International Rock Gardener

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This month, as the USA celebrates Independence Day, the IRG has a distinctly North American bias to the plants covered, starting with the first of a small series by Gene Mirro about the lilies of western America. Rex Murfitt addresses a charming Iris whose needs have been mis-stated over a great many years and ZZ throws a friendly challenge to a friend about another North American plant, *Telesonix heucheriformis.*

Cover photo: Natural rock garden overlooking the Pacific Ocean at Point Saint George by Gene Mirro

---Plant Report---

Liliums of the Northern California Coast, San Francisco to Eureka by Gene Mirro

The California coast from San Francisco northwards is characterized by moderate temperatures in both Summer and Winter. Winter can be overcast, foggy and rainy. Summer can also have long periods of fog, but precipitation in summer is minimal. It is a true Mediterranean climate, except that summers are cool and winters are mild. Temperatures are much like the lower altitudes of the Himalayas, but most of the rain comes in winter, unlike the Asian monsoon climate of the southern Himalaya, where many Liliums and Nomocharis live. Also, the climate becomes much more harsh as you travel away from the coast. Just a few miles can make a noticeable difference in summer temperatures. In the northern corner of California, the coastal area is bordered by the Siskiyou Mountains, with cold and snow in winter at high altitudes. The mountains also segregate the coast from the interior climate, so that the region from Eureka to the Oregon border is strongly under the moderating influence of the Pacific Ocean. So the phrase “California climate” is meaningless. The only generalization that can be made about California’s climate is that summers tend to be dry.

The classic *Lilium maritimum*: a small outfacing bell.

Heading north from San Francisco, the first lilies that we encounter are *L. pardalinum* and *maritimum. L. pardalinum* in its many local variations is found only where there is abundant soil moisture through most of the growing season.

L. *maritimum* is found only along a small range of the coast, and is rare. *L. maritimum* can be found in wet ground and drainage ditches, but also in quite dry ground under trees where there is still some sun. In places where both species are present, It is likely that hybridization has occurred.

A rather suspicious-looking *L. maritimum*. I suspect hanky-panky. But I’m not an expert.

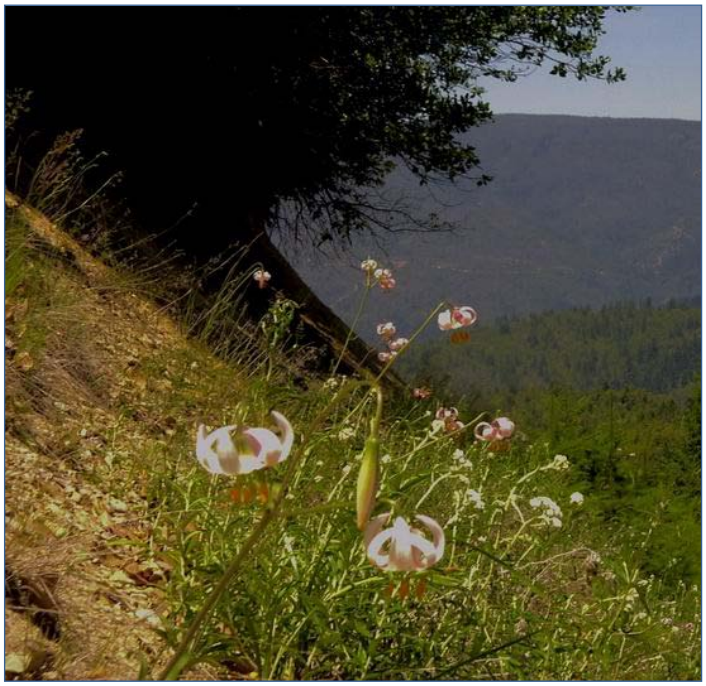
Wherever lilies coexist with the native conifers, there is competition for light, water and nutrients. If the trees are allowed to propagate and grow naturally, they will eventually crowd out the lilies. Lilies are called “transitional” species. They thrive after fire has cleared the land, but only until the trees return. The natural state of the Pacific Northwest is to be covered with coniferous forests, with almost no light reaching the forest floor. This ecosystem is of little use to humans and grazing animals. The Native Americans purposely burned the forests in certain areas on a regular basis, to provide food for wildlife and land for agriculture. When the Europeans arrived, they converted much of that land to agriculture, and later to development. But surprisingly, much of that land has become reforested. With modern fire suppression policy, the land remains forested until the trees are harvested. As a result, the habitat for smaller plant life that requires some sun has been greatly diminished. Often the only places where lilies and other wildflowers can be seen are along roads and power lines, where humans have chosen to keep the tree growth under control. The more rain there is, the more competitive the trees are. So this problem is most severe along the northern California coast, and throughout western Oregon, Washington, and British Columbia.

Lilium occidentale

As we travel to Eureka and points north, in coastal wetlands we encounter *Lilium occidentale*, the very rare and endangered Western Lily. This lily has suffered greatly from competition with humans and trees.

The green throat is characteristic of *L. occidentale.*

If we travel a little east into the coastal foothills, there are a few places where *Lilium kelloggii* thrives. I’ve seen it in both wet and dry soils.



Left: ***Lilium kelloggii***

Above: ***L. kelloggii* in the garden**.

If you keep a close watch on roadside drainage ditches and stream sides, you may find *Lilium pardalinum*, probably the most vigorous of the western lily species.

Lilium pardalinum

Into the wilderness

Heading further east into remote mountainous areas in Six Rivers National Forest, there are some species not normally found at low elevations.
The park rangers say that Bigfoot lives up here. I think they are just trying to discourage city slickers, who tend to need rescuing a bit too often. Mind you; it is true that you don't want to get into trouble in these mountains. There is no traffic and no cellphone reception. And there are some animals that view you as an entrée.

As we climb to around 800m altitude, the first lily we encounter is ***L. rubescens.***

Above: ***L. rubescens* in the garden.** It needs some shade at low elevations. The upright blossoms are a clue that it does not expect rain in summer.

Lilium pardalinum

In a marshy meadow, we find *L. pardalinum* or one of its kin. How do the seedlings survive under this mass of competing foliage?

The best stem of ***Lilium bolanderi*** I have ever seen.

At around 1200m, we start finding *Lilium bolanderi*. This species is often associated with serpentine soils. I usually see it growing under Manzanita (*Arctostaphylos*) shrubs. I've also seen it growing with *Quercus sadleriana*, an interesting little shrubby oak, and *Lithocarpus densiflora*, a little shrub with oak-like acorns. The colour is typically brick red, much like *Lilium callosum*, but is highly variable, probably due to natural hybridization. I've never been able to grow this lily in the garden, but I haven't given up yet.

Lilium bolanderi, growing in dry serpentine soil.

Lilium washingtonianum

As we climb above 1350m, we find *L. washingtonianum*. As far as I know, this lily lives at the highest altitude of any of the California coast species.

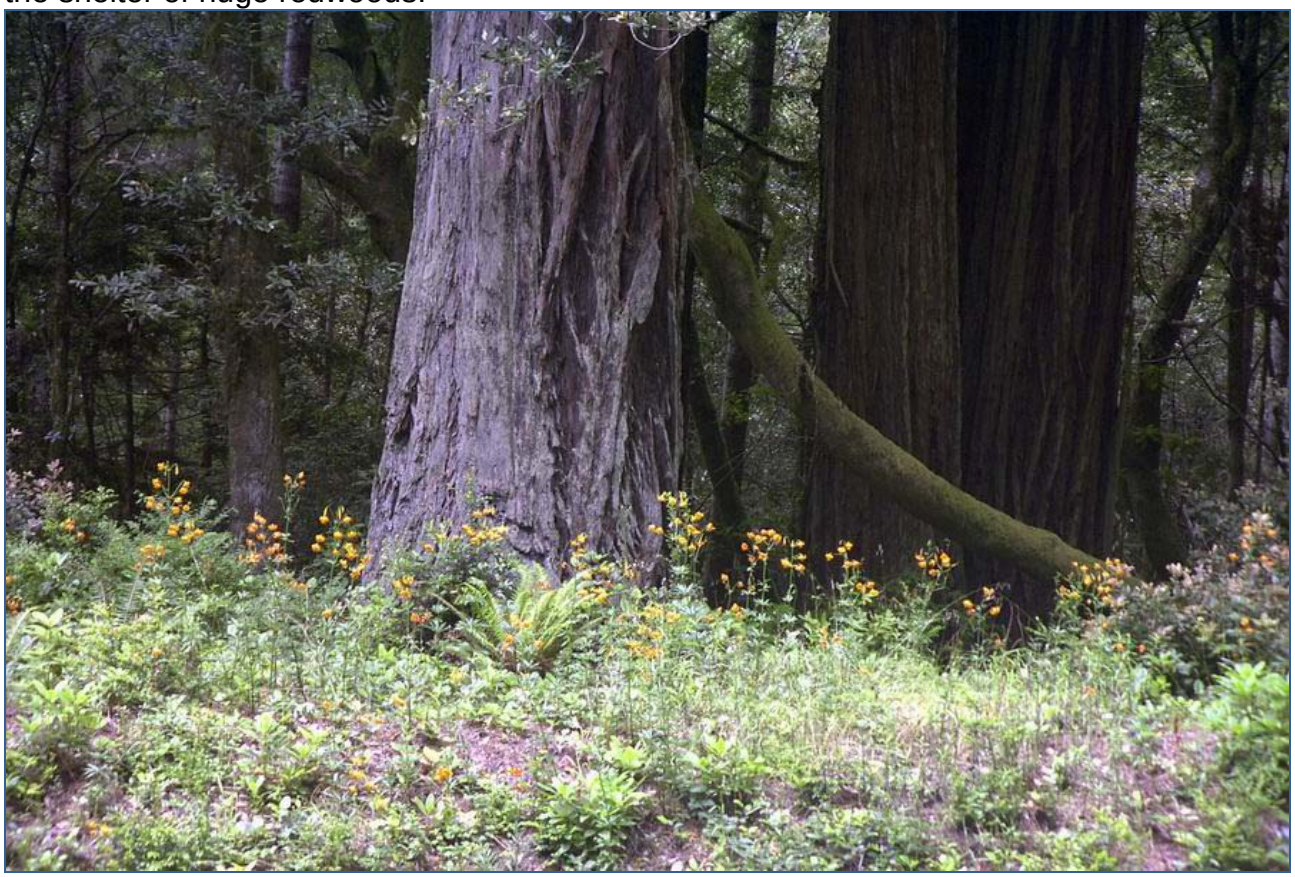
Lilium washingtonianum likes some shade in low-elevation gardens, and fairly dry soil from mid-summer to late fall.

As we head north from Eureka along the coast, there are a few *Lilium occidentale* in hard-to-access areas, and some *Lilium kelloggii* and *columbianum*. There is also spectacular scenery and gigantic redwood trees, and comfortable cool summer weather.

Redwood (*Sequoia*) stump – with average sized car for comparison!

Left: ***Clintonia andrewsiana*** in flower Right: ***C. andrewsiana*** in fruit.
Clintonia andrewsiana, which is also in the lily family, is found primarily in redwood country.

A little inland, there are scattered *Lilium rubescens* growing under the forest canopy and on the road banks in semi-shaded locations. There are also some large groups of *L. columbianum* growing in the shelter of huge redwoods.



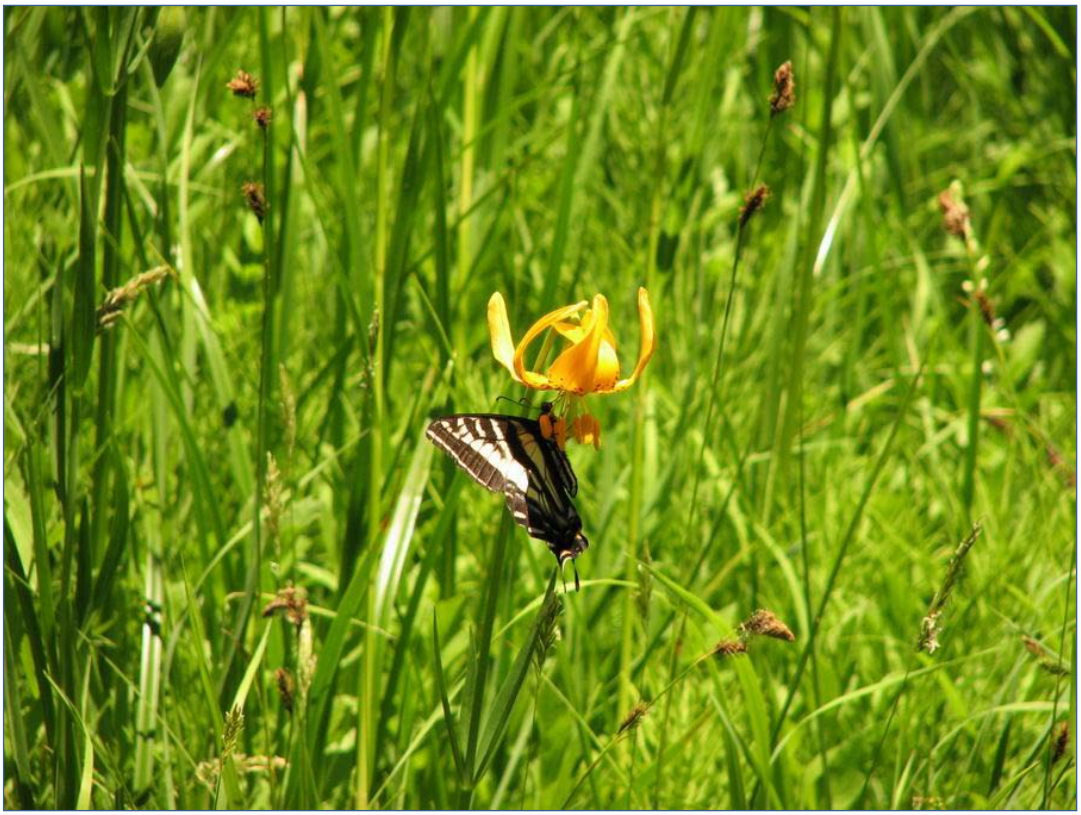
Lilium columbianum

***Lilium columbianum* and redwood**.

Approaching the northwest corner of California, we head east into the coastal range. This area is full of botanical treasures.

***Darlingtonia californica*,** growing in cool running water, often accompanied by *Lilium pardalinum* subsp. *vollmeri* or *Cypripedium californicum*.

Cypripedium californicum



At low altitudes, there are occasional groups of *L. pardalinum* growing in moist soil. There are also a few *L. pardalinum* subsp. *wigginsi.*

Lilium pardalinum* subsp. *wigginsi, visited by a swallowtail butterfly

This plant is easy to grow in my garden in South West Washington state. It probably needs afternoon shade in hot climates.

A white form of *L. kelloggii*

***Lilium kelloggii* in the garden**

As we climb higher, we find some scattered *Lilium kelloggi.* At low elevations, they like morning sun and afternoon shade, and a raised bed of sandy loam soil.

Lilium bolanderi

Higher up, we find *L. bolanderi*, then *L. washingtonianum* var. *purpurascens*. Note that this is not *washingtonianum* type, which we found further south.

Below: ***Lilium washingtonianum* var. *purpurascens*,** distinguished by the deepening colour of the blossoms as they age.

Below: ***Lilium washingtonianum* var. *purpurascens* in the garden.** At low elevations, they need part shade, and well-drained soil that dries out in mid-summer.

The beautiful *Erythronium californicum* is native to this region. Look for it on north-facing embankments. It blooms soon after the snow melts, which is not a particularly convenient or safe time to be up in the mountains.

Right:
***Erythronium californicum* in the garden.** The inverted plant tray is used for protection against rodents. Note the beautifully mottled foliage.

And there is also this - ***Lewisia cotyledon*,** growing on a rather dangerous vertical rock wall.

Above: ***Silene hookeri* subsp. *bolanderi***

Another native of the top of the coastal range is *Epilobium rigidum.*
Above,left: ***Epilobium rigidum*.** It grows in my garden on a raised bed of sandy loam, in full sun.

One last look at the redwoods

Gene Mirro is a contributor to the NARGS and SRGC forums, where he discusses many of his other garden plants as well as Lilium. He lives and gardens in South West Washington State where he grows all sorts of lilies, not only the species from North America. Gene is also involved with the North American Lily Society. In future we will see Gene's reports on the lilies of Southern California and the Sierra Nevada Mts. and Oregon and Washington.

The Dwarf Lake Iris: *Iris lacustris* by Rex Murfitt of British Columbia, Canada.

I have just returned from an interesting trip to northern Michigan where I saw many choice plants and the one that really got to me was *Iris lacustris.* I first met this little gem of a plant in the mid-1940s as a student at W.E.Th. Ingwersens' Birch Farm Nursery at Gravetye in England. We grew it there with seemingly no problem. I have struggled with it over the intervening years, never to have it as a long term resident. For many years it has been listed as a form of *Iris cristata*, the Crested Dwarf Iris, a native of many South-eastern states of America, often described as found in woodlands growing in an organic lime-free soil.
I was surprised to learn that, despite the fact that it is a confirmed lime lover, many books still proclaim it to require cool organic soil in shade to semi-shade, as is required by *I. cristata*. This could not be further from the truth as *I. lacustris* thrives in limestone gravels mixed with very short grass turf in the full blazing sun.

Iris lacustris in Presque Isle County, photo kindly provided from the Peirce Wildflower website

Iris lacustris has been identified as a species in its' own right for some years now by a chromosome count (2n=42) but confusion between the two species persists. This problem all too often stems from publications that, owing to the similarity between the two species, continue to believe one is a form of the other, obviously older books cannot be changed but many gardeners use them as references and so the error continues. Even the famous Will Ingwersen fell into this same trap years ago and some websites follow that same path even today.

Ed.: *Iris lacustris* is the State flower of Michigan. It is endangered and heavily valued and protected. The plant was discovered by Thomas Nuttall on Mackinac Island in 1810.

When on a recent visit to upper Michigan with a group of friends I was introduced to *Iris lacustris* on the old beaches of Lake Michigan near the town of St Ignace and in sight of the Mackinac Bridge, over the Straits of Mackinac, which is the strip of water that connects two of the Great Lakes, Lake Michigan and Lake Huron.

Mackinac Bridge

I have to admit I envisioned traditional beaches softly shaded by nearby woodlands not the wide open spaces in the full sun on a day of 80-degree heat with not a hint of shade. Furthermore, it will be found growing in a variety of habitats from open dune-lands to wet meadows and fens and alkaline bogs or where the soil is composed mainly of limestone gravel mixed with a sandy-clay-like soil, which amounted to a virtual marl with a constituency of near concrete. No wonder they remain so dwarf, yet they thrive, plants regularly creep into the edges of the gravel roads where they are regularly cut back by highways maintenance machines.

Iris lacustris growing by the roadside.

Iris lacustris photos Rex Murfitt

Lake Huron shoreline

The Michigan gardeners who were my kind hosts succeed extremely well with the Dwarf Lake Iris - all grow it in lime soils dressed with limestone gravel, even the white form flourishes under these conditions. As long as the soil mixture is well-drained and contains a degree of limestone they will be content with moderate summer watering. They love to settle into the cool crevices at the base of a good tufa retaining wall with some partial shade to protect them from too much burning sun. R.M.

Iris lacustris forma *albiflora* in Presque Isle County, to the south of the Straits of Mackinac, photo Charles Peirce.

Ed.: *Iris cristata* is itself a popular plant. More pictures and information can be found in the pages of the Pacific Bulb Society and this website of the plants of Missouri. This plant is distributed much more widely in the USA than *I. lacustris*. When it is happy *Iris cristata* can flower profusely and even make a great groundcover plant.

Iris cristata in the garden of Mark McDonough, Massachusetts, USA

Various forumists show these plants in the SRGC Forum and Mark McDonough has some super photos in the NARGS Forum, which show how floriferous this plant can be. There are several dozen Iris species native to North America and there are listings and pictures in this site of native Iris species.
There are numerous societies across the world, dedicated either to single types of iris, such as Aril Iris or to all species or wider groups such as historic varieties. There are societies such as the BIS in the UK and the Iris Societies of Australia and New Zealand.
The main North American societies are the American Iris Society and SIGNA (the Species Iris Group of North America) and the Canadian Iris Society.

Iris lacustris

Iris cristata

Terrific Telesonix **by Zdeněk Zvolánek, photograph by Jaroslav Baláž**

Just a few days ago, listening to terrific trumpet improvisations in the sad and sweet old hymn “Just a Closer Walk with Thee”, a lovely picture of a subalpine alpine called ***Telesonix heucheriformis*** Rydb. illuminated all the slow funerals of the unfinished works on my computer desk. How well it reminded me of a walk with Joyce to the top of Heart Mountain in Wyoming (N.E. of Cody), in an area of nicely eroded dolomitic limestone where, together with *Shoshonea pulvinata* and *Kelseya uniflora* there appeared flat glossy plants with leaves look resembling a short saxatile Heuchera. All this noble community occupied limestone ledges, 300 million years old, looking vertically down to the semi desert plateau from their northeast exposure. I managed to collect a few semi ripe seedpods, three inches above the heavily eroded surface of the steep rock (risking a stupid loss of life or limb). The seed was brown and fine, reminiscent of Saxifraga seed. Later in the autumn I gave the seed to the skilful hands of the Moravian plantsman, Jaroslav Baláž and my dream will come true, even though it is taking time. The dream was about an unknown ‘Heuchera’ with a short inflorescence and large flowers. Only later did I discover that the leaves belonged to *Telesonix heucheriformis.*

The attached picture shows a young plant with a single but beautiful inflorescence with relatively large rose-purple petals above broad ruby-chocolate coloured sepals, with prominent glands. It came from Jaroslav Baláž, with his hope for more flowers in the next season. His rock gardening is done in the cooler climate of the Czech Moravian Highland, where winter snow cover is always

available. Good care for the plants from the owner is another bonus here, so I do believe that this outstanding form of *Telesonix heucheriformis* will be introduced to our circles in a short period of time.

Why is this an outstanding form? *Telesonix heucheriformis* (renamed by Rydberg from *Telesonix jamesii* var. *heucheriformis*, in 1905) grows in Nevada, Utah, Wyoming, Montana and Alberta, always above dolomitic limestone bedrock. It has generally smaller flower than the star of Mt. Pike´s Peak in Colorado, *Telesonix jamesii* var. *jamesii*, which prefers granite bedrock; but I found, in the maze that is the Internet, an important remark, that some forms of *T. heucheriformis* from Central Wyoming have flowers of the same size as the famous *T. jamesii,* which once obtained a Farrer Medal in England.

In the end, this small show of mine has a fine taste of winning the competition with my younger and more popular friend, Panayoti Kelaidis. Adopting the mantle of a Coloradan patriot, he wrote two years ago in the NARGS Forum that *Telesonix heucheriformis* is a '**miserable creature'**! Now, His Majesty Mt. Heart and its Telesonix are offended (I am quite happy) and together we ask Panayoti for his cordial apology! I even suggest that my introduction is superior in its flowers, which look fuller with juicy coloured sepals filling the gaps of the False Saxifrage petals. Our photographs proves that *T. jamesii* - look at these pictures - has miserable small green sepals!

Above: *T. jamesii* from Pike's Peak, growing in the Denver Botanic Garden, photo Panayoti Kelaidis
Above right: *T. jamesii,* photographed in a show in the UK, by Christine Boulby.

Ed.: Information from the Flora of North America shows that ***Telesonix heucheriformis*** [(Rydberg) Rydberg in N. L. Britton et al., N. Amer. Fl. 22: 126. 1905] has had various other names over time and, of course, gives a description of the plant. It also tells us:

"Plants of *Telesonix heucheriformis* from central and western Wyoming have petals approaching in size those of *T. jamesii*. Because of this, there is an argument for treating the two taxa as varieties of a single species; however, they are readily distinguishable throughout almost all of the range, have different edaphic preferences, slight differences in pollen morphology, and different flavonoid chemistries (R. J. Gornall and B. A. Bohm 1980). A report from South Dakota (P. A. Rydberg 1905c) is considered erroneous, given its age and the absence of any voucher specimens."