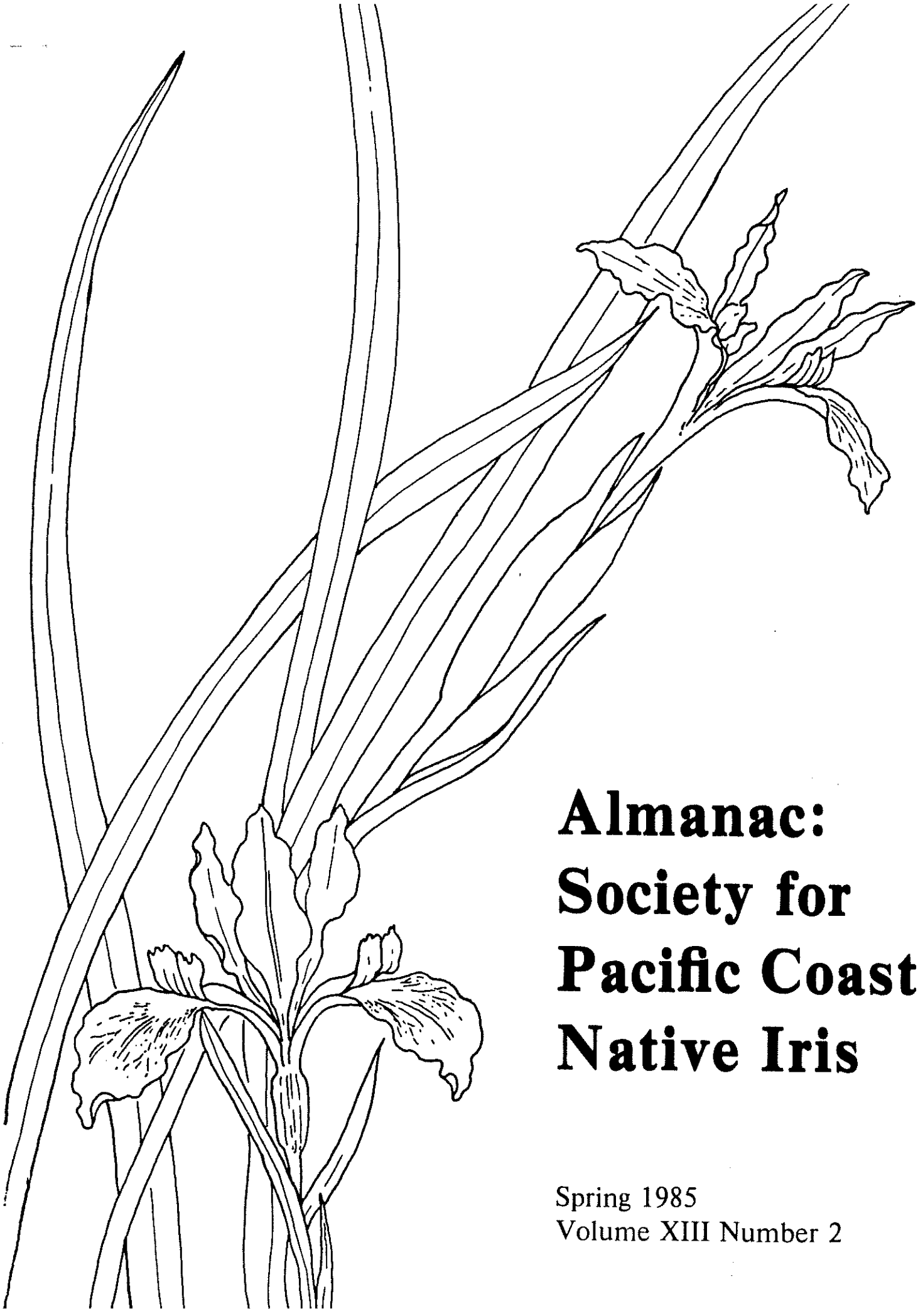

Almanac: Society for Pacific Coast Native Iris

Spring 1985
Volume XIII Number 2

Cover: Diana Gregory

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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.

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.

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
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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

By the time this issue of the *Almanac* is published, bloom season will be just about over except for those areas where the PCN's grow at higher elevations and bloom late. I want to encourage all members to go out into the field and observe the species and natural hybrids whenever they get the chance.

Thirty years has passed since the last comprehensive study and mapping of the PCN's was accomplished by Dr. Lenz. Since then, housing developments have sprung up like wild grass, new roads have been laid, electrical lines have cut through the hills and forests, and the face of the land has been altered in many other ways. This type of progress may be good for humans, but the PCN's do not benefit in any way. Every year progress impinges on their territories. Sadly, we probably are witnessing the beginning of the end for many of the PCN species.

We members of the SPCNI should become aware of the effects of growth in our areas and do what we can to make sure the PCN's do not become lost forever. Therefore, I feel it is our responsibility to keep track of the species and natural hybrids in any way we can. When in the field, bring along a map and mark down locations of PCN's when you find them. Make notes about conditions in the your area. Whenever possible, discuss what you are doing with the local residents and let them know the value of the wild flowers growing in their area.

Chances are the PCN's will never be irradicated from the landscape, but the likelihood of the species remaining pure is very slim. Roads and power lines cut through the landscape, eliminating natural barriers and allowing the species to hybridize. The most valuable service we can perform, then, is to grow the species in our gardens. We can collect seeds from the field and trade them amongst ourselves as well as use the wonderful services offered through SIGNA. This may be the only way to save many of the species from extinction.

So that our efforts are not wasted, we must document our work and share information. This *Almanac* is the perfect vehicle for such a task. Make notes on your observations, keep records of what you do and where you do it. Share with us your thoughts and feelings about what you do...let us all benefit from your work.

But the *Almanac* can be used for many different purposes. So keep sending your articles to the editor.

Last, I want to remind everyone to save their seeds and send them to LaRue Boswell. See the article **SAVE YOUR SEEDS** below for details.

Tally Ho!

BUILDING ON THE FOUNDATION OF OTHERS

Robert D. Fabel-Ward

When one begins a serious hybridizing program, one can start by using the named cultivars introduced by others in the field, by using the species as they occur in nature, or by using a combination of both groups. Usually after ten years of hybridizing, one will have produced enough seedlings of one's own creation to have individualized a particular line.

In 1974 I was fortunate in obtaining several clones of *I. douglasiana* from Golden Gate Park in San Francisco, California. Since then, they have thrived and bloomed every year at my home in Little Rock, Arkansas. The flower beds are located under a large Bald Cypress and during the winter are covered with several inches of leaves from this tree. As the spring rains begin in March or April, the leaves decompose and disappear into the soil.

In the Little Rock area, the average winter temperature is about 35°F; however, at times the temperature can dip into the teens for a few days, and a hard frost will burn the tips of the foliage, but they soon recover in a few weeks. Summer temperatures average between 70°-90°F, and average rainfall is between 30-40 inches but can go as high as 50 inches a year.

After a visit to San Francisco in 1978, I added more cones of *Ii. douglasiana* and *innominate* to the "growing" garden in Little Rock. After bloom season, the seedpods were allowed to ripen and drop their seeds into the beds. Most authorities agree

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that the best method for naturalizing the Pacific coast Native Irises outside of their environment is by growing them from seed. This has proven true in my garden. The seeds produced each year are allowed to drop into the beds where they sprout freely and produce strong, healthy plants.

My flower beds are elevated, and the natural heavy clay soil has been improved with leaf mold, pine needles and sand. Opening up the soil in this manner has proven to be very important in cultivating PCN's, since they demand perfect drainage and need soil loose enough to allow oxygen to get to the roots. During the hot summer months, all mulch is removed from the clumps since they need all the air circulation they can receive.

Although seeds received from others have produced some fantastic color variations over the years, I felt the desire to do some hybridizing of my own. So I spent a week with Dick Richards of Corona, California. Several crosses using Sierra Sapphire as the pollen parent were made,as well as other crosses using Dick's seedlings. Many of these hybrids will bloom for the first time in 1985 or 1986. I hope that someday Sierra Sapphire and other hybrids produced by Dr. Lenz will be able to grow in the Little Rock area.

Germination is accomplished by placing the seeds in 18-inch pots filled with a mixture of sand and peat moss. Two months after germination, the seedlings are removed and plced in styrofoam cups. Transfer begins in December and ends in March. Many seedlings are planted in the beds around March 15, and many are reserved for planting around November.

When transplanting the seedlings to the established beds, a strict format is followed. First a hole is dug the shape and size of the styrofoam cup. Second, the bottom of the cup is cut off, and the seedling, cup and all, is placed into the hole. After the seedling is established in its new environment—about a month or more—the cup is cut down the side and removed. This method allows transplants to acclimate to their new environment without the shock of having the roots disturbed (the cause of many unsuccessful attempts to move seedlings).

Using this method I have successfully established the following species: *Ii. douglasiana, innominata, tenax,* and *hartwegii,* as well as hybrids of these species. As companion plants I have used different types of sisyrinchium and gladiolus species.

I hope my experiences growing PCN's in Little Rock will inspire and encourage you in similar climates to try the Pacific coast Native Irises in your gardens. You surely won't be disappointed!

SAVE YOUR SEEDS!

Every year at the AIS National Convention, participants receive favors to takehometo remind them of the good time they had at the convention. Next year, Region 14 is hosting the 1986 National Convention in San Jose. Since Region 14 is the heart of PCN territory, members of SPCNI felt an appropriate favor would be a small packet of PCN seeds. Visitors will take the seeds home and, we hope, try their hand at growing PCN's. To accomplish this task, we will need all the seeds our members can gather from their gardens and from the field.

Please save your seeds and send them to

LaRue Boswell
1821 Gross Lane
Concord, CA 95472

Since convention visitors will receive only a small packet of seeds, no effort will be made to label the seeds according to pod parents. All seeds received will be mixed together and packaged at random, so there is no need to label seeds. Thank you for helping us out. Hope to see you in San Jose in 1986!

THE BEGINNINGS

Joe Ghio

In our younger days, any iris over $1.00 was an unaffordable luxury. In the early 1960's, the San Jose Iris Show gave an iris for each blue ribbon won by an entrant. One person contributing irises to reward the winners was Jack Craig, who then lived in Cupertino. When I went to collect my premium, Jack showed me huge jars of "native" seed, and asked if I would like some. More to be nice than anything else, I said yes. He carefully put some seeds froom each jar in envelopes and labeled them.

That fall, as an afterthought, I decided I should plant the seeds. I filled coffee cans with soil and planted the contents of each envelope in one can. Unfortunately, I made no effort to label the cans with the contents of the packet. After all, who wanted those ugly native irises anyway? To my surprise, they germinated like grass. What to do? Naturally I couldn't wast valuable garden space on them, so on the shady side of my patio I simply planted the entire contents of the can in the ground without separating the seedlings.

When spring arrived, I was astonished by the bloom! They bore little resemblance to the irises growing in the hills surrounding Santa Cruz, and naturally I had to "do something" with them.

The history of these wonders is now international. Professor Mitchell had made the original cross between *Ii. douglasiana* and *innominata,* and as was his want, would share with those who would further the line. Some was sent to Fred Danks in Australia. I'm told Danks received the seed in the 1920's. He grew them as annuals, making color selections and annually saving self/bee seed of the best selections in each color category. Seed from these color selections eventually was sent to Prof. Mitchell, who passed them on to Jack Craig. Today the blood of this strain is not only the basis of our Pacifica lines, but also of all the lines being developed in Australia.

Francesca Thoolen obtained seed from Danks a few years ago and shared some with me. From this seed came Emigrant, Foreign Exchange, and a white seedling, the basis of our *plicatas.*

After the Craig seed bloomed, I went into the hills around Santa Cruz and collected some of the more interesting natural hybrids growing in abundance. All of these plants were hybrids between *Ii. macrosiphon, fernaldii,* and *douglasiana* in one combination or another. The most interesting stand was in Pasatiempo, located on a hill overlooking the city of Santa Cruz. This stand is now gone—the fatality of a new housing tract. The Pasatiempo stand was unique in that all flowers were colored in the range of lavender to blue, whereas all other stands nearby were colored in the cream to buff range. Most interesting, however, was that this stand began blooming around the end of December. I incorporated this blood line into the flowers sprouted from Craig seed, and doubtlessly the natural hybrids passed on the early-blooming characteristic to varieties such as Branciforte, Pasatiempo, Restless Native, City Hall, Pescadero and Oval Office.

Ben Hager was good enough to give me a pot of each of the Walker Pacificas: Ojai and Violet Elf. I crossed Violet Elf to Tompico and got only four seedlings, of which two showed unique characteristics. One became the Mitchell Award winnder, Los Gatos, and the second was named California Native. California Native was the first Pacifica to show multi-branched stems, thick, erect foliage, heavy substance, ruffles, and a solid signal. Most importantly, it passed these characteristics on to its progeny without dominating color. Nearly all of our current introductions can trace their lineage to California Native.

Another of the major strains in breeding Pacificas came from Marjorie Brummit in England. Her material, too, was basically *Ii. douglasiana* × *innominata.* But in selecting seedlings, she favored the "species look". Hence her flowers were smaller, narrower and, as some would say, more graceful. What I spotted as very significant in her flowers was *color.* She had some clear colors I had never before seen. Banbury Velvet had rich, deep black-purple Banbury Candy was smooth, caramel brown. These two flowers were crossed to California Native, and the resulting flowers serve as the base of our purple and brown lines.

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The *I. munzii* link came one spring when the Richards dropped by my house with a cupful of *I. munzii* buds they had just collected at Coffee Creek. When the flowers opened, the color range surprised me. Unfortunately, there were few open flowers to cross them with. But I was able to make a few crosses, and the F_2 produced Soquel Cove and Mayor. Soquel Cover, too, would go on to win the Mitchell Award.

As I looked at my 1985 introductions, these stories came to mind and served as the inspiration for this article. The huge, blue-purple Miramar is a tribute to that cupful of *I. munzii* the Richards brought me one spring day. The rippled red San Gregorio and the gold-washed, brown Roaring Camp are a thank you to Francesca Thoolen, who generously shared the Danks seed with me. The Elberta peach, La Madrona, is a salute to Mrs. Brummit. Finally, all of my work is due to the foresight of Profesor Mitchell, the persistence of Fred Danks, and the generosity of Jack Craig and Ben Hager. I thank you all.

ANOTHER QUEEN OF SHOW

Ms. Lilly Gartman won Queen of Show at the Clara B. Rees Iris Show this spring with a beautiful stalk of Mission Santa Cruz. Congratulations Lilly! Keep up the good work!

FROM THE EDITOR'S DESK

I have received many requests for *Almanac*, Volume VII, Number 1 (Fall 1980). This issue contains a few articles on germinating and growing PCN seeds. I think it is time for an update, and I want to feature articles on the same subject in the next issue of the *Almanac*. So, if you have had success with your personal method of germinating and growing PCN seeds, write a short article explaining your method and send the article to me. Please include any pictures (with negatives if possible), since I would like photos to accompany the articles. Come on, don't be shy—none of us are excellent writers. I will doctor up anything too outrageous and send the rewrite back to you for approval before publishing. Let's share our successes with others and fill these pages. Thanks.

A Revision of Pacific Coast Irises

Lee W. Lenz

Director, Rancho Santa Ana Botanic Garden
Claremont, California

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IRIS MACROSIPHON Torrey. Pacif. Rail. Rep. 4: 144, 1857

Iris amabilis Eastw. Bull. Torr. Bot. Club. 30: 484. 1903. *Type.*—Nevada City, Nevada County, California. May 1902. C.W. Kitts, California Academy of Sciences Herbarium (Type seen.)

Iris californica Leightlin. The Garden 52: 126. 1897. *Nomen nudum;* Purdy, The Garden 53: 1. 1898, *nomen subnudum*: Abrams, *Illustrated Flora of the Pacific States* 1: 465, 1923.

Iris macrosiphon var. *elata* Eastw. Leafl. West. Bot. 2: 264. 1940. *Type.*—Clear Lake Park, 16 May 1938. A. Eastwood and J.T. Howell 5565. California Academy of Sciences Herbarium (Type seen.)

Rhizome slender, to 8 mm. in diameter, covered with the remains of old leaves; leaves linear, exceeding the stems, to 5 mm. wide and 4 dm. long, often glaucous, leaf bases usually colorless; flowering stem slender, unbranched, sometimes nearly absent or as much as 2.5 dm. tall with 2-4 cauline leaves which are free for about 1/2 of their length, spathes 1-2 flowered, usually 2-flowered; spathe valves opposite, lower one linear lanceolate, 4-9 mm wide (aver. 6.2 mm.), and 39-95 mm. long (aver. 70 mm.; pedicels 3-20 mm. long (aver. 9 mm.) at anthesis; ovary ovoid, 12-14 mm. long (aver. 18 mm.); perianth tube slender 36-86 mm. long (aver. 53 mm.) with a more or less bowl-like enlargement below the base of the perianth segments; sepals variable in shape and size from narrowly oblanceolate to broadly ovate, 39-68 mm. long (aver. 53 mm.), and 12-16 mm. wide (aver. 18 mm.); petals slightly shorter than sepals, 34-67 mm. long (aver. 49 mm.) and 5-16 mm. wide (aver. 10 mm.); flower color extremely variable, deep golden-yellow, cream-colored, pale lavender to deep blue-purple, usually distinctly veined and sometimes with a conspicuous white center in the sepal; some flowers delightfully fragrant; style branches 19-33 mm. long (aver. 26 mm.); style crests 8-18 mm. long (aver. 12 mm.), subquadrate to semi-ovate, erose margined; stigmas triangular; capsule oblong to ovoid, 2.5-3 cm. long; seeds angular, dark brown, finely wrinkled.

Type.—Hillsides, etc. Corte Madera, California. 10 April 1854. J. Bigelow, New York Bot. Gard. Herb.

Distribution.—CALIFORNIA. Butte, El Dorado, Glenn, Lake, Marin, Mendocino, Napa, Nevada, Placer, Santa Clara, San Mateo, Santa Cruz, Sierra, Shasta, Sonoma, Tehama, Trinity, and Tuolumne counties.

Representative specimens.—CALIFORNIA. Butte County: 3 miles above Centerville, *A. A. Heller 11844.* El Dorado County: near Forest Genetics Laboratory, Placerville, *L.W. Lenz 19129.* Lake County: near Lakeport, *L.F. Henderson 15361;* 3 miles west of Lower Lake on road to Kelseyville, *D.D. Keck 2379;* southern slope of Mt. Sanhedrin above sawmill, *A.A. Heller 5915;* between Calistoga and Middletown, *L.W. Lenz* and *E.K. Balls 17122.* Marin County: Big Rock Ridge, *G.T. Robbins 1532;* Mt. Tamalpais, *A. Eastwood 2514.* Mendocino County: Redwood Valley, 6 miles north of Calpella, *J.P. Tracy 15721;* Fort Bragg road, 6 miles from Willits, *I.L. Wiggans* and *R.S. Ferris 10171;* 4.8 miles from Covelo on road to Mina, *L.W. Lenz* and *E.K. Balls 17178;* 6.4 miles west of Highway 101, road to Boonville, *L.W. Lenz* and *E.K. Balls 17151.* Napa County: Howell Mt., *P.H. Raven 4044;* 2 miles west of Yountville, Miyaka Mts., *L. Constance 2132.* Placer Country: at edge of Applegate, *L. Constance* and *J.L. Morrison 2173.* San Mateo County: San Bruno Mt. *A.E. Borrell 58.* Santa Clara County: 1 mile above Smith Creek Ranger Station, Mt. Hamilton, *L.W. Lenz* and *E.K. Balls 17101;* above Packwood Creek, Mt. Hamilton Range, *R.S. Ferris 840;* road to Madrone Springs, *A. Eastwood* and *J.T. Howell 4321.* Shasta County: west of Platina, *L.W. Lenz* and *E.K. Balls 22543;* Sonoma County: 4 miles north of Camp Meeker, *E. Armstrong 937.* Trinity County: along Mad River, 5 8/10 miles above Eureka-Red Bluff on road to Ruth, *C.B. Wolf 8920.* Tuolumne County: Moccasin Creek, *A. Eastwood* and *J.T. Howell 8756;* Coulterville-Big Oak Flat road just north of Mariposa County line, *C.B. Wolf 4867.*

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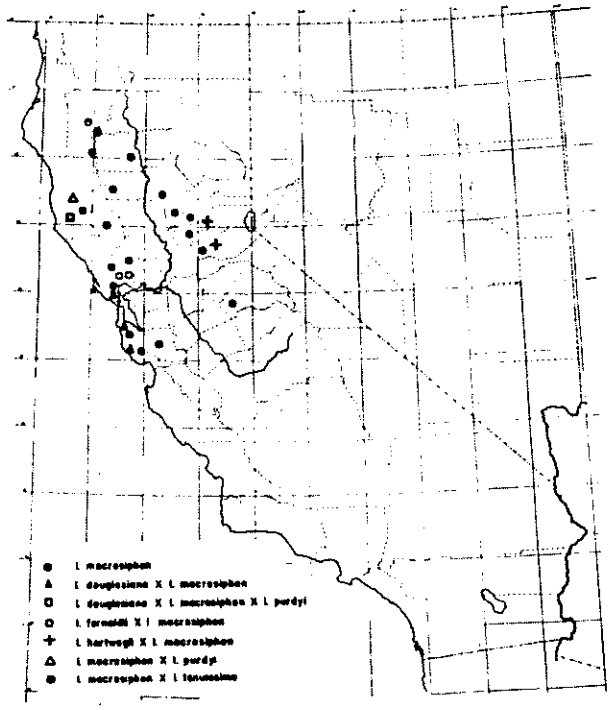

Distribution of *Iris macrosiphon* and its natural hybrids.

Iris macrosiphon is an extremely variable and widespread iris occurring on both sides of the Great Valley of California from Mt. Hamilton in Santa Clara County on the west, north to Glenn and Tehama counties. On the east side of the Valley it is found in the low foothills of the Sierra Nevada from Butte County south to Tuolumne County. Within this area it is found at altitudes of less than 100 feet to well over 3000 feet. It is a species which occupies sunny grassy hills, edges of woods or lightly shaded slopes. It is found in the foothill Woodland, Northern Oak Woodland, and Mixed Evergreen plant communities. On the eastern slopes of the Inner Coast Ranges it is occasionally found in Yellow Pine islands surrounded by Chaparral.

This is undoubtedly the most confusing and difficult species in the *Californicae*, and R. C. Foster (1937) expressed the hope that with further field study it might be possible to make specific or varietal segregates. In his treatment he included *I. californica Leicht, and I. amabilis* Eastw. with *I. macrosiphon, sensu lato.*

As Foster points out, *I. californica* Leicht. is a *nomen nudum* and *I. californica* Leicht. ex Purdy at best is a *nomen subnudum* sine the name was not used with an adequate description until 1923 when Abrams took it up in his *Illustrated Flora of the Pacific States.* Eastwood in 1903 described *I. amabilis* from material collected at Nevada City, in the foothills of the Sierra Nevada. Foster concluded that *I amabilis* was conspecific with "many, if not most, of the northern specimens of '*I. californica,*'" and he further says that "since the latter name apparently includes at least two entities and from the first has been loosely and indefinitely applied, it appears best to reject it as a *nomen dubium* and to extend the original concept of *I. amabilis* to cover the northern forms." This, however, was only a suggestioon awaiting the test of field study.

Abrams in his *Illustrated Flora of the Pacific States* recognized both *I. californica* and *I. macrosiphon*, reserving the former name for the forms with stems 10-30 cm. tall, perianth tube 25-40 mm. long, and cream-colored flowers; *I. macrosiphon* he described as haing very short stems, lilac-purple flowers, and perianth tubes 4-8 cm. long. He included *I. amabilis* within *I. macrosiphon*, saying that it was clearly a member of the *I. macrosiphon* group and doubtedly distinct from *I. californica*, the chief distinction being in its shorter perianth tube. Field work has shown that stem height is not a reliable character for separating taxa within this series; many of the other taxa are also represented by tall-stemmed and short-stemmed forms.

In recent years, the name *I. amabilis* has often been applied to certain tall-stemmed, cream-colored forms which are found in the hills of Santa Cruz County. This area is one which has been much disturbed in recent years, and many of the plants found there are of hybrid origin. Others are separated out here as representing *I. fernaldii.*

In 1940, Eastwood described a plant collected at Clear Lake Park, Lake County, California, as *I. macrosiphon*, var. *elata* saying of the variety, "This specimen [the type] is 6 dm. tall, stem with 2-3 leaves, and flowers with delicate fragrance." The height given for the type is greater than that heretofore known in the species. Mr. John Thomas Howell of the Califonia Academy of Science was kind enough to measure the specimen for me, and he reported that it was 3 dm. tall rather than 6 dm. This height is not uncommon for the tall-stemmed form of the species. Fragrance, as already mentioned, may be found in some plants of this species and not in others, and it is considered to have no taxonomic significance. Since this taxon differs in no other respect from typical *I. macrosiphon*, it is not recognized here as distinct from the species.

After several years of careful field work, during which time plants were studied over the entire range of this species, I have come to the conclusion that *I. macrosiphon* represents a highly polymorphic species within which it would be impossible to segregate clear-cut and distinct subgroups. In addition to the natural variation, it has hybridized, like *I. douglasiana*, with a number of other species, thus increasing its variability locally.

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Natural Hybrids.—

- *I. douglasiana* × *I. macrosiphon.* CALIFORNIA: Marin, San Mateo, and Santa Cruz counties.
- *I. douglasiana* × *I. macrosiphon* × *I purdyi.* CALIFORNIA: Mendocino County.
- *I. fernaldii* × *I. macrosiphon.* CALIFORNIA: Napa and Sonoma counties.
- *I. hartwegii* × *I. macrosiphon.* CALIFORNIA: Placer and El Dorado Counties
- *I. macrosiphon* × *I purdyi.* CALIFORNIA: Trinity County.
- *I. macrosiphon* × *I tenuissima.* CALIFORNIA: Trinity County.

Plants presumed to be hybrids between *I. douglasiana* and *I. macrosiphon* have been found in three counties within the San Francisco Bay region—Marin, San Mateo, and Santa Cruz counties. One such collection was made by J.T. Howell (25316) on Inverness Ridge, Marin County. This specimen is deposited in the California Academy of Sciences Herbarium. A second specimen deposited in the Dudley Herbarium was collected by W.R. Dudley in the Santa Cruz Mountains of Santa Cruz County in 1883. This particular specimen was annotated by R.C. Foster as probably being of hybrid origin, a conclusion that I agree with.

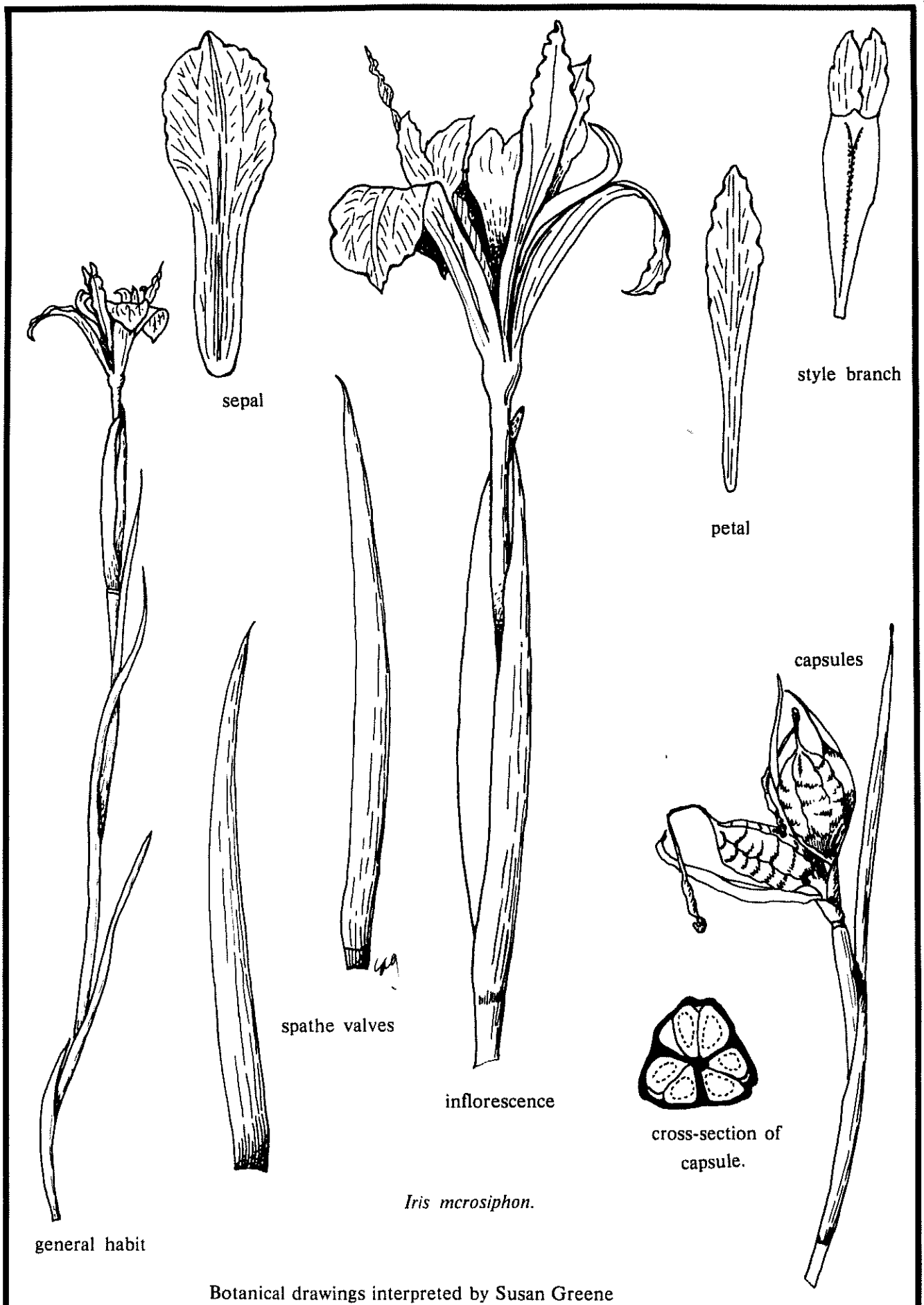
The trihybrid, *I. douglasiana* × *I. macrosiphon* × *I purdyi*, is known only from a single locality, Faulkner Park Road, near Boonville. This population will be treated fully in Part II.

Hybrids between *I. fernaldii* and *I. macrosiphon* have been studied in the field at two localities, one on Troutdale Creek in Napa County (L.W. Lenz and E.K. Balls 17119 RSA Herb.), and the other on the slopes of Mt. St. Helena (L.W. Lenz and E.K. Balls 22620 RSA Herb.). This hybrid combination is a little more difficult to detect than are some of the others, and undboutedly a number of specimens which do not entirely fit either *I. macrosiphon* or *I. fernaldii* represent introgressive hybridization between these two rather closely related species.

The hybrid combination, *I. hartwegii* × *I. macrosiphon*, is known only from three localities in the foothills of the Sierra Nevada on the east side of the Valley. In the Dudley Herbarium there is a collection made by G.T. Benson (13), 1 mile north of Camino in El Dorado County, which R.C. Foster annotated as a hybrid between these two species. After examining the sheet, I agree about its possible hybrid origin. A second specimen, one collected by C.F. Stone in 1891 at Auburn in Placer County, was annotated by Foster as "hybrid?". I interpret this specimen as being of hybrid origin but showing more of the characters of *I. macrosiphon* than *I. hartwegii.* A third specimen, also in the Dudley Herbarium, was collected by W.S. Shockley at Georgetown in El Dorado County and appears to be closer to *I. hartwegii* than to *I. macrosiphon.*

Hybrids between *I. macrosiphon* and *I. purdyi* have been found at several places within Mendocino County. One plant of what appeared to be a possible F1 hybrid was found about 2 miles west of U.S. Highway 11 on the road to Glen Alder Springs (L.W. Lenz and E.K. Balls 16413 RSA Herb.). In this plant the spathe valves were wide and rather typical of *I. purdyi* whereas the flower color was a rather deep lavender, more than of *I. macrosiphon.* The plant lacked the inflated bract-like leaves on the stem which are typical of true *I. purdyi.* One of the most characteristic things about *I. purdyi* is the truncate stigmas which are found in no other species of this series. In *I. macrosiphon* the stigmas are triangular or tongue-shaped; those in the presumed hybrid are intermediate between the two species and are rather rounded.

Hybrids between *I. macrosiphon* and *I. tenuissima* have been studied in the field at several localities in Trinity County. One hybrid population was found at an elevation of 250 feet just west of the village of Peanut on the road to Forest Glen (L.W. Lenz and E.K. Balls 22557 RSA Herb.). *Iris tenuissima* is one of the few species in this series which shows little color variation. It is usually a pale creamy white with conspicuous dark veining. Some of the plants growing at this location were typically *I. tenuissima* in color, whereas others had the distinctive form of *I. tenuissima* but were medium lavender in color, much like many of the forms of *I. macrosiphon.* Although both species possess long perianth tubes, *I. tenuissima* has a distinctive throat which *I. macrosiphon* does not have. Some of the plants here had the flower form of *I. tenuissima* but the perianth tube shape of *I. macrosiphon.* All the plants were very short-stemmed. Farther along on this same road, and near the village of Forest Glen, was another hybrid population (L.W. Lenz and E.K. Balls 22563 RRSA Herb.). Here the plants were growing in a Yellow Pine forest at an altitude of about 2330 feet.



Iris mcrosiphon.

Botanical drawings interpreted by Susan Greene

Iris humboldtiana Eastw. Leafl. West. *Type.*—Road to Horse Mt., Humboldt County, California, 24 June 1937. A. Eastwood and J.T. Howell 4857. California Academy of Sciences Herbarium. (Type seen.)

Iris citrina Eastw. Leafl. West. Bot. 3: 125, 1942. *Type.*—Log Spring Ridge between Government Flat and Log Spring, Tehama County, California, 9 July 1941. A. Eastwood and J.T. Howell 9722. California Academy of Sciences Herbarium. (Type seen.)

Rhizome slender with few roots; leaves linear, to 40 cm long, about 6 mm. wide, gray-green and sometimes slightly glaucous, finely ribbed; leaf bases usually pink to red, although colorless ones are known; flower stem slender, unbranched, with 1-3 cauline leaves; spathes usually 2-flowered; spathe valves opposite, lanceolate, 5-10 mm. wide (aver. 7.5 mm.), and from 40-80 mm. long (aver. 68 mm.), often flushed with pink or red; pedicels variable, 8-18 mm. long (aver. 12 mm.) at anthesis; ovary 10-20 mm. long (aver. 14 mm.), tapering equally at either end; perianth tube 30-58 mm. long (aver. 43 mm.), lower portion slender, then dilated abruptly to form a broader throat 1/4—1/3 the length of the tube; sepals narrowly lanceolate to lanceolate, 47-75 mm. long (aver. 60 mm.), and 11-18 mm. wide (aver. 14 mm.); petals 44-64 mm. long (aver. 52 mm.), and 6-14 mm. wide (aver. 8.5 mm.); flower color usually pale cream with very distinct veining of lavender, reddish-brown or brown; flower parts often distinctly crisped; style branches usually very slender for their length, 20-30 mm. long (aver. 24 mm.); style crests linear, 11-23 mm. long (aver. 16 mm.); stigmas triangular; capsule oblong 3-4 cm. long, tapering abruptly into the pedicel and gradually into a rather distinct beak.

Type.—Near Pitt River Ferry, Shasta County, California, 700-900 feet altitude. H.E. Brown 239. United States National Herbarium. (Type seen.)

Distribution.—CALIFORNIA. Butte, Glenn, Humboldt, Shasta, Siskiyou, Tehama, and Trinity counties.

Representative specimens.—CALIFORNIA. Shasta Springs. *A. Eastwood 11824.* Butte County: Chico Meadows, *A.A. Heller 11961;* Butte Meadows, *Mrs. G.E. Kelly.* Humboldt County: Road to Horse Mt., *A. Eastwood* and *J.T. Howell 4857* (type). Shasta County: Pitt River, *L.E. Smith 180;* near Dunsmuir, *L.F. Henderson 15363;* 18 mi. from Hwy. 299, road to Trinity Center, *L.W. Lenz 18308.* Siskiyou County: Castle Creek, *L.E. Smith 205;* ridges and meadows near Marble Mt., *H.P. Chandler 1570;* Salmon River, 1 1/4 mi. above junction with Klamath River, *L.W. Lenz 19138;* Lassen Lodge, *L.W. Lenz* and *E.K. Balls 21834.* Trinity County: 1 mi. west of summit between Redding and Weaverville, *P.A. Munz 13189;* Burnt Ranch, *J.P. Tracy 6656;* .2 m. east of Trinity-Humboldt County *L.W. Lenz* and *E.K. Balls 20729.*

In 1940, Alice Eastwood described *I. humboldtiana,* collected on the road to Horse Mt., Humboldt County, California, saying that "the long tube of the perianth allies it with *I. macrosiphon,* but it is unlike it in other features ..." The flowers were reported to be very pale but definite color notes were not made. Examination of the type preserved in the herbarium of the Califonia Academy of Sciences shows plants which are typical of the tall-stemmed form of *I. tenuissima,* and thus this taxon is included within the limits of that species. In 1942, Miss Eastwood described *I. citrina,* collected on Log Spring Ridge between Government Flat and Log Spring, in Tehama County, California. This, she said, differed from *I. macrosiphon* in having glaucous foliage, yellow flowers, shorter perianth tube, longer throat, and general shape of the floral organs. Examination of the type, also in the herbarium of the Califonia Academy of Sciences, shows a plant typical of the nearly stemless form of *I. tenuissima,* the only difference being that the style crests are slightly broader than average for the species. It is not believed that this slight difference is sufficient to warrant recognition of this entity with a formal designation, and it is thus included here with *I. tenuissima. Iris macrosiphon* also occurs in Tehama County, and it is entirely possible that this plant may show the results of introgression of that species into *I. tenuissima.* This could account for the slight difference in the style crest between Eastwood's *I. citrina* and typical forms of *I. tenuissima.*

Iris tenuissima is common in the dry sunny woods of northern California where it may be found in the Yellow Pine forest, Mixed Evergreen Forest, Northern Oak Woodland, and Foothill Woodland plant communities. This species, for the most part, has been poorly understood by workers in the past, and it has usually been included with *I. macrosiphon* although it is more closely related to *I. chrysophylla.* Jepson, in his *Flora of California,* did not recognize it at all, and Abrams, in his *Illustrated Flora of the Pacific States,* said that it was "an imperfectly known relative of *I. macrosiphon,* differing probably inconstantly, in the narrower tapering perianth segments, stigma crests about as long as stigmas." R.C. Foster, in his *Cyto-Taxonomic Survey of the North American Species of Iris,* recognized it as a distant species, saying, "it is reasonably well differentiated from *I. macrosiphon.*" *Iris tenuissima* is certainly as distinct a species as is to be found in the *Californicae.* It differs from *I. macrosiphon* in having generally more narrow perianth parts, although some forms approach that species. The long narrow styles with their proportionally very long style crests also separate it from *I. macrosi-*

(cont. next page)

phon. However, the most distinctive single feature is the peculiar perianth tube shape. In *I. tenuissima* the upper part of the perianth tube is abruptly dilated to form a distinct throat that remains the same diameter for its full length. In *I. macrosiphon* the perianth tube is long and narrow, and just below the base of the perianth parts it is usually enlarged to form a rather broad shallow bowl. Never does it have a long distinct throat. These differences are clearly shown in Figure 25. *Iris chrysophylla* is much like *I. tenuissima* in having a long perianth tube and long narrow style branches and style crests. It does not, however, have the dilated throat of *I. tenuissima,* and in that respect is more like *I. macrosiphon.*

Geographically, *I. tenuissima* occupies the area around the north end of the Great Valley of California which includes the southern potion of the Klamath Mts. east to the western slopes of the southern Cascades. The Siskiyou Mts., which form a part of the Klamath Mts., run roughly east and west and separate *I. tenuissima* from *I. chrysophylla,* the former being found to the south of the Siskiyou crest and the latter to the north.

The flowers of *I. tenuissima* are usually rather star-shaped, i.e., the sepals are bent outward at their base and then remain straight for their full length; the petals, too, open outward rather than remaining more or less together and upright as they do in the majority of the species. The flower parts are usually quite narrow and often crisped. The whole flower is very fragile and difficult to preserve. As in *I. chrysophylla,* no flower color is known except near whites to pale creamy-yellows, all however, distinctly and attractively veined.

Natural Hybrids.—

I. macrosiphon × *I. tenuissima.* CALIFORNIA: Trinity County.

I. purdyi × *I. tenuissima.* CALIFORNIA: Humboldt and Trinity counties.

I. tenax subsp. *klamathensis* × *I. tenuissima.* CALIFORNIA: Humboldt County.

Iris tenuissima is known to hybridize with at least three other taxa. I have found hybrids between *I. purdyi* and *I. tenuissima* to be relatively common a short distance west of Willow Creek, along the road to Blue Lake, Humboldt County (L.W. Lenz 18320 RSA Herb.), as well as near Forest Glen (L.W. Lenz and E.K. Balls 22562 RSA Herb.), and also near the Mad River Ranger Station (L.W. Lenz and E.K. Balls 22572 RSA Herb.), both in Trinity county. I have also seen a specimen collected by F.W. Gould (832) on Horse Mt. in Humboldt County, which appears to be of the same parentage. Near Crawford Creek, south of Orleans on the Klamath River, I have found specimens which combine characters of *I. tenax* subsp. *klamathensis* with those of *I. tenuissima,* and these I take to be of hybrid origin. This combination might well be expected, since *I. tenax* subsp. *klamathensis* is completely surrounded on all sides by *I. tenuissima.*

Hybrids between *I. macrosiphon* and *I. tenuissima* have been found at several places in Trinity County; one hybrid population was studied near Peanut (L.W. Lenz and E.K. Balls 22557 RSA Herb.), and another colony was encountered near the village of Forest Glen (L.W. Lenz and E.K. Balls 22563 RSA Herb.).

IRIS TENUISSIMA subsp. *PURDYIFORMIS* (R.C. Foster) comb. nov.

Iris tenuissima var. *purdyiformis* R.C. Foster. Contr. Gray Herb. No. 119: 28. 1937.

Rhizome slender, 5-6 mm. in diameter; leaves few to many, 3-5 mm. wide and to 4 dm. long, leaf bases colored; flower stems slender, unbranched, to 3.5 dm. tall, exceeded by the leaves; stem clothed with 3-4 closely clasping but not overlapping cauline leaves which are slightly inflated and free only at their tips, usually flushed with pink or red; spathes 2-flowered; spathe valves opposite, 7-10 mm. wide (aver. 8.5 mm.), and 38-55 mm. long (aver. 45 mm.), broadly lanceolate, usually flushed pink to red especially on the edges; pedicels variable, 4-15 mm. long (aver. 8 mm.), at anthesis; ovary small, 8-14 mm. long (aver. 10 mm.); perianth tube 30-45 mm. long (aver. 37 mm.), slender and with abruptly dilated throat which may be nearly 1/2 the length of the tube; sepals narrowly oblanceolate, 40-57 mm. long (aver. 48 mm.), and 10-17 mm. wide (aver. 14 mm.); petals 35-45 mm. long (aver. 40 mm.), and 7-10 mm. wide (aver. 9 mm.); flower color pale yellow or cream with few to no dark veins; style branch 20-29 mm. long (aver. 24 mm.); style crest 9-12 mm. long (aver. 10 mm.); stigmas variable, from broadly triangular to rounded but not truncate; capsule oblong-ovate, 15-20 mm. long.

Type.—Camp Rodgers, Plumas County, California. 11 April 1934. E.P. Chase. California Academy of Sciences Herbarium No. 212,531. (Type seen.)

Distribution.—CALIFORNIA. Plumas and Sierra counties.

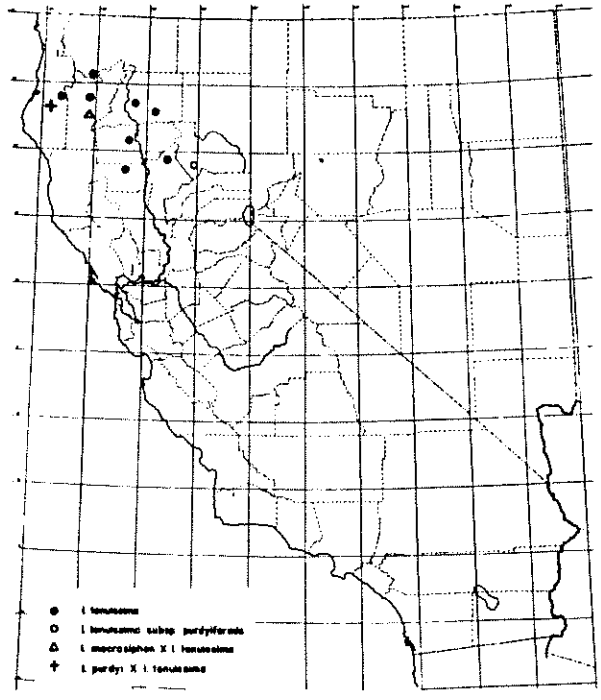
Representative specimens.— CALIFORNIA. Plumas County: 3 miles west of Beldon, Feather River Canyon, *Mrs. H.C. Cantelow;* Camp Rodgers, *E.P. Chase (type)* (CA No. 212,531); between Tobin and Camp Rodgers, Feather River Canyon, *L.W. Lenz* and *E.K. Balls 20699;* Tobin, *L.W. Lenz 19133.* Sierra County: Cedar Glen, *V. Jones* (CA No. 110,677).

This most interesting yet puzzling little endemic from Plumas and Sierra counties of the northern Sierra Nevada of California was first described by R.C. Foster as *I. tenuissima* var. *purdyiformis.* Foster knew it from only three specimens, two of which had originally been labeled *I. purdyi.* After studying the plant in the field for several years, I have decided to retain, at least for the present, the status given it by Foster, i.e., a sub-entity under *I. tenuissima.* Foster was tempted to call it a hybrid between *I. purdyi* and *I. tenuissima,* but he pointed out that the only real floral resemblance to *I. purdyi* was in the stigma. It is true that this plant does display certain characters associated with *I. purdyi* and that other characters are more nearly those of *I. tenuissima.* Full consideration will be given to this plant in Part II.

Iris tenuissima subsp. *purdyiformis* occurs in rather shady places under pines in the Feather River Canyon, and it has been reported from Cedar Glen in Sierra County; living material from the latter locality has not been seen, however.

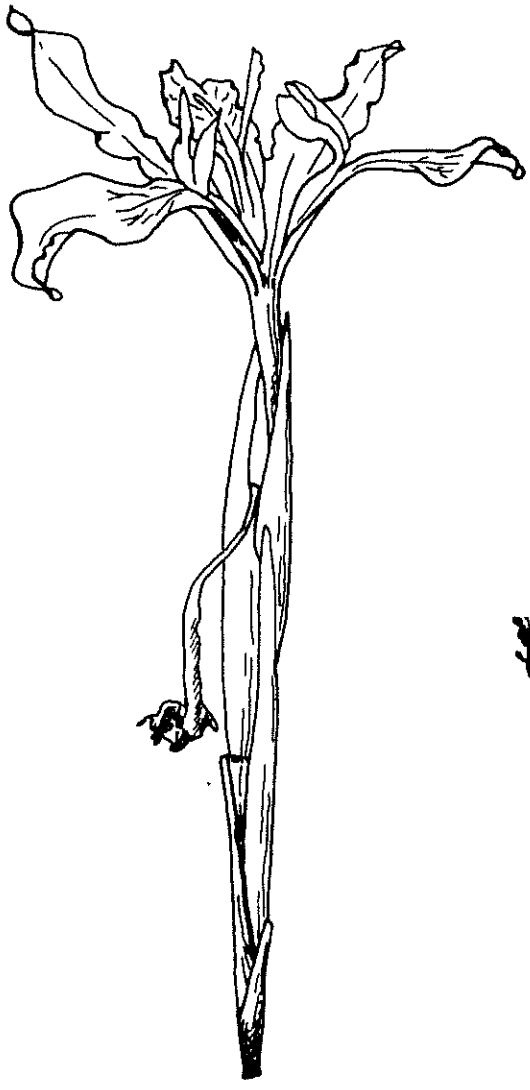
Nowhere does this plant appear in great abundance. The largest populations which have been seen are on the hillsides above Tobin, an area that at the present time is being logged to a certain extent with the resulting disturbance to the area caused by the building of access roads, etc.

Natural hybrids.—No natural hybrids are known involving this taxon.



Distribution of *Iris tenuissima* and subspecies and natural hybrids.

style branch



general habit

petal

sepal

spathe valves

cross section of seed capsule

seed capsules

Iris tenuissima

Botanical drawings interpreted by Susan Greene

AIS REGISTRATIONS, 1984

CHECKLIST UPDATE

Submitted by Bob Hubley

BOB'S BLUE BOY (R. Hubley, R. 1984)
CA 18" M
Light blue self, prominently veined darker blue, white signal veined yellow.
(*I. munzii* sdlg. X Bob's Big Boy)

BOB'S LOW BOY (R. Hubley, R. 1984)
CA 16" M
S. bluish purple veined darker blue; F. bluish purple veined darker purple, small yellow fan on white signal spot.
(*I. munzii* sdlg. X Bob's Big Boy)

BOTTOM LINE (J. Ghio, R. 1984)
CA 8" ML
White ground, stitched violet-blue; F. edged white.
(Encircled X Primo) EC 1983

CAMPAIGNER (J. Ghio, R. 1984)
CA 12" ML
Greenish apricot-tan, muted violet signal.
(Gone Native X Camp Capitola) EC 1983

DEEPENING SHADOWS (J. Ghio, R. 1984)
CA 14" EM
S. dark purple; F. purple, black sheen.
(Go Wild X Wild Party)

ENDLESS (J. Ghio, R. 1984)
CA 12" EML
S. light rose; F. dark rose.
(Simply Wild X Wild Party)

FAR VOYAGER (J. Witt, R. 1984)
CAL-SIB 28" L
Medium lavender-blue, white signal; purple stems.
(*I. douglasiana* X *I. clarkei*)

GOING WEST (J. Ghio, R. 1984)
CA 10" EML
Mid-brown self.
(Gone Native X PR 319F)

LA MADRONA (J. Ghio, R. 1984)
CA 8" ML
S. light peach, F. peach washed red overall.
(Gone Native X PQ 217N)

LONG SHOT (J. Ghio, R. 1984)
CA 14" EM
Mid-yellow self.
(Short Order X PR 319)

MIRAMAR (J. Ghio, R. 1984)
CA 14" EM
Violet-blue self, white signal.
(Encircled X PT 288K)

PAJARO DUNES (J. Ghio, R. 1984)
CA 10" ML
S. tan; F. root beer.
(Emigrant X PQ 217N)

RINCON (J. Ghio, R. 1984)
CA 12" EM
S. apricot-tan, F. maroon, black center.
(PQ 214M X PQ 255K)

ROARING CAMP (J. Ghio, R. 1984)
CA 8" ML
S. gold, washed brown in center.
(Foreign Exchange X PQ 265X)

RUNNING WILD (J. Ghio, R. 1984)
CA 14" EML
S. gold; F. brown edged gold.
(PR 269L X PQ 235E)

SAN GREGORIO (J. Ghio, R. 1984)
CA 10" ML
Brick red self, large sunburst signal of yellow.
(Foreign Exchange X (Foreign Exchange X (Emigrant X Big Wheel)))

SIERRA STARS (L. Lawyer, R. 1984)
CA 22" M
S. pale French blue, F. edged French blue, conspicuous gentian blue thumbprint surrounding yellow signal.
(XPIN X Soquel Cove)

TIALINDA (B. Blyth, R. 1984)
CA 18" ML
S. blue-lilac; F. slightly deeper, light violet area around white and lemon signal.
(Sdlg. X sdlg.)

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SOCIETY FOR PACIFIC COAST NATIVE IRIS
TREASURER'S REPORT
APRIL 30, 1985

CASH ON HAND NOVEMBER 30, 1984		$ 646.40
DUES AND RECEIPTS:		
Dues collected	$ 187.00	
Dues collected by A.I.S.	139.00	
Sale of Cohens	24.50	
Sale of Almanacs	14.00	364.50
		$1,010.90
DISBURSEMENTS:		
Postage—office	20.50	
Fall 1984 Almanac printing	294.90	
" " " postage	75.05	390.45
BALANCE ON HAND APRIL 30, 1985		$ 620.45

DOROTHY E. FOSTER
Treasurer