

## **North Table Mountain: All of the Beauty, Majesty and Wonder of California**

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*By Eva Begley*

As you drive east out of California's Central Valley into the foothills of the Sierra Nevada, the landscape gradually changes from flat, irrigated fields and orchards to rolling pastures, which in turn give way to oak woodlands and eventually to dark green conifer forests. Just north of Oroville, however, the landscape changes abruptly, with one of northern California's premier wildflower gardens rising dramatically out of a sea of blue oaks, interior live oaks, and foothill pines. This wildflower garden flourishes on a plateau of ancient volcanic rock.

About 30 or 40 million years ago, a sheet of thin, runny lava flowed southwestward from somewhere in northeastern California, past Oroville and on as far as the Vacaville area. Several more such flows occurred, one on top of the other, until a layer of dark volcanic rock several hundred feet thick accumulated. Then other geologic processes took over, and the Central Valley was formed, obliterating much of the hardened lava. Along the edges of the Central Valley, though, and in the northern Sierra Nevada mountains and southern Cascades, there are still remnants of this ancient lava flow, including the plateau just north of Oroville, called Table Mountain.

Today, Table Mountain seen from a distance appears to be a gently sloping plateau that ends abruptly at its western edge, where dark cliffs up to 200 feet high drop off to the Central Valley below. A closer view shows that the top of Table Mountain has been sculpted by erosion, which together with the rock's tendency to form vertical cracks, has cut numerous steep-sided gullies and several precipitous canyons into its surface. One of these canyons has cut the plateau entirely in half, forming North Table Mountain and South Table Mountain. There are also gentler hollows filled with dense woodlands of interior live oak, blue oak, California bay, California buckeye, madrone, foothill pine, and even an occasional valley oak. The top of the plateau has large expanses of fairly sparse grasslands, strewn with angular rocks that make for hard walking, but there are also many areas of exposed rock that at first glance seem quite barren. Much of this rock, however, is actually covered with lichens, some of them an inconspicuous black or brown color, others chartreuse or fluorescent orange. In other places, spike-moss covers the rocks. This little plant, much more closely related to ferns and horsetails than to true mosses, has an amazing ability to survive heat and drought, forming seemingly lifeless scruffy brown mats in the late spring and summer, then quickly reviving to a soft-textured dark green carpet as the rainy season returns.

In the winter and spring, water seeps through the highly fractured volcanic rocks to feed numerous small streams that plunge off the edges of the plateau as cascades and waterfalls. Marshy patches fill depressions in the grasslands on the plateau, and in some spots winter rain water accumulates to form vernal pools (small, shallow pools that do not dry out until spring). The extreme conditions characteristic of vernal pools, alternating between cold and flooded in the winter and hot and bone-dry in the summer, restrict the kinds of organisms that can survive in them, and they are often home to some uncommon plants, amphibians, and invertebrate animals. The type of vernal pool found on Table Mountain, on northern basalt flow, as the volcanic rock here is technically known, is

especially rare. In the 1990s, to help protect these pools and the habitat of several rare plants and animals known to occur on North Table Mountain, the Department of Fish and Game (DFG) acquired over 3,300 acres of this diverse, scenic area.

The variety of habitats - open grasslands, vernal pools and other wetlands, gently rolling oak woodlands, vertical cliff faces, beds of angular volcanic cobbles on top of the plateau and at the bases of cliffs - makes North Table Mountain an ideal home for many different animals. Lizards sun themselves on exposed rocks, scurrying for cover at approaching footsteps. Birds are abundant, ranging from burrowing owls and innumerable meadow larks in the grasslands to peregrine falcons, Swainson's hawks, and the occasional golden eagle. From canyon rims, visitors may look down on turkey vultures gracefully rising on thermal updrafts and up at flocks of swallows swooping over the cliffs. The inconspicuous little canyon wren, with its silvery song, is more often heard than seen.

The main reason, though, why most people visit North Table Mountain is the wildflower show. It starts in late February or early March with beds of small white shooting stars, soon followed by scattered, bright yellow Douglas' violets in the grasslands. Masses of a pale yellow member of the daisy family, *Blenosperma nanum*, and white meadowfoam cover moister soils. Taller, magenta-colored shooting stars and buttercups with their shiny yellow petals appear in the hollows in open blue oak woodlands. By late March or early April, the plateau is covered by acres of small blue lupines with smaller patches of two kinds of orange poppies (different from the more common California poppy), blue dicks, blue-and-white bird's eye gilia, magenta Kellogg's monkey flower, yellow butter-and-eggs, white popcorn flower, and purple owl's clover. Each outcrop of dark volcanic rock is ringed by goldfields, another member of the daisy family. On closer inspection, even the seemingly barren beds of rocks support pink-flowered wild onions, deep pink Lewis' bitterroot, and masses of a greenish-yellow stonecrop, *Parvisedum pumilum*. Deep blue delphiniums bloom in full sun; scarlet delphiniums cling to lightly shaded canyon rims. The air is sweet with the scent of flowers.

A few weeks later, most of the showy flowers have disappeared from the drier parts of the plateau except for some swathes of lupine and popcorn flower, but stream banks and the edges of marshy depressions are festooned with broad bands of bright yellow seep-spring monkey flower and maroon-and-white variegated clover. Delicate pink checkerblooms join the monkey flowers and variegated clover along some streams. The grasses are beginning to dry out, but several late spring wildflowers come into bloom: mauve round-tooth ookow, a small white-flowered member of the lily family, *Odontostomum hartwegii*, and several kinds of clarkia, all of them with pink flowers. The nodding, finely fringed flowers of white fairy lantern may be found in lightly shaded areas, while gold nuggets, their bright yellow relatives, prefer open, sunny grasslands.

By this time, the vernal pools have dried up, and their beds are filled with popcorn flower, white navarretia, woolly marbles, and *Downingia cuspidata*, the latter unusual at Table Mountain in having white flowers rather than the more common blue ones. By June most of the flowers have dried out. Some survive from year to year as underground bulbs or fleshy taproots; others only survive as seeds that will lie dormant in the dry soil until revived by winter rains. Then, as temperatures begin to warm up the following spring, the show is repeated.

Visitors are often surprised to find cattle grazing in this wildflower paradise. However, land managers and ranchers are becoming increasingly aware that grazing, if properly managed, can actually benefit many wildflowers and other native plants. For millions of years, until the end of the last Ice Age about 10,000 years ago, herds of grazing and browsing animals roamed freely across California's grasslands: mammoths, mastodon, two- and four-horned pronghorn antelope, elk, deer, bison, woodland musk ox, camels, wild horses, three species of giant ground sloths, and others. Even after most of these animals disappeared from California's landscapes, herds of elk and deer remained widespread until European settlers began arriving in California. Many native plant species are adapted to surviving occasional grazing; in fact, they appear to benefit from the removal of excess old, dried plant material from previous seasons. Grazing also helps reduce competition for light and especially for water by non-native grasses and other species introduced since European settlement.

To visit DFG's lands on North Table Mountain, take State Route 70 to Oroville, then take the Nelson Avenue/Grand Avenue exit near the northern end of town. Head east on Grand Avenue, turn north on Table Mountain Boulevard, and turn east again on to Cherokee Road. Stay on Cherokee Road; six miles from the intersection with Table Mountain Boulevard you will reach a public parking area, located on the west side of the road. State Wildlife Area signs mark the boundaries of DFG's lands. The lands to the east of Cherokee Road, as well as some areas west of the road, are private property: Please respect the rights of private landowners.

While in the Oroville area, visit the Oregon City covered bridge. To get there, continue north along Cherokee Road to Derrick Road (also shown as Oregon Gulch Road on some maps). Turn right on to Derrick Road, bordered by clumps of pale blue wild irises.

The bridge is roughly half a mile from the intersection with Cherokee Road. DFG's Feather River Fish Hatchery in Oroville, which raises salmon and steelhead, may be worth a stop as well. To get there, retrace your way to Table Mountain Boulevard and turn left (south). About half a mile from the intersection with Cherokee Road, signs on Table Mountain Boulevard will direct you to the fish hatchery.

In the fall and winter, you can watch wild chinook salmon and steelhead from underwater viewing windows as they make their way up the fish ladder to their spawning grounds.