

GARDENING WITH CALIFORNIA'S NATIVE BULBS

By Nancy Gilbert and Ames Gilbert ©2017

Nancy is a photographer and specialist in California native plants. She is a co-author of the 1st and 2nd editions of the Redbud book Wildflowers of Nevada and Placer Counties and of Trees and Shrubs of Nevada and Placer Counties. Nancy serves as the Horticulture Chair for the Redbud Chapter; Ames has served as Education co-chair and Newsletter Editor and created the graphic illustrations for both of the Redbud Chapters' above-mentioned books..



Humboldt Lily and Swallowtail Butterfly, Photo and artwork by Nancy and Ames Gilbert © 2017

California is blessed with one of the richest and most diverse flora in North America, largely due to its incredible climatic and geological variety. The bulb, corm and rhizome producing plants, referred to as 'geophytes', rank among the most interesting and beautiful of California's plants. These plants have tremendous gardening potential, which is largely untapped by the horticultural trade. For simplicity's sake, I'll use the term 'bulb' here to refer to plants that produce a bulb or a corm.

Hundreds of species of California bulbs can be found growing in ecosystems ranging across alpine, mixed conifer, chaparral, oak woodland, valley grassland, desert, riparian and coastal rain forests. Bulbs grow in wet areas, such as the edges of vernal pools, drainages and seeps, as well as on dry, rocky and difficult sites such as serpentine.

There is a native bulb for almost every niche in your garden. A primary key to successfully landscaping with native bulbs is to know the preferred habitat of the species, including soil type, exposure, amounts of light or shade and water, and then to duplicate this habitat as closely as possible in your garden.

California native bulbs have sometimes been labeled as 'difficult to grow', but numerous species are very easy to propagate and grow in a wide range of conditions. Most prefer no additional fertilizers or organic soil amendments

Among the easiest and most versatile are the members of the genera *Brodiaea*, *Dichelostemma* and *Triteleia*. Most of the species in these genera are adapted to summer drought but some species will accept occasional summer water, so long as the drainage is good and the soil dries between watering. Many even perform well in heavy clay soils. Some species, such as *Triteleia hyacinthina* and *Brodiaea coronaria* grow on sites that are very wet in spring and prefer moisture through flowering. We have observed in our own garden that many of the *Brodiaeas* and *Triteleias* actually grow more robustly if they receive additional watering during the winter months in drought years.

Brodiaeas, *Triteleias* and *Dichelostemmas* are perfectly suited to the mixed border, especially in a xerophytic planting of native and other Mediterranean plants that receive occasional or no summer water. They are lovely growing up through

Creeping Sage and Bearberry or with the apricot-colored flowers of Bush Monkeyflower as a backdrop. For maximum effect, plant them in closely spaced groups to give a strong splash of color.

There are over fifty species of *Alliums*, or wild onions, found growing in California. Most are easy to grow and multiply rapidly in the garden. The species that are native to the mountains or moist meadows, such as *Allium unifolium*, prefer full sun and regular watering all season. The majority of wild onions, such as *Allium penninsulare* and *A. sanbornii*, are from dry, rocky habitats and need good drainage with summer drought. Most *Alliums* are well-suited to rock gardens, where they can be planted in colonies among short-growing *Brodiaeas*, such as *Brodiaea minor*. Their lovely pompom blooms can also be displayed to advantage when planted in groups towards the front of the mixed, dry perennial border.

The genera *Calochortus* includes some of the more challenging species for the gardener, but also contains several species that do well if their requirements are met. This genus contains some of the finest ornamental bulbs, so it is well worth it for the beginner to try some of the more carefree varieties. *Calochortus* species all need good drainage and a period of summer dormancy with no summer irrigation.

Among the most dependable *Calochortus* species to use in the landscape are: *Calochortus albus*, *Calochortus amabilis*, *Calochortus luteus*, *Calochortus monophyllus* and *Calochortus superbus*. *Calochortus albus* and *amabilis*, commonly referred to as Fairy Lanterns or Globe Lilies, prefer partial shade and will accept occasional summer water if they have good drainage; they are often seen growing on steep, north or east facing banks.

The Pussy Ears and Star Tulips occupy varied habitats, from temporarily wet meadows to dry pine woodlands. *Calochortus monophyllus*, Yellow Star Tulip, is an open woodland grower and prefers filtered light and summer dry, whereas *Calochortus uniflorus*, which grows in meadows, is best with some early summer water.



Pretty Face and Fairy Lanterns, photo and artwork by Nancy and Ames Gilbert © 2017

The Mariposa Lilies, such as *Calochortus superbus*, appreciate sunshine and require summer drought. They are stunning planted in drifts with native bunch grasses and other wildflowers, in the mixed, summer dry border, or planted among California native shrubs, such as Coffeeberry, Manzanita or Toyon.

The Mariposas also can be used for spring color on your deck or patio by planting several of them in a deep container with well-drained soil. The container should be stored in a dry, shady location once the blooming period is over.

Many of the species in the genera *Fritillaria* and *Lilium* tend to be a bit temperamental when planted outside of their native habitat. However, if you live in the area where they grow naturally or you have the commitment to provide them with their requirements, they are among the most rewarding of plants to have in your landscape.

Both of these genera are quite the favorites with the deer, so it is important to plant them where the deer either cannot reach them or are likely to overlook them. If your yard is fenced to exclude deer, then you can plant them in the open under the native trees, but if not, our experience has taught us to plant them strategically among rock outcrops, on steep banks or under shrubs to help protect them from predation. We have also had good success with some of the commercial deer repellents on the market.

The Fritillaries' appeal lies in their subtle daintiness, with delicate blossoms that frequently have checkered color patterns on the petals. The Fritillaries are generally considered finicky in the garden and often take every other year off from flowering for a rest period. If you want a good show of flowers each year, it is advisable to plant a colony of several bulbs.

They are found growing in a wide array of habitats, from coastal forests and grasslands to hot foothill locations to high montane forests. The majority of the Fritillaries require a summer dormant period with no water as well sharp drainage. *Fritillaria pluriflora*, commonly called Adobe Lily, and *Fritillaria agrestis*, Stink Bells, tolerate heavier soils and are easy to grow if you have a sunny, warm site in a meadow or summer dry border. Woodland growing species, such as *Fritillaria micrantha*, our local Brown Bells, may be watered 'occasionally' throughout the year.

For many, the lilies are the queens of the garden, and the California native lilies are no exception. There are both wet land and dry land growers among this species, and their growing requirements must be met for success. Among the dry land lilies, Humboldt's Tiger Lily is one of the most sensational and is fairly easy to cultivate. It can be found in nature growing in the foothills, under oaks and pines and among native shrubs, such as Coffeeberry and Toyon. It is long-lived (some in foothill cemeteries are at least 50 years old), often attaining a height of over six feet with up to 30 Turk's cap type blooms per plant.

Lilium pardalinum, the Leopard Lily, is a wet grower and can be found growing in colonies along seeps and creeks in both the coastal and Sierra regions. If you have a perennially moist, partially shaded location, this striking lily can be quite easy to grow. Washington Lily, *Lilium washingtonianum*, has white to slightly blushed lilac blooms, and many consider it to be the noblest of the native lilies. It needs the cooler temperatures of higher elevations above 3500 feet to thrive and will reward you with its grace and heady fragrance. It is another dry land lily requiring good drainage. Most lilies prefer growing with their heads in the sun and feet in the shade, such as among native shrubs and groundcovers.

The *Erythroniums*, or Fawn Lilies, are some of the most enchanting native bulbs, lending a fairyland look to the landscape. They are best appreciated up close and should be planted in groups at the front of the border or along paths for maximum effect. Their cultural requirements vary, depending on their native habitat, and care should be taken to simulate those conditions in the garden. Species with mottled leaves come from foothill woodlands and rocky openings and prefer summer dormancy, although they will accept light summer watering. Examples are *Erythronium californica*, and the locally native, *Erythronium multicaepodium*, found growing on dry, rocky slopes. The *Erythroniums* from montane areas, such as *Erythronium purpurescens*, have solid green leaves and are adapted to winter snow and some summer moisture from snow melt. The Fawn Lilies generally require good drainage and often are found growing among rocky areas or steep banks of rock outcrops. They look great and perform well in partially shaded rock gardens and woodlands.

Unfortunately for gardeners, most of the California native bulbs are a tasty treat for gophers and squirrels. So, if you have these rodents in your area, it behooves you to protect your bulbs, especially at the time of planting, when they are most vulnerable. Tucking them into rock outcrops is one way to make them less accessible. You can lay one inch chicken or aviary wire over the bulbs, just below the surface of the ground or construct a subsurface cage of the same materials. Commercial sprays and slow release, systemic tablets that protect bulbs are readily available, but this can become a bit expensive if you have a large number of bulbs to protect. There are recipes on the internet for making your own sprays from hot peppers, eggs and other available materials. Sprays and repellent tablets will also work to repel rabbits, which can sometimes munch on the leaves of bulbs. If you have an overabundance of gophers, you may want to consider trapping them. Planting bulbs in very rocky areas, on steep banks or among native shrubs also helps protect them.

Most California native bulbs prefer lean soils with sharp drainage. Exceptions are those found growing in adobe soils, wet meadows, cool woodland areas or along creeks and seeps. Soils only need to be amended if you are trying to grow a species in a soil that differs markedly from the bulb's natural habitat. Woodland species may need to have humus (no manures) added to the soil and bulbs native to rocky mountain scree areas will need to grow in rock gardens where soils have been altered for fast drainage. In general, it is not advisable to add any fertilizer to the planting holes except those formulated specifically for bulbs. These fertilizers are high in phosphorous and potassium, but low in nitrogen. We add only soft rock phosphate to our planting holes and have had good results. We also lightly spread our wood ash about.

All-in-all, California native bulbs offer the Mediterranean gardener or landscaper beautiful, versatile and water efficient plants whose full potential is just beginning to be appreciated. They are all terrific pollinator plants. Many species are becoming rare in the wild, so using them in your garden is also a way to preserve these gems for future generations.