PACIFIC COAST NATIVE HYBRID. (Half votes resulted when individuals of a family membership had differing preferences.)

Two points are immediately obvious: a) that there were 79 respondents, which represents less than half of the SPCNI membership; and b) that there was no consensus. *Pacifica* earned a plurality but represents only 32 per cent of the votes cast; add totals for any two other designated choices and you exceed the *Pacifica* vote.

Experienced poll-tabulators could present several analyses of this result (for example, there seems to be a clear preference for Pacific Coast *something* – 49 votes, which is 62 per cent of the total). But it is not the figures that are so informative as the comments that came in with some of the ballots.

Favoring *Pacifica* were, "It's short, accurate and *needs* no abbreviation" (and this from a botanist!); "the word Pacifica rolls off the tongue... with a rhythmical cadence and has a pleasant sound"; "Pacific *Coast* is misleading since they inhabit *inland mountains* also"; "I favor the term "Pacifica" for use to designate the hybrids; we have moved so far from the species that there needs to be a differential between the two groups." But there were qualifications, too, e.g., "I think *Pacifica* is quite appropriate when dealing with those people familiar with Pacificas, but in advertising to the general public... I think the full *Pacific Coast Native Iris* is best"; and, "In speaking I prefer to call them *Pacificas;* in writing I prefer to use the abbreviation PCN; in referring to the series, I correctly use the name *Californicae*." One overseas member thought the term *Pacifica* sounded made-up and trendy.

The votes for *Pacific Coast Native* and *Pacific Coast Native Iris* seemed to split along the line between those who felt the word "iris" was necessary or not. Some respondents made the pitch that *Pacific Coast Native* (abbreviated PCN) was consistent with popular-name treatment of other irises, viz. Tall Bearded Irises (referred to as Tall Beardeds and abbreviated TB), Standard Dwarf Bearded Irises (referred to as Standard Dwarfs and abbreviated SDB), etc.

Those who chose to vote for, and comment on, *Pacific Coast Iris*(PCI) felt that Pacific Coast *Native* would lead some of the uninitiated to think we were dealing only with "wild" irises rather than hybrids as well.

The most emphatic statement, however, came with a write-in vote for a choice not on the ballot. "*Californicae* is shorter and correct. I suggest we get USED to using the proper name by *using* it. We don't call TBs 'Flags.' Many scientific names are unwieldy but if they are correct everyone knows what is being referred to – all over the world. After all, there is a Pacific Coast in the Orient, too. And that's where the *Evansias* grow."

Considering the three states in which the species of Californicae/Pacificas/PCNs are found, it is surprising no one suggested calling them COWs!

Contents

SEEDS AVAILABLE

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-pollinations (only seed parent known) and *supply is limited.*

SOCIETY FOR PACIFIC COAST NATIVE IRIS
TREASURER'S REPORT
DECEMBER 1, 1983

CASH ON HAND APRIL 15, 1983		$979.96
DUES AND RECEIPTS:		
Dues Collected	$158.00	
Dues Collected by A.I.S.	113.00	
Sale of Check List	2.00	
Sale of Cohens	17.00	290.00
		$1,269.96
DISBURSEMENTS:		
Postage	$ 18.50	
Engraving	9.59	
Spring 1983 Almanac		
Printing	270.41	
Postage	70.30	368.80
BALANCE ON HAND DECEMBER 1, 1983		$901.16

DOROTHY E. FOSTER
Treasurer

New Members and Subscribers

Dr. Alan D. Brooks
1012 South Oakes
Tacoma, WA 98405

Thelma Chatfield
2403 S. W. 122nd. Place
Seattle, WA 98146

Stuart Garbutt
P. O. Box 660
Ferndale, CA 95536

R. J. & Loreen Hansen
902 N. Grant Avenue
Tacoma, WA 98403

Nancy R. Heisley
01616 S. W. Greenwood Road
Portland, OR 97219

S. A. Lott
11 Lillian Street
Burwood, Victoria 3125
Australia

Harlow and Ruth Morey
5667 Windsor Road
Windsor, CA 95492

William E. Plotner
P. O. Box 191
Malolla, OK 97038

Rhododendron Species Foundation
P. O. Box 3798
Federal Way, WA 98003

San Fernando Iris Club
17921 Ingomar Street
Reseda, CA 91335

Dorothy J. Schendel
458 Anvilwood Drive
Oakley, CA 94561

Mrs. Marilyn Stafford
213 Jennifer Circle
Roseville, CA 95678