Plants

By Roxanne Bittman

California contains some of the highest plant diversity in the world. It leads the nation in numbers of native plants. The latest figures indicate California has 6,272 plant taxa, including species and subspecies. Its 5,047 species (Jepson Flora Project 2002) represent 32 percent of the total number of plant species in the United States and nearly 25 percent of all the plant taxa found in North America north of the Mexican border. California also has an enormous number of endemic plants. Its 2,153 endemic taxa represent over one third of its native plants.

Chaparral clusterlily (*Brodiaea jolonensis*)
Photo: John Game

Dune primrose (*Oenothera deltoides*) and desert sand verbena (*Abronia villosa*)
Photo © Rodney Temples

Reasons for this plant diversity stem from the unique combination of Mediterranean climate and topographic, geologic, and soils diversity. In addition, many taxa from the Tertiary Period, such as the giant sequoia (*Sequoiadendron giganteum*), have survived here due to our mild climate. Finally, over geological time, outbursts of speciation have occurred among some groups of plants, such as the wildflowers.

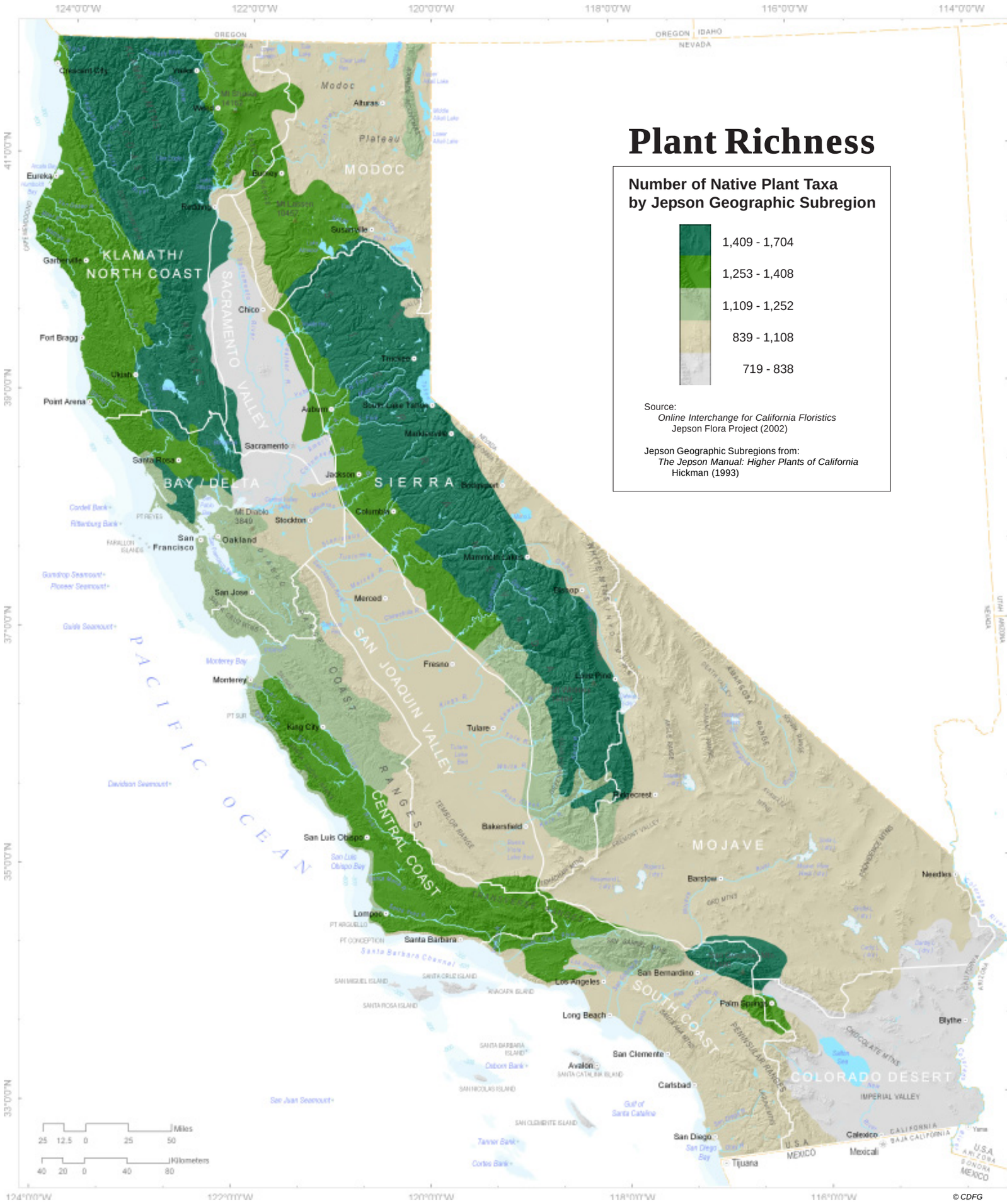
The map of California plant richness comes from data provided by the Jepson Flora Project in 2002. The dataset was created by assigning each plant in *The Jepson Manual: Higher Plants of California* (Hickman 1993) to a geographic subregion as defined in the manual. The map displays the total number of California native plant taxa present in each Jepson geographic subregion. As with any simplified map, a number of assumptions have been made, and as the data are refined, a different picture may emerge. However, the general patterns follow the basic driving ecological factors known to most strongly influence plant distribution and diversity.

Five-spot (*Nemophila maculata*)
Photo © Barbara J. Nelson

Vegetation and plant species closely follow shifts in moisture and temperature as produced by topography and accompanying climate. The topographic and moisture gradients in the Sierra Nevada are the most extreme in the state, followed by those in the Klamath Mountains and in the San Bernardino Mountains. Thus, the map at right shows the richest plant diversity in the high Sierra and Klamath areas, with the next richest areas being the outer North Coast ranges, the Cascades, and the San Bernardino Mountains. Lowest in plant richness are the desert and Central Valley areas.

Compare this map and the special status plant map that follows. Rare plant richness may more closely follow geologic variation than does overall plant richness, and thus the Klamath, desert mountain ranges, and several coastal areas are rare plant hotspots. Also, the high level of rarity in the Bay / Delta and South Coast regions may reflect the greater level of habitat destruction in those regions than in the Sierra, where total plant richness is high.

Crinkled onion
(*Allium crispum*)
Photo: John Game


Plant Richness
Number of Native Plant Taxa
by Jepson Geographic Subregion
1,409 - 1,704
1,253 - 1,408
1,109 - 1,252
839 - 1,108
719 - 838
Source:
Online Interchange for California Floristics
Jepson Flora Project (2002)
Jepson Geographic Subregions from:
The Jepson Manual: Higher Plants of California
Hickman (1993)
KLAMATH/
NORTH COAST
MODOC
Plateau
SACRAMENTO VALLEY
SIERRA
BAY / DELTA
SAN JOAQUIN VALLEY
COAST
RANGES
CENTRAL COAST
MOJAVE
SOUTH COAST
COLORADO DESERT
PACIFIC OCEAN
OREGON
IDAHO
NEVADA
Eureka
Redding
Susanville
Garberville
Fort Bragg
Chico
Truckee
Ukiah
Point Arena
Auburn
South Lake Tahoe
Markleeville
Sacramento
Santa Rosa
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3849
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Mammoth Lakes
Bishop
San Jose
Merced
Fresno
Monterey
Coalinga
King City
Tulare
Lone Pine
Pinecrest
Bakersfield
San Luis Obispo
Barstow
Needles
Lompoc
Santa Barbara
San Bernardino
Los Angeles
Palm Springs
Long Beach
Blythe
San Clemente
Avalon
Carlsbad
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U.S.A.
MEXICO
Miles
25 12.5 0 25 50
Kilometers
40 20 0 40 80
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