Mountain Rock Gardens
Ceanothus prostratus (Squaw Carpet) and Phlox diffusa, Calpine, Sierra County, Northern Sierra Nevada. Both species occur in the Sierra, Cascade and Klamath Ranges from middle to high elevations, on granitic, volcanic and metavolcanic soils. Ceanothus prostratus is notoriously difficult in cultivation. It may require mycorrhizae and other particular requirements for healthy growth and longevity that, thus far, are found only in it’s native haunts. Gardeners fortunate to live inside its native range still have great difficulty growing Squaw Carpet in cultivation whether from seed, cuttings, divisions or wholesale transplants. Ceanothus prostratus offers big challenges for horticulture and we plan to work on it in future trials.
*Phlox diffusa* is grown by rock gardeners in both hemispheres. It’s many color forms, ranging from white, through pink and purple-violet create sheets of flowers flowing down rock faces and over scree. It is relatively easy to cultivate from seed and sub alpine environmental conditions to thrive. Nonetheless, gardeners in Christchurch South Island New Zealand have managed to make it thrive near the coast.
*Delphinium nudicaule* is widespread in the Klamath, North coast Range and Sierra Nevada. It is one of two red delphiniums native to California and hybridizes with other *Delphinium* species where they overlap distributions. It is hummingbird pollinated and brilliant. *D. nudicaule* is relatively easy from seed but care must be taken to avoid root disturbance.
Wyethia mollis and many other species of Mules Ears are widespread and abundant throughout the mountains of California. In addition to their capacity to add a wakeful brilliance to the rock garden, they may also bring in the native bees as pollinators.
Silene californica growing on Serpentine in the “Cedars” of western Sonoma County. Of the 39 or more species of Silene in California, many occur in montane regions in open coniferous forests, among chaparral, disturbed areas. They often occur in outcrops within these areas. They make beautiful rock garden subjects and many develop significant tubers. Silene species go dormant and survive as tubers only to burst out the following year. Best grown from seed as transplanting is extremely risky.
*Aspidotus densa* is Indian’s Dream, widespread in the Mountains of California and far beyond. It is especially abundant on serpentine as shown here in the “Cedars”. Indian’s Dream frequents forested slopes, crevices and outcroppings and it has performed well in cultivation in rockeries and containers in the Arboretum. It is a fresh and handsome little fern with crispy green foliage.
Carex brevicaulis (left hand pictures) grows with Aspidotus densa, shown in the preceding slide. It is a handsome tufted Carex great for rock gardens and container gardens. Easy to propagate from seed and divisions. The Viola species pictured above grows with Carex brevicaulis and Aspidotis densa in the wild and hopefully will flourish in cultivation.
Columbines, *Aquilegia formosa* and Stream Orchids, *Epipactis gigantea* hug springs, streams and seeps and are superb candidates for wet rockeries, seepy troughs and creek side rockeries where water is plentiful. Even supplying a seep on a recycling supply will suffice to create a nice habitat for these and many of their associates. The “Cedars” is the locale for the purple-foliaged *Epipactus gigantea* introduced many years ago by Roger Raiche while he was California Native Plant Horticulturist for UC Berkeley.
So where does all this water come from?
The serpentine is so fractured and crumbly that water soaks into it like a sponge. Every thing crumbles and the water keeps flowing.

The Cedars, Austin Creek Watershed, western Sonoma County
Adiantum jordonii

Adiantum aleuticum

Aquilegia formosa

Cypripedium californicum

All species the Cedars with great potential as wet growing rock garden plants
Eriophyllum lanatum, Woolly sunflower, Ceanothus jepsonii and Polygala californica, all from the “Cedars”. Of the three, Eriophyllum lanatum is the sturdiest for cultivation and easiest to propagate. Ceanothus jepsonii would be a large scale or backdrop shrub, especially for a serpentine display since it is essentially confined to serpentine in the wild. Probably best from seed as cuttings are difficult to strike. Polygala californica is seldom grown and probably a bit difficult to propagate. We’ve had limited success from wild transplants. Commercially it would need to come from seed. All three species are very worthy of more trials and selection.
Calochortus raichei was named by the late Stan Farwig and Victor Girard in honor of Roger Raiche, the discoverer, who brought it to the attention of the Calochortus world in the early 1980s. It differs from its nearest relatives *C. amabilis* and *C. pulchellus* in having simple (non branched) stems, petals larger than sepals, and as a generally glaucous plant. It is a rare species known only from the Austin Creek region. It has not been widely cultivated.
Calochortus rachei
Frazier Falls area, Plumas County, Plumas National Forest where lots of granite, volcanic and serpentine formations occur. Natural rock gardens abound with no end in sight. Many lessons unveiled.
Cryptogramma acrostichoides, American parsley fern, (lower left and lower right), flourishes in rock crevices. This high mountain fern performs well even on the coast given appropriate rockery conditions and protection from heat.
Cheilanthes gracillima is widespread in mountainous regions of North America where it is especially common on granitic cliffs and in crevices. Planted in excellent drainage on the cool side of a boulder crevice should make this beautiful fern healthy. In exposed areas it will curl up and look dead during the summer months but bounces back with cooler moister weather. Rock ferns are superb additions and generate a great deal of interest in the garden.
Cheilanthes gracillima, Lace Fern.
Frazier Falls, Plumas National Forest
Allium campanulatum, Sierra Onion, is widespread in the Sierra Nevada. Of the 70 Allium taxa in California, several dozen are prime rock garden candidates. They are easily grown from seed.

Labrador Tea, Ledum glandulosum frequents mountain lakes and streamsides throughout the high Sierra, Klamath and North Coast Ranges. It requires well drained moist conditions and acidic soils and can be propagated from seed and cuttings.

—Near Frazier Falls—
Lupinus brewerii is widespread and common in open montane forests. It certainly is desirable but not popular in cultivation. Getting seed before they release is likely one of the challenges as they go from green to ripe and dehisce very quickly.
Donner Peak Granite

Dichelostemma multiflorum, Wild Hyacinth

Triteleia ixioides, Golden Brodiaea

Dichelostemma multiflorum and Triteleia ixioides are prolific growers. Both Sierran species are great candidates for cultivation in rock gardens.
Sub alpine scree with penstemons, buckwheat, carex, juncus etc. *Penstemon azureus* is brilliant in the Donner summit granites.
*Lewisia cantelowii* occurs in the northern Sierra, south Cascades and Klamath regions in steep river canyons or on cool cliffside seepages and mossy wet granite boulders. It performs very well in trough gardens where drainage and careful watering are attended too.
Carex nebrascensis from wet montane meadows in Sagehen Natural Reserve, northern Sierra County. A very attractive sedge with silvery leaves. Great in cultivation in rockery and containers.

Camassia quamash, lower fen, Sagehen Creek.
Upper Sagehen Fen. *Eriophorum gracile* with *Carex, Drosera, Polygonum bistortioides* etc.

*Salix oreastera*, Grey-leaved Sierra Willow and *Salix geyeriana var. argentea*, Geyer's Willow have slivery silky leaves and beautiful cottony catkins. Many montane willows make suitable rock garden plants. They help to frame the garden and provide a sense of stature. Most are easy from seed and cuttings.
The Arboretum is developing a collection for fen and seep species including these two species, *Drosera rotundifolia* and *Drosera anglica* from Sagehen Reserve located in the northern Sierra Nevada in Sierra County. Requirements for cultivation include acidic mossy growing media preferably live sphagnum, pure cool moving water and well draining gravelly conditions. PH on the water also needs to be 7 or below for success.

—Sagehen Reserve
Obtaining rocks and moving them can be difficult and expensive and out of range, especially obtaining really big rocks.
Smaller boulders are easier to transport