



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

Fall 1977

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Society for Pacific Coast
Native Iris**

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From the Editor:

It is our pleasure to bring to these pages an article written by our late friend and neighbor, Marlon Copley. Some of Marlon's happiest hours were spent in the garden of her home at 862 The Arlington, Berkeley, in pursuit of her hybridizing. We thank Michael Copley for his cooperation in making available the photograph of Marion which appears on Page 4.

Dara Emery was the first to draw our attention to Panayoti Callas' PCI notes in the *Bulletin of the American Rock Garden Society*. Panayoti has written for us a sparkling new article; see Page 8.

Beginning with the Spring issue, we will have continuous paging throughout a volume, to aid the compiler of our hoped-for *Almanac* index.

Please get your material in early for the Spring 1978 issue. With the America Iris Society convening in San Jose in April, it will be a busy season; your contribution should reach us by January 1.

Happy holidays!
Olive

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

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[text rewritten from photocopy, too dark to be readable after scanning. KS]

From the President

These past summer months, ideal for vacationers, were a test for Californicae irises, especially in the water rationed areas of California. It would be interesting to hear from those growers in stricken areas who will share their experiences with us. My irises were minimally watered and when I work on them soon, I will know how many survived. I am especially looking forward to Spring to see how their bloom is affected.

You will notice, from the slate of nominees for the next Executive Committee, that most of the candidates live within a few miles of one-another. This is despite the efforts of the Nominations and Elections Committee who have dispatched their duties conscientiously. Although it may be preferable to have a wider distribution of officers, representing members in the many different areas where our irises are grown, there are also advantages in the administration of the society when officers can meet frequently.

Earlier we had to make a change in our present Executive Committee when Richard Sloan asked to be replaced. In compliance with our bylaws and with the approval of the Executive Committee I have appointed Glenn Corlew to finish Dick's term as First Vice President and President-Elect. I would like to express my appreciation to Dick for the fine work he has done during his brief term in office, and I know we will all lend our support to Glenn, his successor.

The American Iris Society's Judges and Judges Training Committee has asked us to be one of three sections to hold judges training sessions at the 1978 Convention in San Jose, California, April 26-29.

In anticipation of this convention we are working on several projects and the successful completion of them will depend on the cooperation we will receive when we contact you for assistance.

Meanwhile, we hope to see you all in the *Golden State* in '78.

Francesca Thoolen, President
November 15, 1977

Sierra Sapphire Wins Sydney Mitchell Award

... I was quite surprised when I learned that SIERRA SAPPHIRE had received the Mitchell award. Sydney Mitchell was very helpful to me when I was first starting to work with the California irises and I well remember digging plants from his Berkeley garden one cold January afternoon with the soil frozen to a depth of at least one inch. Afterward Mrs. Mitchell warmed us with shots of good Scotch whiskey.

If you plan to be in southern California this coming spring, I would very much like you to visit the garden and see the irises. This coming spring I will be blooming perhaps 300 seedlings. Knowing the parentages of the hybrids, I can confidently expect to see some outstanding flowers. This past year I also divided the best of the last crop of seedlings and these plants should also have at least some bloom.

If you do plan to visit us, please let me know ahead so that I can make arrangements to show you around.

Sincerely,

Lee W. Lenz, Director
Rancho Santa Ana Botanic Garden
Claremont, CA 91711

Printed with permission from a letter written by Dr. Lee Lenz to Francesca Thoolen.

The Mitchell Award

The Mitchell Award is the Award of Merit equivalent for Californicae, or Pacific Coast native irises. It commemorates the name of Sydney B. Mitchell, by avocation a hybridizer of iris and daffodils, and by vocation the first dean of the Graduate School of Librarianship at the University of California, Berkeley.

Eligible for consideration for the Mitchell award are those Californicae iris which have received an Honorable Mention award; Eligibility continues for four years, the second through fifth years following the HM.

AIS judges may vote for only one eligible iris of any type; the Mitchell award winner must have received at least ten votes.

Winners of the Mitchell awards:

1973 OJAI	Marion Walker
1974 AMIGUITA	Eric Nies
1975 NATIVE WARRIOR	August Phillips
1976 WESTERN QUEEN	George Stambach
1977 SIERRA SAPPHIRE	Lee Lenz

Bring Your Natives to the San Jose Show

Now is our opportunity to display the great variety of form and color of Pacific Coast native iris, by entering bloomstalks in the Iris Show planned for April 26, 1978, at the Hyatt House in San Jose, California. The Hyatt House is headquarters for the 1978 American Iris Society Convention.

You may bring your entries until 3 o'clock on the show date, a Wednesday; it is expected that some of our foreign visitors may be bringing exhibits. The four classes for the show are Tall Beardeds, Bearded Other Than Tall, Beardless and Seedlings. Each exhibitor is limited to not more than five entries per class. Joe Ghio, Show Chairman, says the show will be left up until Friday, April 28. Marilyn Holloway and Mary Dunn will be on hand to greet you with your entries.

How to Recognize California's Wild Irises

MARION E. COPLEY, *Berkeley, California*

Mrs. Copley was an iris hybridizer who lived in Berkeley, California, and was active for many years in the Sydney B. Mitchell Iris Society. After a long illness she died in Berkeley in the Spring of 1977.

This article was first printed in the *California Horticultural Journal* (now *Pacific Horticulture*), Vol. 31, No. 4, for October 1970, and has been slightly shortened for the *Almanac*.



Marion Copley

Two distinct types of wild irises grow in California, the series *Longipetalae* and the series *Californicae*. The two groups are quite dissimilar, have different chromosome numbers, and will not hybridize if occurring together. After a brief description of the *Longipetalae*, it is my intention to confine this article to a discussion of the *Californicae*.

The *Longipetalae* are closely related to the common blue flag, which is widespread in western North America. A large-flowered species, *Iris longipetala*, grows along the Pacific Coast from Mendocino to Monterey counties, and a smaller-flowered species, *Iris missouriensis*, grows in the mountains in places which stay moist until flowering time. They can be recognized by their light green, upright leaves and handsome flowers in pastel tones of blue and lavender, with sepals veined with the same color on a lighter background, often brightened in the center by a yellowish infusion.

The *Californicae*, comprising some eleven species and five subspecies, are more difficult to recognize. They vary markedly in size and appearance within each species, and their propensity for hybridizing freely when growing near each other adds to the difficulty of identification. These irises are not closely related to other irises growing in America (or anywhere else for that matter) bearing some resemblance, however, to the *Sibiricae* (Siberian irises), which are native to Eurasia. Hybrids have been produced between species of the *Californicae* and *Sibiricae* but they have been sterile.

The *Californicae* are highly regarded in England where much work has been done in hybridizing them, but they are less well-known in the United States. However, there has been an increased interest in recent years, due in large part, perhaps, to the program instituted in 1948 at the Rancho Santa Ana Botanic Garden, under the direction of Dr. Lee W. Lenz, to create new and improved garden forms of the *Californicae*.

Since many persons are confused regarding the identity of the different species it is the purpose of this

article to give information which will help the reader to recognize wild irises of the *Californicae* series.

The Importance of Range:

The place where an iris grows is an important clue to its identity, for each species has its own range; for instance, you would not expect to find *I. douglasiana* in the Sierra Nevada, since its range is along the coast, usually within fifteen miles of the Pacific. A list of counties and the species known to occur in them, which for lack of a better name I shall call a Range Finder, is given in Table 2. This will be very helpful, but do not rely on it exclusively, for there is a possibility that some species may grow in an area, but has not been recorded; so if the iris does not fit the description of any iris known to grow in that area, but does fit that of one known to grow in the next county, just update the Range Finder.

Using Tables 1 and 2.

You can see how useful these tools for identification are by the following example. You may find a little, dark blue iris with a white signal spot, and narrow, light green leaves in Mendocino County, and want to know what it is. You check the Range Finder and see that *Iris douglasiana*, *I. purdyi* and *I. macrosiphon* are known to grow there. You check the stigma and find it is triangular; that rules out *I. purdyi*. You note that its perianth tube is about two inches long, that rules out *I. douglasiana*. This leaves *I. macrosiphon* as the only possibility. You compare the iris with the description of *I. macrosiphon*, and if it fits, you have identified the unknown iris as *I. macrosiphon*. If there is some important discrepancy, the unknown iris may be a hybrid of that species with either *I. purdyi* or *I. douglasiana*, or both.

Iris douglasiana

The best known and most popular of the *Californicae* in gardens is *Iris douglasiana*, which grows in the wild along the Pacific Coast, usually within ten or fifteen

miles of the ocean, from Del Norte to Santa Barbara counties. Its flowers are some of the most attractive of the series, ranging from rich dark blue to purple and lavender, sometimes white, rarely yellow, often with striking signal spots of contrasting color. It is quite variable in size, with plants from about one foot to over three feet tall: with broad, evergreen leaves of glossy, deep green or yellowish green, flushed red at the base.

This iris has one distinctive feature that often allows it to be recognized at first glance. It is the only one of the group that usually has a branched flower stalk: so, first look at the flower stalk of the iris in question, if it is branched, it is *I. douglasiana*, or a hybrid of it.

However, not all the stalks will be branched—in that case, observe the leaves and flowers. The leaves of *Iris douglasiana* are broader than those of most other species, sometimes almost an inch wide: there are plants with much smaller leaves, but they would never be considered grass-like, as in the case of *I. innominata*. The flowers of *I. douglasiana* vary in size and color, but they have a distinguishing feature—there are usually three of them to an inflorescence, a trait shared by only one other species, *I. munzii*, with which *I. douglasiana* is unlikely to be confused because of the difference in their foliage and perianth tubes.

If you find *Iris douglasiana* in seed, you can identify it because of its unusual seed capsule, which is triangular in cross-section and has a nipple-like projection at the tip. The seeds are different too, being dark brown, round, or pear-shaped, while those of other species are usually light brown, irregular or D-shaped.

Other characteristics of this iris are: it always has a triangular stigma; its perianth tube is from $\frac{3}{4}$ - $1\frac{1}{4}$ inches in length—longer than the short-tubed group, and shorter than the long-tubed group: the flower stalk is from six to thirty inches tall, with from one to three leaves growing from the stem which are not inflated or overlapping; its spathe valves are usually, but not always, opposite and converging.

If the iris you are trying to identify has a branched flower stalk, but deviates very much from this description (for instance, if it does not have a triangular stigma, or has a perianth tube two inches long) it will be a hybrid of *Iris douglasiana*, rather than the pure species.

Iris purdyi

Sometimes called the Redwood iris, *Iris purdyi* ranges from Sonoma to Humboldt and Trinity counties. It also has a distinctive feature which immediately identifies it: its stigma is not triangular, as is that of all the other species, but truncate, bilobed, or rounded, and is often finely toothed.

The flower stalk, which is from six to fourteen inches tall, is also unusual. It is clothed with short, inflated, overlapping, bract-like leaves, often tinged pink: the spathe valves, which are opposite and converging, are also inflated. Its perianth tube is longer than that of *Iris douglasiana*, averaging $1\frac{3}{4}$ inches in length.

The leaves of *Iris purdyi* are about one-third inch wide and eighteen inches long, dark green above, grayish green below, with reddish bases. The flowers are yellow or sometimes whiteish, with a lavender wash, with sepals

to three inches long and about one-half inch wide; the petals are a little smaller and flare widely to form a somewhat star-shaped flower.

Iris purdyi has hybridized extensively with three species, *I. douglasiana*, *I. macrosiphon* and *I. tenuissima*, so that you are likely to find a hybrid, rather than the pure species. If an iris has a branched flower stalk and a truncate stigma, it is a pretty good guess that it is a hybrid between *I. purdyi* and *I. douglasiana*.

LONG-TUBED and SHORT-TUBED SPECIES:

It would be nice if all the *Californicae* had such definite trademarks as the two irises just described, but unfortunately this is not the case. So other methods will be needed to identify the remaining species. The length and shape of the perianth tube is important for this purpose: the measurement is taken from the base of the stamens to the ridge which marks the top end of the ovary.

Four species of the *Californicae* belong to the short-tubed group, which have perianth tubes ranging from $\frac{1}{4}$ to $\frac{1}{2}$ inch long: five species belong to the long-tubed group, with perianth tubes ranging from $1\frac{1}{4}$ to $5\frac{3}{4}$ inches long, the two remaining species have perianth tubes within the median range.

In some species of the *Californicae* the perianth tubes dilate to form a long throat to the flower, in others there is a narrow, bowl-shaped enlargement at the base of the flower, while others have neither feature: these are important identifying characteristics.

OPPOSITE and CONVERGING: VERSUS SEPARATED and DIVERGENT SPATHE VALVES

All of the short-tubed species except one have separated (at different levels on the flower stalk) and divergent (angling away from the stalk and each other) spathe valves: all of the remaining species have opposite (at the same level on each side of the stalk) and converging (more or less parallel to the stalk and leaning towards each other) spathe valves, with one exception. *Iris douglasiana* is somewhat variable in this respect, sometimes having spathe valves separated and divergent or even opposite and divergent, although they are usually opposite and converging. A summary giving information on perianth tubes and spathe valves which will be useful in identification is given in Table I.

IRISES OF THE CENTRAL COAST RANGES:

Inhabiting the wooded foothills of the Coast Ranges from Lake to Solano, and San Francisco to Santa Clara counties, *Iris fernaldii* shares much of its range with *I. macrosiphon*, and in some places with *I. douglasiana*. It hybridizes with both of them, giving rise to some rather complex hybrids. *I. fernaldii* has flowers of pale, creamy yellow, borne on stalks from eight to sixteen inches tall. The distinctive characteristics of this iris are: it has narrow leaves, about one-third inch wide and up to sixteen inches long, which are a peculiar shade of gray-green, flushed brilliant red at the base; its perianth tube dilates in the upper part to form a narrow funnel form throat to the flower.

Iris macrosiphon

A jaunty little iris, *Iris macrosiphon* grows on sunny slopes of the Coast Ranges from Tehama to Santa Clara counties. It has flowers in a variety of colors, including yellow, lavender, purple, and deep blue, often with a white signal spot on the sepal. Sometimes the flowers occur at ground level, and other times on stems up to ten inches tall. It may be distinguished from *I. fernaldii* by its narrower leaves which are light green with no color at the base, and also by its perianth tube which does not form a throat to the flower, as does that of *I. fernaldii*, but ends in a shallow, bowl-like enlargement at the base of the flower.

IRISES OF THE SIERRA NEVADA

Iris macrosiphon

Somehow, *Iris macrosiphon* managed to cross the great Central Valley of California and made itself at home in the Sierra Nevada, where it keeps to altitudes usually below 2,000 feet. Here its flowers always have some shade of lavender, sometimes very pale. So if you see a little lavender iris in the foothills of the Sierra, it is most likely to be *I. macrosiphon*; however, check it out with its description, for it may be a lavender-flowered plant of *I. hartwegii*. You can easily ascertain which it is by looking at the perianth tube. *I. macrosiphon* has a long perianth tube, and opposite and converging spathe valves, while *I. hartwegii* has a short perianth tube and separated and divergent spathe valves.

Iris hartwegii

If you see a little yellow-flowered iris in the Sierra Nevada it is almost certain to be *Iris hartwegii* (unless you are in Butte, Sierra, or Plumas counties, where there is another possibility). *I. hartwegii* is found throughout the Sierra at middle altitudes, from Butte to Kern counties. It is deciduous, with leaves and flowers about the same size as those of *I. macrosiphon*; the flowers are usually yellow, but sometimes lavender. Since the two species occupy different elevations, there is little evidence of hybridizing between them.

There are three subspecies of *Iris hartwegii*: subspecies *australis*, with violet to deep purple flowers, in Riverside and San Bernardino counties; ssp. *columbiana*, with much wider leaves and yellow flowers, in Tuolumne County; ssp. *pinetorum* in Plumas County, with a longer perianth tube having narrow flaring parts similar to *I. tenuissima*.

Iris munzii

A rare endemic, *Iris munzii* is found in only a few places in the foothills of the Sierra Nevada in Tulare County. It is one of the largest of the species, with wide, grayish-green, glaucous leaves and large lavender or blue flowers. Because of its size, it probably would not be confused with any species other than *I. douglasiana*. However, it can be differentiated easily because it has a short perianth tube and separated and divergent spathe valves, while *I. douglasiana* has a perianth tube usually over twice as long, and opposite and converging spathe valves.

Iris tenuissima

Not a strictly Sierran species, *Iris tenuissima* reaches its easternmost limits in Butte County, ranging west and north to Humboldt and Siskiyou counties. Its flowers are pale, creamy yellow and veined lavender or brown, with especially narrow perianth parts, which flare horizontally to form a star-like flower, which sometimes seems to occur almost on the ground, and at other times on fairly tall stalks. Its identifying feature is its unique perianth tube, which expands abruptly to form a long, cylindrical throat to the flower. (In *I. fernaldii* the perianth tube expands to form a throat, but it is more funneliform in shape.)

Iris tenuissima ssp. *purdyiformis* is a rare endemic occurring in a few places in Plumas and Sierra counties. It has yellow flowers, rounded stigmas, and flower stalks with closely clasping leaves similar to *I. purdyi*.

OREGON IRISES IN DEL NORTE COUNTY:

The remaining *Californicae* are mainly Oregon species which cross the border into Del Norte County, California, only in a few places.

Iris chrysophylla is somewhat similar in appearance to *I. tenuissima*, but does not have the unique perianth tube which expands to form a cylindrical throat to the flower. Its most identifying features are its narrow, spreading petals and sepals, and its unusually long style crests, which are sometimes longer than the style branches.

Iris bracteata is one of the larger species with attractive yellow flowers, veined maroon or brown, and flower-stalks covered near the base with short, bract-like leaves, the upper ones, however, free for about half their length. It can be recognized by its broad, stiff, two-sided leaves and because it is the only species with a short perianth tube and opposite and converging spathe valves.

Iris innominata is a charming little iris with grass-like leaves and relatively large flowers, usually a bright golden yellow, although sometimes lavender or violet. It has been in cultivation since 1932 and is one of the most popular species for home gardens.

Iris tenax was introduced by David Douglas into cultivation in England in 1825, the first of the *Californicae* to become known. It has the widest range of flower color of any of the series, including apricot, cream, white, orchid, raspberry, and purple, the flowers often beautifully marked with gold in the center of the sepals. Plentiful in Oregon, it is also common in southwestern Washington, the only member of the group found in that state. Since it is somewhat similar in size to *I. innominata*, there is some possibility that these two might be confused; however, they can be told apart easily because *I. tenax* has a short perianth tube, and separated and divergent spathe valves, while *I. innominata* has a medium-length perianth tube and opposite and converging spathe valves. Only one sub-species, ssp. *klamathensis*, represents *I. tenax* in California: it has long, narrow styles, and longer perianth tubes than in the remainder of the species.

Eleven members of the *Californicae* and their subspecies have been described briefly, but it is hard to visualize a flower which has been reduced to such dry statistics as "sepals to three inches long and about one-half inch wide." One can get a much better idea of the

flower by seeing it. Many of the California native irises are grown in the Botanical Gardens of the University of California at Berkeley and at Davis, the Regional Parks Botanic Garden in Tilden Park, Contra Costa County, and the Strybing Arboretum in San Francisco, and may be seen in flower in April and May. (and of course, in many other places known to our readers, Ed.)

Also, much information can be gained by looking at specimens of irises in herbaria, such as the Jepson Herbarium of the University of California in Berkeley, and the California Academy of Sciences in San Francisco.

However, one of the most enjoyable ways to see wild irises is in their native haunts. On a recent trip to Fort Bragg, I saw many small, dark blue-flowered plants of *Iris douglasiana* along the roadside, which at first I thought might be *I. macrosiphon*, but closer inspection showed that their perianth tubes were not long enough, and their leaves were too broad and red-based, which

Table 1

PERIANTH TUBE AND SPATHE VALVE CHARACTERISTICS OF IRIS, SERIES CALIFORNICAE*

1. Short-tubed species (perianth tubes from 5 - 10 mm.)

A. Spathe valves separated and divergent:

	Average length	Range
(1) <i>I. tenax</i>	8 mm.	6- 10 mm.
(2) <i>I. hartwegii</i>	8 mm.	5- 10 mm.
(3) <i>I. munzii</i>	8 mm.	7- 10 mm.

B. Spathe valves opposite and converging

(1) <i>I. bracteata</i>	9 mm.	5- 10 mm.
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2. Long-tubed species (All have spathe valves opposite and converging)

(1) <i>I. tenuissima</i>	43 mm.	30- 58 mm. (cylindrical throat)
(2) <i>I. fernaldii</i>	48 mm.	30- 62 mm. (funnelform throat)
(3) <i>I. macrosiphon</i>	53 mm.	36- 86 mm. (bowl-shaped enlargement at base of flower)
(4) <i>I. chrysophylla</i>	57 mm.	43-120 mm. (bowl-shaped enlargement at base of flower)
(5) <i>I. purdyi</i>	40 mm.	28- 48 mm. (truncate, rounded or bilobed stigma)

3. Medium-sized-tubed species

A. Spathe valves opposite and converging:

(1) <i>I. innominata</i>	22 mm.	15- 30 mm. (grass-like leaves)
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B. Spathe valves usually, but not always opposite and converging:

(1) <i>I. douglasiana</i>	22 mm.	15- 28 mm. (flower stalks branched)
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*(Measurements as given in Lenz, 1958.)

Lenz, Lee W. 1958. A Revision of the Pacific Coast Irises. *Aliso*, vol. 4, no. 1, pp. 1-72.

would identify them as *I. douglasiana*. I saw only one specimen of *I. purdyi*, clinging precariously to a cliff, on the road from Fort Bragg to Willits.

It is my hope that this article will help readers to recognize their irises they may come across in the field. However, in some cases the iris you find may stubbornly refuse to fit our specifications; it may be a complex hybrid, or possibly just a nonconformist iris. But perhaps you will have some successes too, and in the process learn more about our beautiful native California irises.

Table 2

RANGE FINDER

County Species of *Iris* known to grow in each county of California.

Amador	— <i>hartwegii</i>
Butte	— <i>macrosiphon</i> , <i>hartwegii</i> , <i>tenuissima</i>
Calaveras	— <i>hartwegii</i>
Contra Costa	— <i>douglasiana</i>
Del Norte	— <i>bracteata</i> , <i>chrysophylla</i> , <i>douglasiana</i> , <i>innominata</i>
El Dorado	— <i>macrosiphon</i> , <i>hartwegii</i>
Fresno	— <i>hartwegii</i>
Glenn	— <i>macrosiphon</i> , <i>tenuissima</i>
Humboldt	— <i>purdyi</i> , <i>douglasiana</i> , <i>tenax</i> ssp. <i>klamathensis</i> , <i>tenuissima</i>
Kern	— <i>hartwegii</i>
Lake	— <i>fernalduii</i> , <i>macrosiphon</i>
Madera	— <i>hartwegii</i>
Marin	— <i>douglasiana</i> , <i>fernalduii</i> , <i>macrosiphon</i>
Mariposa	— <i>hartwegii</i>
Mendocino	— <i>macrosiphon</i> , <i>purdyi</i> , <i>douglasiana</i>
Monterey	— <i>douglasiana</i>
Napa	— <i>fernalduii</i> , <i>macrosiphon</i>
Nevada	— <i>hartwegii</i> , <i>macrosiphon</i>
Placer	— <i>hartwegii</i> , <i>macrosiphon</i>
Plumas	— <i>hartwegii</i> , <i>hartwegii</i> ssp. <i>pinetorum</i> , <i>tenuissima</i> ssp. <i>purdyiformis</i>
Riverside	— <i>hartwegii</i> ssp. <i>australis</i>
San Bernardino	— <i>hartwegii</i> ssp. <i>australis</i>
San Francisco	— <i>douglasiana</i>
San Luis Obispo	— <i>douglasiana</i>
Santa Mateo	— <i>douglasiana</i> , <i>fernalduii</i> , <i>macrosiphon</i>
Santa Barbara	— <i>douglasiana</i>
Santa Clara	— <i>fernalduii</i> , <i>macrosiphon</i> , <i>douglasiana</i>
Santa Cruz	— <i>douglasiana</i> , <i>fernalduii</i> , <i>macrosiphon</i>
Shasta	— <i>tenuissima</i> , <i>macrosiphon</i>
Sierra	— <i>hartwegii</i> , <i>tenuissima</i> ssp. <i>purdyiformis</i> , <i>macrosiphon</i>
Siskiyou	— <i>tenuissima</i> , <i>chrysophylla</i>
Solano	— <i>fernalduii</i>
Sonoma	— <i>douglasiana</i> , <i>fernalduii</i> , <i>purdyi</i> , <i>macrosiphon</i>
Tehama	— <i>macrosiphon</i> , <i>tenuissima</i>
Trinity	— <i>macrosiphon</i> , <i>purdyi</i> , <i>tenuissima</i>
Tulare	— <i>hartwegii</i> , <i>munzii</i>
Tuolumne	— <i>hartwegii</i> , <i>hartwegii</i> ssp. <i>columbiana</i> , <i>macrosiphon</i>
Yuba	— <i>hartwegii</i>

Pacific Coast Iris in Colorado

PANAYOTI CALLAS, *Boulder, Colorado*

Roy Elliott, Editor Emeritus of the Alpine Garden Society's *Journal*, has expressed a widely suspected truth concerning the tenderness of California wildflowers. In speaking of *Zauschneria californica* he notes that "it is none too hardy; we have found, however, that it will survive in about three winters out of four; and in any case the wise gardener will always keep a few cuttings going of any plant with the specific name of *californica*." How menacing this sounds to someone interested in growing a selection of iris collectively termed the Californicae! Mr. Elliott was referring moreover to gardening conditions in England, where frosty spells are after all just as temporary and light as they are over much of the Pacific region where these plants grow wild in America.

What hope can gardeners have, then, of growing such notorious children of mists and mildness in the violent climates that prevail East of the crests of the Sierra Nevada? What gardener would be so foolish as to leap in where Englishmen hesitate to tread? It seems ludicrous that such tender plants could be expected to grow where the thermometer has been known to dip to -30°F , and stay there. In a climate where nightmarish chinook winds blow incessantly for days on end at multiple-hurricane velocities and rain seldom falls between October and March (precisely when these irises in their native habitat are ordinarily drenched) and the temperature during these same months plunges below freezing every night—what hope can anyone have for growing Pacific Coast iris under such conditions? None. If I were not a child, I would not have tried them.

Children seem to have an inborn love for flowers, and I've noticed that the splendid asymmetrical balance of iris flowers has a special fascination for them. I was no exception. I remember the half-wild, early blooming German iris in an alley and the meadows filled with *Iris missouriensis* near my birthplace more vividly than my first years of school. Relatives with a love of wildflowers encouraged this propensity, and it was as a child that I first collected *Iris douglasiana* among the redwoods of the Santa Cruz range to take home as a souvenir. I think this act of vandalism would be freely forgiven even by the most stony-hearted conservationist if one only pauses

to consider that an eight year old can't pry off much of an established clump of this iris. Despite my youth, and a healthy ignorance of such niceties as winter hardiness, the start lived—and I still have a large clump that has grown from this first piece. Repeated division has led to even broader patches in the gardens of friends and neighbors so my success couldn't have been a case of premature green thumb, or even beginner's luck. This particular plant has weathered almost twenty years of repeated sub-zero temperatures every winter in Colorado since it was planted, with no heavy mulches or special protection over the entire period. Surely it must be genetically hardy, don't you think? I have read accounts of the tenderness of *Iris douglasiana* with considerable skepticism and wonder.

At this point someone might wish to interject that I have discovered an incredible break-through in hardiness in the section. I'm certain this isn't the case. I've acquired a large number of Pacific Coast iris from a variety of commercial sources in the interim: *Iris tenax*, *I. macrosiphon*, *I. innominata* and another half dozen or so plants of *I. douglasiana* were added to my original plant a decade ago. *Iris bracteata*, *I. chrysophylla*, *I. x thompsonii* and a host of hybrids and volunteers have grown here for the last five years and more, and every year since I've tried to add more plants to my collection. These have all proven as resistant to winter cold as my first plant. I truly believe that the entire section must have a considerable degree of innate tolerance to extreme winter cold.

Why, then, do people have so many problems growing these plants? When I first read accounts of how difficult the Californicae were to cultivate in the East, I began to wonder just what prodigies of talent I possessed. I've considered the subject for long hours, and I suspect that a few climatic peculiarities of the Colorado weather are mostly responsible for my success. I do think that an awareness of these features may help others in similarly cold climates understand a few secrets about growing these iris. Superficially, there is little in common between the climates of the Pacific Coast and the Southern Rockies. The common feature is dryness—and this I feel is an essential that has not been stressed enough in describing the culture of these plants.

The climate in which these iris grow is not technically Mediterranean. They are rarely found in pure chaparral or maquis terrain—and the forest clearings where they're usually found are tempered to an incalculable extent by the cooling effect of forest soils, nearby trees, not to mention the nightly blanket of fog. Nevertheless, they are subject to a definite seasonal variation in precipitation—and daytime temperatures in the summer throughout their range are warm and above all, dry. I suspect that research would bear out my casual gardening observation that these plants slow down considerably in growth during the warmest season. They have been trained, so to speak, to stop growing as the temperature rises, since this signals the advent of dry conditions.

Such vigorous, evergreen plants can hardly be called summer-dormant, but perhaps semi-dormant in summer. Division in summer can be fatal, as some gardeners find out to their disappointment: fungi and bacteria overtake the plants, which are simply *not* going to put down roots until the weather cools. In the wild, microbes and fungi in the soil would be similarly slowed down by the dryness, but in the garden bacterial growth is accelerated by irrigation. I am certain that root growth in Pacific Coast iris is stimulated solely by soil coolness—not by moisture.

Although the summer temperatures in the foothills of the Colorado Rockies are often in the nineties, nights are invariably much cooler. In addition, year round humidity is low. It is virtually impossible to overwater a properly draining soil at these seasons. One more factor in favor of the plants is the intensity of ultra-violet light at 5,600 feet altitude where my garden is situated. I first noticed the effect when I began cultivating alpine gentians; they established with ease, grew beautifully and bloomed prolifically. I read that they were subject to fungal attacks and die-back at lower elevations, and it occurred to me that ultra-violet light and cosmic rays must act like X-rays on bacteria and fungi in our soils. This is difficult for an amateur to document—but I am certain that plants are less subject to disease at our altitude than in lower, more humid climates.

The one serious drawback to this whole hypothesis is that most Eastern growers lose their plants in the winter, not the summer. It would be interesting to know just at what point plants actually succumb in Eastern gardens. Winter conditions along the Pacific Coast are not very different from winters over much of the East, after all. Both areas are subject to frequent freezing and thawing, long stretches of overcast weather, heavy precipitation and untimely warm spells in January. Perhaps Colorado's sunny winters and essentially dry cold (snow seems to precipitate directly into the air) are responsible for increasing hardiness in these plants so that they can withstand the far greater cold. If this is the case, perhaps some form of cover would help get these iris through cold spells in the East.

I feel that I should state that Pacific Coast iris will prosper in at least this continental climate: this is not to say that they could be put out with impunity among the native cacti, calochorti and yuccas of the foothills. They have certain minimum requirements in order to do well. If they are supplied with these conditions, the species I've tried so far compare quite well with their counterparts in the wild as I have seen them. They are not

exotic birds of passage, marginally eking out stunted lives in an insufferable climate, but landscape material that can tolerate considerable neglect and grow vigorously in a foreign milieu, blooming profusely year after year.

What are these minimal conditions? They demand a fast-draining humus-rich soil with an acid reaction. I manufacture whole beds of this for woodland plants: one part native clay-loam, one part sedge peat (the cheapest, locally available form of humus) and one part coarse sand. Acid leafmold would undoubtedly be superior to peat, but I would hate to rob acres of our meagre forests for the sake of a few beds. These beds should be top-dressed annually with compost and pine or spruce needles (my favorite mulches). If the soil is deep enough, these iris seem to be immortal in my climate—none of my oldest clumps seem to lose vigor or floriferousness, even after decades.

After soil, I think exposure is the next most important requirement. In the East this may be even more important. I have found that they resent shade and will not bloom underneath low-hanging trees or even the north side of my house where many alpines thrive. Several hours of direct sunlight should reach the leaves during the height of the growing season. Since they should have cool roots (to keep down fungus and bacteria deterioration) a rock to the south or a gentle northern slope to the bed is ideal. I find that I cannot overwater them—especially during warm spells and in the spring and early fall. Plants I have set out on the north side of a large spruce where they receive full summer sun and full winter shade have so far outstripped even my best plants in an earlier raised bed I had set aside for choicer alpines: winter shade reduces sun-burn and the foliage of Pacific iris in this bed is especially lush and attractive.

Once one of these Pacific iris is established, I know of no more rewarding plant. They require no special attention for most of the year, and even put up with a week or two of complete drought in the summer months. Unlike other iris, they don't need (and don't like) to be constantly replanted. The first blooms open long before the tall bearded iris start up, and finish long after the biggies are forgotten. The individual flowers of Pacific Coast iris are unexcelled in shape, color and texture in the whole genus—they are just about my favorite plant.

I hope that some day an enterprising mail-order nurseryman will grow Pacific iris in containers—perhaps seedlings sown in peat plugs—so they might be transported with a minimum of root breakage. As long as the very word "iris" suggests tractability and tolerance of abuse in the minds of most gardeners, Pacific Coast iris will have trouble being established away from their native homes. No one would dream, for instance, of leaving the freshly dug plants of a primrose lying in the sun and wind for long. I suspect that the greater degree of success gardeners have reported from growing seed is due to the fact that greater respect is accorded seedlings than established plants. When Pacific Coast iris are treated as the unexcelled prima donnas of their genus, I'm sure they will slowly condescend to grace gardens from coast to coast.

Fun with Pacific Coast Iris

ALWYN COX, Victoria, Australia

Reprinted from *The Iris*, newsletter No. 260, The Victorian Region, Australian Iris Society.

My involvement with Pacific Coast Irises, as they are best known, commenced at the first meeting of the Iris Society I attended—a Christmas party. During the evening our present Federal President slipped a packet of seeds into my hand saying “try these.” The packet was labelled *I. innominata* x *I. douglasiana*. I think they came from the “opportunity table,” but who supplied them I never knew, nor did I realize how I had been “conned” and thoroughly “hooked”!!! Two years later the seedlings began to flower. I was fascinated with these delightful little blooms, but they were far below the standard of the exhibits we had come to expect from the late Jean Winston, which eventually became for me both a challenge and an objective.

A few years later some casual seedlings appeared with slightly larger flowers and several side branches, but it was only after using pollen from a large yellow seedling grown by Rita Caldwell that I started to get flowers with wider falls. All sixteen seedlings from the first pod were good. Sometimes there were up to nine buds on one stem with three buds in the terminal spathe, hence a longer flowering season and a better garden display. Mostly these “Rita” seedlings were in pastel shades with attractive darker veining. The plants were reasonably vigorous but semi-deciduous—most of the old foliage tended to die back as the new growth took over. Stems were 20-3 cms. long, leaves 6-10 mm. wide.

By this time I was becoming interested in related and other species. I received clones and seed from a colleague who had obtained seed from the USA. These were much closer to the usual descriptions of *I. innominata*—foliage was smaller, 4-5 mm. wide. and flower stems only about 15 cms. high. The flowers were nicely formed, slightly frilled, and included pale blue, and one that was almost pink. The latter flowered in September, and then surprisingly, flowered again as late as November when one would have thought that all the little ones had finished. This characteristic is passed on to some of its progeny.

Seeds of a number of species were obtained from England, but by the time the seedlings were ready to plant out, havoc had been wrecked among the seed boxes by thrushes and blackbirds—plants and labels scattered everywhere. From the wreckage I salvaged two plants of *I. douglasiana alba*. Both plants were quite dwarf, foliage and flower stems not more than 15 cms. long. One flowered and promptly died before I thought of propagating from it. The next year the second plant flowered beautifully and I crossed it with everything available. Most of the crosses were successful but there were no increases so none can be repeated. I have a cross made with a white *innominata*. The flowers from it are small although a good white. It might be worth trying into another generation.

Crosses with *I. gormani* produced some extremely vigorous seedlings. According to an article by Ernest G. B. Luscombe (R.H.S. Journal, 1973), *I. gormani* is synonymous with *I. tenax*, but the latter is deciduous, whereas my clones of *I. gormani*, although producing flowers similar to those of *I. tenax*, are certainly evergreen. This is a vigorous grower, leaves 10-13 mm. by 50 cms. tall, with flowers a little shorter.

The hybrid seedlings are up to 50 cms. tall with mauve to blue flowers, 3 to 4 branches and up to 10 buds per stem. One plant that came up with a batch of sibirica seedlings, apparently of the same breeding, was particularly vigorous, with leaves 19 mm. wide, strong stems, very healthy and evergreen. The seed pods were much larger than the usual *I. innominata* pods, being 4-5 cms. long and up to 2 cms. wide, the seeds dark brown and pear-shaped. I hope this will prove to be a good parent.

Crosses of *I. douglasiana* with my *I. tenax* were a little less vigorous and inherited a tendency towards a deciduous habit.

Crosses of *I. gormani* with my “Rita” strain were also quite vigorous; the foliage was shorter and narrower than that of the crosses with *I. douglasiana alba*, the flowers were much larger with wider falls than *I. gormani*, the colours were deep blue and violet with lighter marks. These have been crossed between themselves and several show an intensification of the red colouration at the base of the leaves so characteristic of Pacific Coast Irises. The colour extends halfway up the leaves in one quite attractive plant that has not yet flowered.

Crosses back to *I. innominata* types, in an attempt to widen the colour range, generally resulted in a weakening in size and vigour. Only a few plants even survived after the second year and these were not the ones I marked for further attention. Yellows and golds were notably short lived.

I should have confessed at the beginning of this article that, for a scientist, my breeding experiments have been most unscientific—largely it has been pollen daubing using whatever flowers were open at the same time. Many crosses were not expected to be successful but some did produce viable seed. The crosses were usually labelled, but unfortunately I used cardboard labels which snails just loved to chew and by harvest time many were undecipherable. A plastic tag is much more reliable.

Marjorie Brummitt of England, writing for our own Iris Annual, 1973, stressed the special care necessary to ensure the accuracy of a cross. I haven't always done this and many crosses failed to show any influence of the intended pollen parent.

Some Native Iris of Trinity County

MARJORIE SCHMIDT, *Hayfork, California*

For practically all of my gardening life I have been a deep admirer of the Pacific Coast wild irises, and have at one time or another grown most of them. Since living here in central Trinity County there has been the opportunity to observe two species, *Iris macrosiphon*, and *I. tenuissima*. In several areas of this region where these two have crossed there is an extended range of flower colors, tintings or shadings. As I delve more deeply into these variations I wonder if there might not be, in some remote place, colors and markings as yet undiscovered. In discussing these two irises I have made use of *A Revision of the Pacific Coast Irises* by Lee W. Lenz, Aliso, Vol. 4, No. 1, pp i-72, published in 1958.

Iris macrosiphon, commonly called the ground iris, is better known, and more widely distributed than *I. tenuissima*. It grows from a slender rhizome, producing rather sparse quantities of linear, pale green leaves, generally less than one foot in height. Flowers are almost stemless and nestled low in the plant, or on the outer edges if the clump is a large one. The long, narrow tube between the top of the stem and the flower bowl is the significant feature and gives it the specific name *macrosiphon*. Oval capsules bear generous quantities of roughly angled seed. At elevations near sea level plants may bloom as early as March and April, but flower in May in this mountain region. *Iris macrosiphon* is native to grassy places and wooded or brushy slopes below 3000 feet elevation. It ranges from the Sierra foothills of Tuolumne to Butte Counties, and the inner Coast Ranges from Santa Clara to Glenn, Tehama, and Trinity Counties. Locally it grows in open forested areas where there is a mixture of yellow pine, Douglas fir, and deciduous oaks, and frequently in conjunction with species of *Arctostaphylos* and *Ceanothus*. Plants are, seemingly, in exposed situations, but there is generally some shade by late afternoon.

For most gardeners, and probably botanists also, the possibility of finding new and unusual colors where two or more species grow together, is one of the most fascinating aspects of wild plant studies. And while the most flowers of *Iris macrosiphon* are clear, medium blue, or blue-violet, other colors occur in widely separated regions. Lenz states that in the Sierra foothills flower color is always a pale lavender. It is reported that in Lake County colors include cream, light yellow and a deep golden yellow. In my present mountain area a colony of the ground iris may have almost every shade of blue from very pale to a dark blue-purple, sometimes with a hint of dark violet. Some of the unusual colors include a pinkish color almost that of a wild rose, another is a delicate slate-blue, and a third a vibrant, dark blue, verging on navy-blue. These, of course, are rare, and in one case the property on which they occurred is now privately owned. In one plantation *Iris tenuissima* was present,

but in the other cases, none was in the area that I could discover. I have never found seed on these unusual plants.

Iris tenuissima, slender iris, grows from a narrow rhizome, sometimes in spreading clumps, but again just three or four rhizomes. Narrow, pale green leaves attain up to ten inches to a foot in length. In most cases the clumps are robust, and tend to be more upright than those of the ground iris, and unlike it, the foliage of slender iris is colored at the base. The flower parts are narrow, with slender, pointed sepals and petals, and the style branches are deeply slashed. The total flower, with its widely spaced segments has an open, almost spidery effect. Flower color varies little from pale straw-yellow to rich cream, usually with some veining of a darker color. Where this species is influenced by *Iris macrosiphon* (or perhaps some other iris), the falls become more solidly tinted with a dark rose, deep lavender, reddish-brown or claret. And although these colors are rather subdued in tone, it is exhilarating to find anything which varies from the usual. This slender iris is native to dry forests of oak woodlands, mixed and yellow pine forests from Butte and Glenn to Siskiyou, to Trinity and Humbolt Counties. It appears to be a Sierran species which travelled westward around the head of the Sacramento Valley and into the magnificent north Coast Ranges which harbor so many rare native plants.

Several botanical characteristics separate *Iris macrosiphon* and *I. tenuissima*, but in many ways they are very alike. Their general growth habit, the narrow, and often sparse foliage, and of course the long flower tube give them a similar appearance. They grow in similar habitats, although *I. tenuissima* does occur at a slightly higher elevation. As we have seen, they are quite different in flower color and shape, the slender iris being open, or spreading, the flower parts lanceolate, and the whole flower having a rather fragile aspect. The ground iris, with its many lovely shades of blue, and its pleasing globe shaped flowers affords a lively contrast. And this species has the added attraction of a faint, sweet fragrance, a fact which was discovered by the renowned Alice Eastwood.

Both of these irises are satisfactory as garden plants, and may be used with effectiveness in rock gardens, as border edgings, or to mingle with drought tolerant plants in a semi-dry border. I grow them in this situation, as well as in an east-facing slope where they receive moderate amounts of water all through the year. In my experience the ground iris is a bit more adaptable, and where it is watered regularly, its growth is vigorous, with an abundance of new fans and flowers each spring. Both species are now being grown together in hopes of obtaining some unusual colors, but time and a vast amount of patience may be required before this is accomplished.

Here and There

How often have I heard speakers interrupt the commentary on their slides to say, "Well, this flower is really pink (or red or blue), but the film doesn't seem to capture its true color." How often—almost as often as I've attended slide shows.

Manufacturers of color film do not claim that their products reproduce colors accurately. They may claim "natural" color or use of a term like "true-color," but they go no further. There are many good reasons for their reticence, the most important of which is the difficulty of finding combinations of dyes for use in the film, which, in their transmission of light, exactly match the sensitivity of the human eye.

Variations between one batch of film and another during manufacture also cause differences in color response. Close tolerance in product testing are maintained by the well-known manufacturers, but anyone who has taken photographs of the same subject with film from different batches will probably have noticed these slight differences in color rendering.

Another difficulty confronted by the manufacturers of color film is the changing quality of natural light. Color film for daylight use is usually adjusted to render the most life-like colors in summer sunshine about mid-day and a couple hours before and after mid-day. Of course the film is used at other times and other seasons, but even during those hours for which the film is color-balanced, the quality of sunlight is affected by such things as atmospheric dust and humidity.

During a show our perception of color in a slide is affected by what was seen just previously and by other subjective factors. Some parlor games make use of the ability of the eye to retain an image, or an impression of it, beyond the time for which it is visible.

With so many things influencing the reproduction of color images, it is no wonder color film manufacturers avoid claiming accuracy for their products. Nevertheless most photographers, even flower photographers, are satisfied with their results—except when they photograph blue flowers.

In the rendering of many, but not all, blue flowers color films are obviously deficient and although the products of all manufacturers show this deficiency, it is not only in blue flowers that it can be seen. The defect is usually seen as a pink cast in blue and purple flowers making them look mauve or magenta, but pink and lavender colored flowers when reproduced on color film, can often be seen to have a more intense redness than was apparent in the subject.

Of the flower photographs I have seen, the strongest pink cast was on morning glory (*Ipomoea tricolor* 'Heavenly Blue') one of the clearest blue flowers imaginable. On the other hand, many photographs of the Himalayan blue poppy (*Meconopsis betonicifolia*)

render its color quite well and many gentians are also adequately reproduced.

The differences between these renderings of flower color result from differences in the extent to which the petals reflect infra-red radiation.

Of the full range of electro-magnetic radiation reaching us from the sun, only a small group of waves is visible. Among the many invisible waves are such everyday groups as radio waves, X-rays and infra-red radiation. Infra-red radiation, most of which is perceived as heat, gets its name from the fact that, when arranged on a scale of wave-length, infra-red waves are next to the visible red. A narrow band of infra-red waves closest to the visible ones, scarcely detectable as warmth but still invisible, nonetheless affect color film and are registered on it as though they were red.

Infra-red rays do not reach the film when the flower being photographed absorbs them, but those flowers that reflect them will look too red.

Manufacturers try to correct this tendency in the film, but the ideal remedy that filters out that small band of infra-red rays without interfering with the rendering of visible red, has yet to be found.

A group of filters can be placed over the camera lens that will remove the undesirable rays without seriously affecting the rendering of the subject, but the filters reduce effective film speed by about six stops and are therefore unpopular. Some photographers employ a simple pale blue screen on the lens to enhance the flower color, but this device also has shortcomings. Stem, leaves and other non-blue parts of the flower will be rendered blue and the use of the blue screen makes no allowance for differences in infra-red reflection from different flowers. Thus as many flowers are likely to be made too blue as are rendered more nearly correct by it.

Photographs of the flowers of many tall-bearded irises are affected to some extent by this radiation, especially red-blue and near blue ones. Some near blue tall-bearded irises yield quite good pictures, especially if photographed during overcast weather.

Among the Pacific Coast native irises, *Iris munzii* has flower colors coming closest to true blue. SIERRA SAPPHIRE, a selected form of *I. munzii*, which I have seen flowering only in the Santa Ana Botanic Garden, flashes with the blue of the sky above it and some photographs come close to capturing that color.

Many hybridizers are trying to introduce *Iris munzii* into hybrid plants of tougher constitution. Some of the hybrids from the Santa Ana Botanic Garden are now, or are soon to be, introduced. The success of these plants in the garden may help to change our conception of how blue flowers are rendered on color film.

W. G. W.



AROMAS (Hager) photographed by Glenn Corlew and reproduced courtesy of *Pacific Horticulture*.

Notes from Washington State

JEAN G. WITT, *Seattle, Washington*

Now that we have members who have grown and bloomed Pacific Coast Natives in Colorado, Minnesota, Kansas, and Missouri, I'd like to raise some questions for debate—what is the *right* time to ship plants from the mild Pacific Coast to ensure their survival in various parts of the rest of the U.S.?

Here in Western Washington the shipping time for PCNs turns on the arrival of fall rains. Usually these come about the first week in September and the PCNs have put out enough new white roots for shipping by the second half of the month. October is our best time for transplanting. Many years we can get away with moving PCNs well into November—but if we get a cold open winter with those ten-day dry freezes in January, the late-moved plants will be badly damaged even if mulched.

This year the rains came in August and the PCNs were ready to go while temperatures were still up in the 90s in the Midwest; some years our rains are late, and plants are barely ready by October 1st. My feeling is that October is rather late for most of the central and north-eastern states to be receiving plants, that their winters come on too soon for the plants to get established.

I'm not even sure all our species can take the same treatment. *I. tenax* moves very well in bloom; it also moves well earlier in the spring. Being deciduous, it is almost dormant by October, and can fail to reestablish unless moved with a large block of earth around its roots. Evergreen *I. douglasiana* and *I. innominata*, on the other hand, tend to look terrible all summer here if moved in the spring—fall seems to suit them much better. An experiment in spring shipment to Illinois was a failure—they promptly had a drought, so we didn't learn how the plants would have fared through an ordinary summer.

So please, let's hear suggestions from some of you on the how and when of transferring PCNs from mild climates to more severe climates!

Since the advent of damp packing, plants arrive at their destinations in much better condition than formerly. Are there still tricks for obtaining 100% survival? Do some clones have a better survival record than others? Are there some that resent transplanting, say, even between California and Washington? Particularly, what steps do those of you in the rugged climates take to get new plants through their first winter? How well do the evergreen-leaved ones survive being buried in the dark under heavy mulch?

The notion that PCNs "can't" be grown outside the Pacific Coast is being rapidly dispelled, but tips on the when and how of shipping and planting, would be of considerable use to our new members, and to our shippers.

Among this year's new PC seedlings were a group of dwarf *I. chrysophylla* that reflected some *I. innominata* background. Instead of *I. chrysophylla*'s usual spidery creamy-white flowers these were wide-petaled pale yellow and pink bitones, with many blooms in a tight fine-leaved clump, scarcely 4" high. Other new seedlings I liked, primarily of *I. innominata* derivation, were a small frilly white, a clear lemon yellow, a smooth apricot, and a couple of ruffled whites with the Valley Banner veining, but wider petals and shorter stems. *I. douglasiana* seedlings from AGNES JAMES, AMIGUITA, and BRIARCUP (Craig's blue-eyed white) gave lovely clumps of white or pale lavender flowers with varying degrees of eye-spot. AGNES JAMES seems to bequeath stout, erect stems, a matter of some importance here, with our tendency to rain at bloom time. Sad to say, plants of a number of the beautiful new named clones from California did not have adequate stems to hold up their large ruffled flowers under the weight of a load of raindrops.

In June we had the chance to collect several more plants of *Iris tenax* from 4000' Silver Star Mountain in Skamania Co., Washington. A couple of these were near whites with blue halos, and others the usual orchid type, so we now have a bit more color variation among plants of this species, valuable in breeding because it is used to being snow-covered for many months.

Pacific Coast natives with their pods which split wide open when ripe are among the most attractive iris species for dried arrangements. Color may depend somewhat on weather, but ranges from pale straw and tan to browns of various depths. AGNES JAMES, picked early in the fall, has pale greenish pods tigered with horizontal stripes of brown. Pods of some of the branched *Iris douglasiana* clones and hybrids are tan on the inside, with the outer surfaces and bracts a bright rusty brown. Others, gathered late in the season are quite dark brown on the outside and only slightly lighter inside. My favorite PCN pods, however, are those of *I. chrysophylla*, which are twisted and frilled when wide open, and so light a straw color that they suggest a second round of flowers.

PCNI members who wish to receive the Species Iris Seed List should send a large-sized self-addressed stamped envelope to Jean G. Witt, 16516 - 25th NE, Seattle, WA 98155. The new list will be out the end of November. Donations of seed from PCNI members will also be most welcome.

Jean Witt