



# Pacific Iris

Almanac of the Society for Pacific Coast Native Iris

[www.pacificcoastiris.org](http://www.pacificcoastiris.org)

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# Mitchell Medal winners

Due to Covid 19 last year, the American Iris Society Board of Directors suspended garden awards. As a result, this year two Mitchell Medals have been awarded, both of them to introductions from Joe Ghio.



'Line Drawing'

(Joseph Ghio, R. 2009).

Seedling #IP-159S2. CA, 14" (36 cm). Midseason bloom. Standards white ground lined dark blue; style arms deep blue; falls white ground, dark blue lines overall, intense blue stitched edge, green-gold dotted signal.

'Like Clockwork' X seedling #FP-265U, 'Foggy Days' sibling. Bay View 2009.

'Corralitos Creek'

(Joseph Ghio, R. 2013)

Seedling #MP-163A4. CA, 14" (36cm).

Late midseason bloom. Standards white, slight blue at distal edge; style arms dark blue; falls white, blue line radiates from signal to deep blue edge, deep blue halo signal.

Seedling #KP-155L: ('Da Vinci Code' x seedling #IP-156S3: ('Foggy Days' x seedling #GP-404K3: ('Bar Code' x seedling #EP-153C2: ('Ocean Blue' x 'Star of Evening')))) X seedling #KP154, 'Costanoa' sibling.

Bay View 2013.



**SPCNI MEMBERSHIP**

The Society for Pacific Coast Native Irises (SPCNI) is a section of the American Iris Society (AIS).

Membership in AIS is recommended but not required for membership in SPCNI.

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Annual, paper	\$15.00	\$18.00
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**AMERICAN IRIS SOCIETY**

Membership in AIS is not required for SPCNI membership, but it is encouraged and may be of considerable benefit to gardeners new to growing iris.

Send membership renewals or inquiries to the AIS Membership Secretary, or enroll on line at :

<http://www.irises.org/member.htm>.

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**PACIFIC IRIS DEADLINES: March 15 and September 15.**

The opinions expressed in articles and letters appearing in this publication are those of the authors and do not necessarily represent the views or beliefs of the SPCNI. Remarks about specific irises, companies, products and services shall not be considered endorsements by the SPCNI.

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When you order seeds or extend memberships via PayPal, please send a message separately to the appropriate email address ([seedex@pacificcoastiris.org](mailto:seedex@pacificcoastiris.org) or [orders@pacificcoastiris.org](mailto:orders@pacificcoastiris.org)). More often than we like, PayPal does not send a confirmation message to these addresses.

When you send a separate email, include the date that you placed an order, or the date when you updated your membership. Then the Secretary or Seed Chair can quickly find the missing transaction.

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## POSITIONS OPEN

**Vice President**—Field trips and garden tours; a good position for someone who wants to learn where to see PCI in the wild and in gardens on the West Coast.

**Social Media Chair**— keeping SPCNI active online, helping plan website updates, You Tube content and Facebook and other social sites.

**Historian/Archivist** Our long-serving historian Richard Richards has retired, so we are looking for someone to help record and preserve our history.

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Seedlings in the editor's garden

Photo—Gareth Winter

PUBLICATIONS AVAILABLE  
FROM THE SPCNI TREASURER

Prices listed are for SPCNI members in the US.  
For out of US, please add \$3.00.

PRINT ARTICLES

Check List of named PCI species and cultivars  
2005

Lists species and named cultivars and hybrids to 2005. \$9.00  
If ordering both print and CD checklist versions together,  
\$14.00

A Guide to the Pacific Coast Irises

Victor A. Cohen, 1967

Reprint of British Iris Society 1967 booklet, describing  
species, sub-species and distributions. 40 pages, \$8.00

A Revision of the Pacific Coast Irises Lee W. Lenz,

1958 Reprint of Aliso journal article 5.5 x 8.5  
72 pages. \$8.00

Hybridization and Speciation in the Pacific Coast Irises

Lee W. Lenz, 1959. Reprint of Aliso article 72 pages, \$8.00

If ordering both of Dr Lenz's reprints, \$14.00

All three volumes, \$20.00

Almanac Index, 2005,

includes the following indices: author, subject, species,  
hybrids, \$4.00, or download free PDF from the SPCNI  
website.

All the above books are available digitally  
from the SPCNI website.



*Iris chrysophylla*—from Iris Encyclopaedia

# Editor's notes

Joe Ghio has done it again—this time twice over. Last year the AIS suspended garden awards, so this year there has been a double up, with two of each award bestowed.

It will come as no surprise to read that Joe Ghio has won both this year's Mitchell Medals, with two outstanding cultivars., 'Line Drawing' and 'Corralitos Creek'.

Both these wonderful plants have Mitchell Medal winners in their pedigree. 'Line Drawing' has a sibling to the MM winning 'Foggy Days' as one parent, while the other, 'Like Clockwork', is a child of two MM winners—'Bar Code' and 'Ocean Blue'.

'Corralitos Creek', named after a stream in the Santa Cruz mountains, has MM winners 'Da Vinci Code', 'Foggy Days' and 'Bar Code' in its background.

This is all proof of the old adage that you must breed with best to get the best.

A quick look through the roll of winners of the Mitchell Medal also highlights the role Joe has played in the development of garden-worthy Pacific Coast Native Iris hybrids. He has won over half the medals awarded since its inception in 1973—26 out of 50 medals.

He won his first in 1979 with 'Los Gatos'.

Congratulations Joe!

Gareth



'Los Gatos' - Mitchell Medal, 1979

# Our Favorite Fungus

Words– Patrick O'Connor

Photos—Robert Treadway

This article was first published in *Fleur de Lis: The Journal of the Society for Louisiana Irises*, Fall 2021 issue.

On occasion, almost all iris growers have been visited by our fungus friend, *Puccinia iridis*, or iris rust. At least knowingly, we never invite this guest, but it will quickly bring others of its kind and persist from season to season if accorded hospitable treatment. Once it has a foothold, iris rust will rarely leave on its own volition. Rust disease on irises is not deadly, but it is ugly, and in severe infestations, it will damage foliage on some varieties enough to retard growth. Infected foliage may collapse and yellow prematurely. If you have rust in your garden, you will want to be rid of it, and control is possible with specific and usually manageable steps.

## What Is Rust, Exactly?

Many species of rust exist. They are fungi that rely on other organisms for nutrients. Many, including *Puccinia iridis*, are obligate parasites, meaning that they require living plant tissue to grow, feed, and reproduce. Iris rust occurs on irises only. Other species of rust are specific to different plants. Daylily rust, for example, is a different species, *Puccinia hemerocallidis*, and it will not infect irises. And so on for innumerable other rusts and different hosts. Total rust species number on the order of 7,000. In truth, there has not been a great deal of research on iris rust specifically. Rusts that infect valuable food crops, on the other hand, have been much studied. There also has been a significant amount of research on daylily rust, which is a more insidious problem than iris rust. Although rust species' characteristics and life cycle differ in many ways, iris growers attempting to control the problem have no current option but to assume similarities with other rust species in certain respects. That will be the case in this account.

## How Does Rust Reproduce and Spread?

Crafting effective countermeasures requires understanding how rust lives, loves, works, and goes about its daily business. Rust spreads from spores that are distributed primarily by the wind. A single pustule – just one of the slightly raised, rust-colored dots on a leaf usually surrounded by a yellowed area – may contain 10,000 spores, to say the least, an intimidating number. These spores are called urediniospores and are one of five types of spores a rust species can produce. If the pustules are dark or black and appear later in the season, they are a different type called teliospores. This difference is significant because there are two ways that many rust species, including iris rust, reproduce: asexually and by sexual reproduction. The early urediniospores are involved in asexual reproduction. They are essentially cloned, and the new ones are quickly dispersed to infect more leaves. In theory, to control rust, we must disrupt both the asexual and sexual reproduction processes. However, it is likely that for most iris growers, the asexual process is by far the most significant. Practically speaking, it may be the only relevant one.



Rust on hybrid Louisiana iris.

### Asexual Reproduction.

The rusty-brownish or orange pustules containing the urediniospores first appear in early spring. They erupt, and the wind spreads the spores to other living leaves. Direct leaf-to-leaf contact, insects, or gardeners and their tools may also distribute them. When the spores have arrived on an iris leaf, they are capable of “germinating” and forming a structure that grows into the leaf tissues. Inside, they form a network of rust strands or filaments called mycelium, which is the vegetative part of the fungus. The mycelia spread, living off the nutrients in the iris leaf. Under favorable conditions (such as moderate temperatures and ample moisture), mycelia eventually produce other pustules containing more urediniospores which emerge onto the leaf surface where they become visible. Additional spores are then released to be distributed by the wind and other means, continuing and increasing the outbreak of rust. The mycelia are not visible. An iris leaf may contain rust mycelia and yet appear rust-free until the new pustules appear and erupt. Thus, a garden may have an infestation without the gardener knowing right away.

### Sexual Reproduction.

In rust species, including *Puccinia iridis*, sexual reproduction is more complicated. It involves a cycle that includes an alternate host (a plant species other than an iris) and an additional, specialized type of spore produced later in the year. These dark or black teliospores do not appear until fall or winter – if infected foliage remains on the iris. In irises, the alternate host plant is nettle, and in daylilies, it is *Patrina* species. Common stinging nettle, *Urtica dioica*, is widespread in North America but probably not in urban areas. Rust cannot be spread to irises by sexual reproduction unless there is a nettle population in the vicinity, but if that is the case, nettle needs to be controlled. (Any gardener who insists on growing stinging nettle should at least locate it as far away from their irises as possible.)

### How To Disrupt the Life Cycle of Iris Rust

Left alone and once established in a garden, there is a strong chance that iris rust will come back from year to year. That is not always the case because external conditions, such as winter cold and summer heat or the



Rust on Louisiana hybrid iris

amount of rain, may naturally disrupt its life cycle. In truth, it is not always clear why iris rust comes and goes. It does not seem as resilient as daylily rust, and afflicted gardens can eliminate the problem, save occasional mild outbreaks. Daylily growers seem to struggle on and on. There are several widely accepted steps to control rust.

### Remove Infected Leaves

Once rust has been identified in the garden, promptly remove all infected foliage, including dead or yellowed leaves that may be around the irises. Destroy the leaves or discard them off site, such as in a landfill. Never compost infected foliage, and don't wait to get started. Cutting and removing foliage with visible urediniospore pustules will undoubtedly cause some spores' release into the air. However, the presumption is that far more are eliminated in the long run, and the overall result will be a reduction in the spread of infection compared to taking no action.

As much care as practical should be taken while removing foliage, and some recommend using a fungicide after foliage removal to prevent or inhibit spore germination. It is desirable to disinfect one's hands and tools after cutting infected foliage. However, if you deal with an extensive iris planting, such as in public gardens, or use volunteer labor, only so much care in removing infected foliage may be practical. A home gardener presumably could apply more refined and delicate techniques. Elimination of infected foliage in the spring should prevent the formation of teliospores in the fall or winter. Thus a concern with sexual reproduction of iris rust, with or without nettle, can be rendered moot.



**Seedling Louisiana iris looking good—  
except for rust**

Thorough end-of-season clean-up of iris plantings is an essential step if rust is to be controlled. The beginning of the iris growth cycle in the fall – when old foliage is shed and new growth begins – is an excellent time to remove unattractive yellow foliage and clean up any garden debris that may harbor rust spores.

Even if infected foliage has been removed from the garden as it was found, spores may remain on or around the plants. It is unclear how long and under what conditions spores might survive and remain viable, so removing as much plant debris as possible in the fall is an excellent strategy to break the rust cycle before the following season. Some gardeners have reported that diligent garden clean-up has been sufficient to damp down an outbreak of rust without resorting to chemical treatments.

#### **Prevent Germination Of Rust Spores Moisture.**

Rust requires moisture for the “germination” of spores that have arrived on uninfected leaves. A daylily source indicates that if temperatures are ideal, around 72-75 degrees F., a host leaf must remain wet for at least four to six hours for germination to occur. If that applies to iris rust, it explains why outbreaks are noticed most in the early spring. After summer heat arrives, additional infections are seldom seen. There is no way to eliminate the rain, dew, and humidity that provide the moisture needed for spore germination in early spring. However, knowledgeable people cite overhead watering, especially at night, as a potentially avoidable contributing factor. In a garden situation where drip irrigation is feasible, it is preferable. Overhead watering in the daytime or in the early morning hours, when dew is likely to be present anyway, are other strategies that may minimize outbreaks of iris rust. Since Louisiana irises are water-loving plants, their moisture needs are paramount.

#### **Fungicides.**

Many fungicides exist, and a few are both accessible and relatively inexpensive. Broadly, there are two types: systemic and contact. The plant absorbs systemic fungicides, and their effect may be both curative and preventive. If curative, the fungicide will attack and hopefully kill the fungus within the plant, and the production of additional spores will cease. On the other hand, a contact fungicide is simply preventive. It will kill spores that the wind has deposited on the leaves, halting germination and the spread of rust due to the particular spores that have arrived or may arrive while the fungicide remains sufficiently potent. A mix of both systemic and contact products is recommended.



Systemic, curative fungicides sound appealing, but they may not work well on established infestations. Systemics work best in the few days following infection. Fungicides are not one hundred percent effective, and it is important to follow product instructions, especially concerning the frequency of application. The best way to integrate fungicides into a campaign against rust depends on the conditions in each garden. Consider the following: If there has been a severe infestation in the previous year, spray with a systemic in very early spring before temperatures hit the optimal range for the spread of rust. A good time might be immediately as soon as rapid iris foliage growth begins as winter ends. Following this, at the first sign of rust, spray with a contact fungicide to attack spreading spores and protect iris leaves from further germination. Then, spray as needed and according to the manufacturer's directions until temperatures rise in summer and conditions conducive to the spread of rust cease. After fall garden clean-up, spray with a systemic or contact fungicide to inhibit germination of spores that may linger on remaining foliage. Plan to rotate products over the season to prevent the build-up of resistance to any single fungicide. A few products are suggested below, but iris growers with rust issues should do a bit of research for more complete information. Search on the internet for articles on daylily rust, which has been studied far more than iris rust but seems similar in its behavior.



Louisiana iris 'Fringed Gold' with rust

### Other Steps To Control Rust - Grow Resistant Varieties.

If experience shows that a variety is highly susceptible to rust, consider eliminating it from the garden. On the other hand, if a rust-prone cultivar is important, special precautions – such as early use of fungicides – are advisable. The species *I. fulva* and *I. brevicaulis* seem afflicted by rust more than the others, and certainly, one may not want to eliminate those from the garden. The same may be true for some older cultivars that are especially enjoyed or valuable for historical reasons. Older cultivars, nearer to the species in their ancestry, may be more prone to rust. Over the years, rust resistance has probably been a factor in selecting new varieties to register and introduce, so modern cultivars as a group appear more rust-resistant. Rust-prone irises might be potted and used as sentinel or indicator plants monitored carefully for the first signs of rust in a garden. If infected, relocate the pots away from other irises and consider a more aggressive fungicide regimen. In addition, one might use these susceptible varieties effectively in experiments to test various control techniques.

### Plant Spacing.

Plants growing vigorously in dense clumps facilitate the spread of spores by direct leaf-to-leaf contact. They will also be slower to dry out from dew, rain, or watering, creating conditions more conducive to spore germination. On the other hand, lush foliage generally means lots of bloom stalks, which we want. This is a balance that the gardener must strike.

### Be Careful What You Bring Into The Garden.

Plants that you introduce into your garden may be infected with rust or harbor spores or mycelia, even if invisible. Commercial growers undoubtedly practice good iris hygiene, and the plants they ship will have been disinfected with a wash in a mild bleach solution or the like. That may be sufficient to kill any rogue spores. However, irises from unknown sources or, especially, the wild, should be viewed with caution. Wild irises often are infected with rust since no one is available to insist on good cultural practices.

It is not clear if spores may exist in the soil, but a proper wariness would suggest that bare-root planting is a good idea, so wash any existing soil from the roots. In addition, cut back old foliage to eliminate leaves that may be infected with invisible rust mycelia. Those steps should halt or greatly diminish the transmission of rust.

### **Limit Nitrogen.**

Avoiding excessive use of nitrogen fertilizer is a standard recommendation to control rust, but there is no evidence that nitrogen directly affects the disease. Rust is a fungus without roots and leaves that respond to nitrogen as plants do. Rust obtains nourishment from the iris leaves in which the mycelia live. However, nitrogen might indirectly spread the disease if excessive nitrogen application causes plants to grow rapidly and thickly, creating dense clumps with reduced air circulation and greater direct leaf-on-leaf contact. The best advice is to apply nitrogen at a rate recommended for the good performance of Louisiana irises, and not more or less.

### **Apply Wood Ashes?**

A few growers have asserted that the application of wood ashes in containers and beds of irises acts to prevent or cure rust outbreaks. No available written information on rust mentions this treatment. Growers who use wood ashes report no harm when applied in moderation, although ashes are alkaline and might slightly change the soil's pH. Those who use the technique report beneficial results. If wood ashes help control rust, the mechanism by which it works is not known. Possibly ashes create conditions in which spores are less likely to survive in or on the soil over winter. It is also possible that a reduction seen in rust is due to another cause, and the application of ashes is coincidental. The use of wood ashes should be an easy and potentially valuable avenue for experimentation.

### **Avoid Manure?**

Manure as a cause of rust outbreaks has been suggested since the early days of SLI. In those times, gardeners used manures more extensively than today. Some early gardens, such as W. B. MacMillan's in Abbeville, LA, often had significant problems with rust. The speculation at the time was that his heavy use of manure was the culprit.

However, many iris gardeners using manures have reported no rust outbreak. Possibly, rust spores can be brought into gardens along with manure and associated material, but there is no evidence, as with nitrogen, of a relationship between manure itself and rust. Many growers use commercial products such as Black Kow with no resulting rust problem.

### **Remaining Questions**

Scientists who study fungi – mycologists and phytopathologists – may roll their eyes at this hobbyist's treatment of iris rust. Much more detail about the rust life cycle is known, but additional expert focus specifically on iris rust would be most welcome. Popular articles on iris rust treatment consist mainly of descriptions of the characteristics of the fungus, the damage that it inflicts on irises, and lists of cultural practices thought to help. Experience shows that rust can be controlled significantly or eliminated if cultural recommendations are implemented. To some extent, suggested practices may be a case of overkill. Control may be possible with the implementation of less than the full set of recommendations. Will just meticulous removal of infected foliage do the trick without resorting to fungicides? We just don't know with certainty, and perfect clean-up is hard to achieve. The wind-blown spread of rust from plant to plant is understood, but the mechanism of transmission from season to season is not entirely clear. Imagine yourself in your iris garden in late winter. That would be in January or early February in the Gulf South. You probably will not have seen rust since the previous year.

During the entire growing season beginning in September or so, its ugly face has been absent, and foliage growth is crisp and clean. With the end of winter and the beginning of warmer nights, the spring burst of foliage growth begins. By early March, scapes are visible. Then early signs of rust appear, starting in a few varieties. Where has it been? Why is it popping out now? Was the foliage already infected with the invisible mycelia from the previous season? Did moderating temperatures jumpstart its production of the rust lesions that erupt onto the leaf surface to become what we recognize as iris rust? Or, were the plants rust-free at the end of winter, only to be infected by spores that had been lurking on yellowed or decaying plant material left over from the previous season?

Or perhaps on the soil surface or even the mulch around the irises? The exact mechanism of spread may be incompletely understood, but an arsenal of effective techniques to combat rust is available. It would be wise to emphasize good cultural practices so that if fungicides are needed, it is to the minimum extent possible. Keep in mind that *Puccinia iridis* is endemic to irises and will pop up now and then. So even with your best efforts at control, expect to deal with it from time to time.

### A few fungicides for Iris Rust

#### Systemic -

**BioAdvanced (formerly Bayer) Disease control for Roses, Flowers and Shrubs**

Contains Tebuconazol

Available at stores such as Lowe's and Home Depot

#### Contact -

**Garden Tech Daconil**

Contains Chlorothalonil

Available at Lowe's and Walmart

**Bonide Mancozeb**

Available at Walmart



Rust never sleeps—and neither does Australian iris breeder John Taylor. As well as this rust-coloured beauty, you can see more of his recent seedlings at the rear of this issue.

## PCI on Zoom with AIS

Words– Kathleen Sayce

Instead of an iris convention this year, the American Iris Society lined up presentations from all sections. These began during Summer 2020 and are still being offered, one per week, in late September. These are recorded and posted on the AIS You Tube channel. You can now watch them at your convenience.

SPCNI did a zoom talk for the American Iris Society in early September. Bob Sussman, SPCNI President, was the presenter. His talk focused on propagating PCI from seed and divisions, “An Introduction to Growing Pacific Coast Irises”, AIS Webinar #20. It was a good introduction to how he grows PCI in southern California, and how his nursery adapts this group of irises to warmer, drier conditions.

The discussion during and after was on how to make suitable garden modifications for different climates (both hotter and colder), germinating PCI seeds, transplanting, and ways to be successful growing PCI away from the West Coast. More than 75 people participated, and Andi Rivarola was the capable moderator for the presentation.

This talk is now on the AIS You Tube page, <https://www.youtube.com/watch?v=xXdI3k36Y6g>.



# Guns, Insects, and Iris

## Words and image from Steve Taniguchi

Is there a relationship between guns, insects, and iris? Although you may at first struggle to find the connections, the answer is, surprisingly, “Yes”.

If you collect iris seed, where do you put all of your seeds? I have an interesting solution.

I like to do (very small scale) hybridizing of PCIs. Unfortunately, I do not have much space to grow my seedlings, so I end up with left-over seeds. Since I am loath to discard the seeds, I have to store them somewhere. But where and how?

### Insects

I have an interest in entomology. One year I was looking for small cages for raising insects which led me to an entomology equipment store. As I looked around at the interesting equipment, I found 2-dram glass vials with screw tops that would make excellent containers for my PCI seeds.

### Guns

As well as Iris breeding and entomology, I also like to fish. I like to buy fishing tackle. Quite some time ago there was a local sporting goods store that I liked to visit. On the way to the back of the store where they had the fishing stuff, you had to walk through the hunting section. One day I noticed all sorts of boxes used to store ammunition. So, the next time I went to the store, I took a 2-dram glass vial with me and asked the person at the counter if there was any container suitable for storing these vials. He looked at the vial, and said it looked similar in size to a 20-gauge shotgun shell, and led me to the containers for shotgun shells. And yes, the vials fit in containers with slots for 20-gauge shotgun shells.

### Iris

I store my latest PCI seed in 2-dram glass vials that have polyseal caps. Seed information is written on a small slip of paper and put into the vial before the seed is added. I make sure the seeds are thoroughly dry before storing. The vials are stored in plastic containers designed to hold 20-gauge shotgun shells.

Note that this is for small-scale seed storage, each vial can hold a maximum of approximately 140 large PCI seed (I have one vial that contains 128 seed, and there's room for about a dozen more).

So that's the connection between guns, insects, and iris.



Steve Taniguchi's love of iris, insects and guns intersects with this clever way of storing the left-over PCI seed from his breeding program.

## New PCI registrations 2020

### Words—Kenneth Walker

[LEVEL BEST](#) (Joseph Ghio, R. 2020) Sdlg. QPP-99M. 12" (30 cm), EM, S. cream, small blue line down center; style arms deep blue; F. cream, yellow signal overlaid with blue speckles, blue lines around signal to top half of petal, small lined edge around petal. California Born sib. Bay View 2020.

[TIPPING POINT](#) (Joseph Ghio, R. 2020) Sdlg. QPP-94AA. 14" (36 cm), ML, S. white; style arms light blue; F. white, very thin light blue plicata edge, signal yellow with dotted blue overlay surrounded by blue spokes. Big Waves sib. Bay View 2020.

[WINK OF AN EYE](#) (Joseph Ghio, R. 2020) Sdlg. RP-147B2. 13" (33 cm), EM, S. warm white; style arms mid blue; F. warm white, thin blue-violet edge, blue halo signal surrounded by small blue spokes. Breaking the Code sib. Bay View 2020.

# Late Spring Field Trip in 2022 or 2023 Field Trip [AKA Trek]

Words and images—Kathleen Sayce

SPCNI is looking for a vice president whose main job will be to organize field trips and garden tours. It has been 11 years since the last trip in 2010. We are discussing a spring 2022 or a spring 2023 tour in SW Oregon to see several PCI species in bloom.

Southwest of Roseburg, Oregon, in the Siskiyou Mountains, six species grow in the wild and flower in late May and early June in most years. Species in this area include: *Iris tenax*, *I. innominata*, *I. chrysophylla*, *I. thompsonii*, *I. douglasiana*, and natural hybrid swarms in several combinations. Wild populations of PCI 'Valley Banner' type can also be seen.

Further south in the Cave Creek area, the T.J. Howell Botanical Reserve on Six Dollar Mountain is a good location for *Iris bracteata*, where both small and large forms grow along with several endemic wildflowers. The Siskiyou-Klamath Mountains are an area of amazing species diversity due to a complex juxtaposition of serpentine and normal soils over hundreds of square miles.

"A guide to the Pacific Coast Irises" by Victor A. Cohen is a good reference to all species except *Iris thompsonii*. This species was lumped into *Iris innominata* by Dr. Lee Lenz, then with the reissue of The Jepson Manual: Vascular Plants of California, *Iris thompsonii* was separated out again based on genetic studies by Dr. Carol Wilson.

In 2010 we had a van plus several cars. For the next trip it may be better to plan on only using cars in caravan, with a few people in each car. The state of the pandemic makes any details a bit uncertain right now—it may be we should wait to 2023 to be safe. SUVs, such as Subaru Outbacks, are agile enough to drive the many miles of gravel roads that this trip encompasses.

Another option is to compose a digital field trip document, so members can download it and self-guide themselves into the hills to see wild PCI species at the right times of year.

What interests you? Email Kathleen at [kathleen.sayce@gmail.com](mailto:kathleen.sayce@gmail.com)

## Photos from 2010 trek



*Iris tenax*



*Iris tenax x innominata* hybrids



*Iris tenax*—Valley Banner form

# SPCNI Website Updates

Words—Kathleen Sayce

With much of our lives moving online during the pandemic, it is time to expand our website.

Some of the changes we could make:

Improving security for content and users—  
always a problem when a site handles money,  
as for memberships and seed sales.

Creating a secure discussion page for members—  
hacking is a constant problem for all software  
platforms on the internet, and has driven many  
former Facebook members off that platform,  
and others.

A photo gallery of species—  
we have species descriptions, and adding a place  
for new images for each would be useful.

A photo gallery of PCI gardens—  
PCI in gardens help give all of us good ideas for  
our gardens. Plus, in winter these are just  
beautiful to look at! I for one would love to see  
John Taylor's photos of hybrids and gardens, all  
gathered in one image gallery. And Garry Knipe's.  
And Bob Seaman's. And . . . well, you get the  
picture—many members have lots of great photos  
of their flowers, plants and gardens, and sharing  
this would be wonderful.

PCI checklist—  
Ken Walker maintains our checklist of registered  
hybrids. We haven't printed it in years, and if we  
posted it, then members could download the list  
for themselves.

Note that the Iris Encyclopedia does a good job for basic  
descriptions of species and hybrids; see this at:

<https://wiki.irises.org/>

The PCI section (called PCN in this encyclopedia) is  
at: <https://wiki.irises.org/Pcn/WebHome>

PCI species are in the species list:

<https://wiki.irises.org/Spec/WebHome> where all species  
are prefaced by Spec, as in SpecDouglasiana,  
<https://wiki.irises.org/Spec/SpecDouglasiana>, as are  
named selections of species.

We could also consider our own You Tube channel.

Photos? Send to Ken Walker at [kenww01@astound.net](mailto:kenww01@astound.net).  
Other ideas? Let the Secretary know, she will compile  
suggestions, tell the board, and report back to members  
in *Pacific Iris*.

# Joint convention planned

Words—Debby Cole

The Siberian and Species Sections of AIS plan to hold a  
joint convention in the Seattle area next Memorial Day  
weekend, on May 27-29 (Fri-Sun) 2022. This was  
originally scheduled for 2020, but had been postponed  
due to Covid-19.

The master planting of many, many Siberians and many  
different species irises is at Cascadia Iris Gardens in  
Lake Stevens, WA (north of Seattle and east of  
Everett). Patrick Spence (its co-owner, with his wife  
Margaret), who has been president of both the Siberian  
and the Japanese iris Sections of AIS, is convention  
co-chair. Two other major gardens are included on bus  
tours.

Hotel and bus contracts have been signed. The  
convention hotel will be the Hilton Garden Inn  
Lynnwood, WA (between Seattle and Everett, and very  
close to the freeway). Convention room rate will be  
\$109 plus taxes and fees, and will be good for two days  
before and two days after the event. Guests should call  
the hotel directly, 425-320-5905. Mention KCIS or  
King County Iris Society to get the convention rate.

Convention events include a species-related talk by  
Ken Walker, who supplied many of the 120+ species  
plants on view at Cascadia, and a two-hour walk-  
through of the species by Jan Sacks, half of Schafer/  
Sacks of Joe Pye Weed's Garden. Lunches and  
dinners for both Saturday and Sunday are included in  
the registration fee.

As a free additional opportunity following the  
convention, Bob Seaman of Leonine Iris Garden and  
Debby Cole, both of whom specialize in Pacific Coast  
Irises and garden in south-metro Seattle have agreed to  
hold their gardens open to conventioners on Monday,  
May 30 (Memorial Day), but transportation is up to the  
individual. Both are close to a direct route from the ho-  
tel to SeaTac Airport; contact information will be  
available at convention.

Granted, this is not an SPCNI event, nor do I want to  
make it one as such, but our members would certainly  
be welcome if interested. They could also take  
advantage of the hotel arrangements for whatever dates  
in the span that they could come even if only for Sunday  
-Monday (this from the team who negotiated).

# A Few First Blooms

Words and images - Bob Sussman

A few new first blooms from the laboratory. These flowers the result from our crosses two to three years ago. While there are many, many more they tend to be somewhat similar to these by either color or characteristic. The immediate parents that we used were 'Ocean Blue', 'Clincher', 'Now Showing', and 'San Ardo', - all four are Ghio irises. Additionally, there's plenty of 'Untitled', a Gessert iris, 'Canyon Banner', one of ours, a noid this is one of ours, and 'Starry Night' a Suncrest Nurseries iris. All of these are many generations from their native roots.

As many of you know we have hot summers relative to the native range where Pacific Coast Irises grow. All of these in the picture have made it through their first summer and that's a pretty good indicator that they'll be good growers in our warmer climate. We been doing this for several years and work with stock that handles our warmer climate. We really have no choice in the matter, that's just where we are— in sunny (sometimes) southern California.



# Seed Exchange news

Words—Louise Guerin

As 2021 roars towards 2022, I'm beginning to think about seeds. Seeds for my job, and seeds for the Seed Exchange. 2020-21 was a somewhat busier year for the Exchange - which was okay because the pandemic ensured that I had a fairly open calendar.

2020 was one of the few years that people doing mail order and those who were able to run nurseries were kept busy. The mail order work I manage during the summer months was extended through all of 2020 - which resulted in an increase of 70% for orders of cactus and succulent material. The Exchange - while busier - was still less busy than when I first adopted the project.

So for 2021-22, I can advise that I've received a sizable parcel of material from Garry Knipe in Cupertino, and today Debby Cole's parcel arrived. I'm sure that at any moment, I'm going to get a message from Bob Sussman regarding dropping by his nursery in Moorpark to pick up his latest offerings.

In 2020-21 - with much grumbling on my part (mostly talking to myself) -we created a 4-part list that, we hoped, would make more sense for people searching for seed. There will be more corrections and edits to ensure that each section is properly populated (thank you Bob Seaman for suggested, sensible additional changes). As usual, I'll strive to have the first draft done for Debby to review well before Thanksgiving. Seed shipments are consolidated to one day now - it's just easier to send everything at once when I have a day off. I always enjoy hearing from purchasers when they receive their material quickly. We'll continue adding tracking information to packets shipped to U.S. addresses. We'll have to determine if tracking is necessary for overseas shipments.

Looking forward to getting the process underway and sending out seeds to our members..



Steve Tanigushi's special seed containers



Wild population of golden *Iris innominata*

Photo—Kathleen Sayce



A new garden hybrid

Photo—Bob Sussman



# Snow White and her seven+ (fellow) dwarfs

Words and images—Debby Cole

Background: Our home's pie-shaped lot faces east. Our level back yard is 10-12 feet wide. The rest of the wedge points uphill through two levels of rockery and some more slope, all of which was once a second-growth forest. Worse yet, we're on the side of an island in metropolitan Seattle. So: sandy loam, acid soil, morning sun. More: we've been here for almost 50 years, and the hillside is still very little cultivated, as it's difficult to access.

When I first got interested in PCI after 15 years here, I joined SPCNI. I ordered several seed lots from the SPCNI seed exchange to see what the species looked like. THEN I thought, where shall I plant these? Acid sandy soil, good drainage, east-facing for morning sun---okay, they'll be good up on the rockery. I haven't gone back to see what they were, but *douglasiana* and *munzii* for sure.

After 15 more years I was bored, and decided to dig them out and clean off the rockery; maybe some other inspiration would present itself. While I was waiting for said inspiration, PCI sprouted from seed left behind on the rockery. I waited to view the result: I am not one to refuse gifts from God, and they are generous, big and lovely---but only cover part of the rockery.

In recent years I have saved seed from all my PCI that occurred in quantities too small to be of use to the Seed Exchange, thinking, this must be good for something. Five or six years ago I thought, wouldn't it be fun to strew random PCI seed along the other parts of the rockery? Just for decoration?

In 2019 one of the irises that germinated there put up a bloomstalk, 8-10 inches tall, with two buds and dainty white flowers. I thought, that's nice.

In 2020 it put up 5 bloomstalks, 2 buds each, and I thought, great!

In July 2020 it put up another bloomstalk and 2 more flowers. Wow! I affectionately nicknamed her

'Snow White.'

In 2021 she put up 13 bloomstalks, most with 2 buds (a few with just one). I waited with baited breath to see what would happen in July: nothing.

???

2020 was a very cool damp spring/summer, with frequent showers almost into August. 2021 has been excruciatingly dry, from mid-June onward---and we don't water the rockery. Is water the big factor here? I plan to take a division of the clump next spring and put it in a spot with better watering to test that theory. Other theories are welcome.

I think I've relayed a lot of these 'stay tuned' vignettes; they seem to be part of the life of the PCI grower. I for one would really like to hear what unexpected things other growers are experiencing. This is, after all, still an 'almanac,' for input from everyone so that we may all benefit.



# Climate change and wildflowers

Words—Gareth Winter

The climate is changing all around the world. It seems everyone is experiencing climate extremes unknown in recent times. Record high temperatures are followed by devastating wild fires; snowfalls are decreasing leading to water shortages for areas dependent on snowmelt to feed rivers, and extreme rainfalls are causing unprecedented flood events.

Gardeners are wary. Many municipalities are introducing severe watering restrictions in dry months, and it appears we are going to have to change the way we garden.

How has this affected wildlife, and what does the future hold for wild Pacific Coast Native Irises?

An article in *Climate Change and the Future of California's Endemic Flora*. PLoS ONE. 3(6): 1-24 reported that up to 60 per cent of California's endemic plant species could experience up to 80% decline in the range within the next 100 years.

This is especially problematic for species that have a small population size and restricted habitat type. This suggests that, for example, some of the isolated sub-species of *I. hartwegii* could be at risk. The Southern Hartweg's Iris - *Iris hartwegii australis*—grows in montane yellow pine forest in southern California, the furthest south of all PCNI. If these forests are affected by climate change, this charming sub-species will be at risk. One threat, not often considered, is the threat posed by invasive plant species, those that can adapt to the changing climatic conditions more quickly.

A paper *The Potential Effects of Climate Change on Oregon's Vegetation* suggests that the rapid rate of change will present a problem for many species.

“Future climate changes are projected to occur relatively rapidly, making it difficult for plants to genetically adapt to climate changes or to disperse to areas of more suitable climate, although microclimate diversity in Oregon's mountainous terrain may provide suitable climate conditions for some species over relatively short distances. Adaptive management strategies may assist plants in adapting to future climate changes, but will be challenged by the long life-cycles of many Oregon forest tree species.”

The report also stresses that much is still conjecture.

“Uncertainties in projections of future climate changes, particularly our ability to project changes in the amount and variability of precipitation, limit our ability to project how plant species will respond to climate change. The potential for future climate changes to produce spatially extensive, multi-year droughts is of particular concern”

In a recent e-mail Kathleen Sayce pointed out that the potential for multi-year or successional drought posed a threat to PCNI.

“PCI species in nature usually survive wildfires either as seeds or resprouting rhizomes; this is part of the natural disturbance for western North America. What is new is severe drought that becomes routine instead of occasional. Severe summer droughts can change entire ecologies over thousands of miles “

A paper from Washington state posed similar questions. *How Will Climate Change Affect Plants and Animals in Washington?* says climate change will affect biodiversity through major ecosystem disturbances, including fire, drought, and flooding, saying it may increase the risk of severe, stand-replacing fires in forests, and again stressing the chance that climate change may be advantageous to invasive species.

It looks as though both our gardens and our wilderness areas are in for some challenges.



*Iris hartwegii australis*

Photo—Richard Richards

# Wonders from Down Under!



To round out this issue, the next four pages feature a selection of seedlings from Australian breeder John Taylor., who supplied the photographs.





