

See inside of guide for plants found in each section of this map.

The Flora of Joshua Tree National Park

Three distinct biogeographic regions converge in Joshua Tree National Park, creating a rich flora: nearly 730 vascular plant species have been documented here.

The **Sonoran Desert** to the south and east, at elevations less than 3000 ft (914 m), contributes a unique set of plants that are adapted to a bi-seasonal precipitation pattern (winter and summer rainfall), as well as a low frequency of freezing conditions. The higher elevations of the park are dominated by the Little San Bernardino Mountains, an eastern extension of California's **Transverse Ranges**. Although this desert upland area represents the southwestern corner of the **Mojave Desert**, it also serves as a conduit for many plants to reach their easternmost distribution, thus providing for an interesting mix of chaparral, montane, and desert species.

It is the intermingling of species from all three of these biogeographic regions that lends the Park its incredible diversity: shrub assemblages here, for example, are among the most diverse vegetation types in North America. To appreciate the full floristic richness of this area, try to catch the fleeting bloom of annual plants, which represent half the species found in the park. Many of these annuals will only flower after hot monsoonal rain events, at a time of year when many people assume the desert is completely dormant. Looking at plants is a year-long activity in Joshua Tree. Pair the list in this guide with a botanical field guidebook and see how many you can identify. **Happy hiking!**

Species Checklist

Color	Species	Habit	Season
W	<i>Atriplex canescens</i> (fourwing saltbush)	S	H
W	<i>Chaenactis stevioides</i> (Esteve's pincushion)	A	C
W	<i>Cryptantha circumscissa</i> (western forget-me-not)	A	C
W	<i>Cryptantha decipiens</i> (gravelbar forget-me-not)	A	C
W	<i>Datura wrightii</i> (jimson weed)	P	C, H
W	<i>Eriogonum fasciculatum</i> (California buckwheat)	S	C, H
W	<i>Euphorbia albomarginata</i> (rattlesnake weed)	A	C, H
W	<i>Lepidium lasiocarpum</i> (white pepperweed)	A	C
W	<i>Lycium andersonii</i> (Anderson's boxthorn)	S	C
W	<i>Lycium cooperi</i> (Cooper's boxthorn)	S	C
W	<i>Pectocarya heterocarpa</i> (mixed-nut comb-bur)	A	C
W	<i>Prunus fasciculata</i> (desert almond)	S	C
W	<i>Yucca brevifolia</i> (Joshua tree)	T	C
W	<i>Yucca schidigera</i> (Mojave yucca)	S	C
Y	<i>Acamptopappus sphaerocephalus</i> (goldenhead)	SS	C
Y	<i>Adenophyllum cooperi</i> (Cooper's dyssoxia)	P	C
Y	<i>Ambrosia salsola</i> (cheesebush)	SS	C
Y	<i>Amsinckia tessellata</i> (desert fiddleneck)	A	C
Y	<i>Baileya pleniradiata</i> (woolly marigold)	A	C
Y	<i>Brickellia californica</i> (California brickellia)	S	H
Y	<i>Camissonia campestris</i> (Mojave suncup)	A	C
Y	<i>Camissoniopsis pallida</i> (pale yellow suncup)	A	C
Y	<i>Coleogyne ramosissima</i> (blackbrush)	S	C
Y	<i>Cylindropuntia echinocarpa</i> (silver cholla)	C	C
Y	<i>Ericameria cooperi</i> (Cooper's goldenbush)	S	C
Y	<i>Ericameria cuneata</i> (rock goldenbush)	S	H
Y	<i>Ericameria linearifolia</i> (linear-leaved goldenbush)	S	C
Y	<i>Eriophyllum wallacei</i> (Wallace's woolly daisy)	A	C
Y	<i>Gutierrezia microcephala</i> (matchweed)	SS	H
Y	<i>Ivesia saxosa</i> (rock cinquefoil)	P	C, H
Y	<i>Leptosiphon aureus</i> (golden linanthus)	A	C
Y	<i>Malacothrix glabrata</i> (desert dandelion)	A	C
Y	<i>Rhus aromatica</i> (skunk bush)	S	C
O	<i>Sphaeralcea ambigua</i> (apricot mallow)	P	C
P	<i>Amaranthus fimbriatus</i> (fringed amaranth)	A	H
P	<i>Cirsium neomexicanum</i> (New Mexico thistle)	A	C
P	<i>Krameria erecta</i> (littelleaf ratany)	S	C
P/W	<i>Mirabilis laevis</i> (wishbone bush)	P	C
P	<i>Opuntia basilaris</i> (beavertail cactus)	C	C

Species Checklist

Color	Species	Habit	Season
V	<i>Erigeron breweri</i> var. <i>covillei</i> (Coville's fleabane)	P	C, H
V	<i>Salvia columbariae</i> (chia)	A	C
V	<i>Salvia dorrii</i> (desert sage)	S	C, H
V	<i>Scutellaria mexicana</i> (paper-bag bush)	S	C
V	<i>Stephanomeria exigua</i> (small wirelettuce)	A	C, H
G	<i>Elymus elymoides</i> (squirreltail)	PG	H
G	<i>Hilaria rigida</i> (big galleta grass)	PG	C, H
G	<i>Melica imperfecta</i> (smallflower melicgrass)	PG	C
G	<i>Muhlenbergia porteri</i> (bush muhly)	PG	H
G	<i>Stipa hymenoides</i> (Indian ricegrass)	PG	C
G	<i>Stipa speciosa</i> (desert needlegrass)	PG	C, H
C	<i>Ephedra nevadensis</i> (Nevada jointfir)	S	C
C	<i>Juniperus californica</i> (California juniper)	S, T	

KEY

Color (flower color)

W (white); **Y** (yellow); **O** (orange); **R** (red); **P** (pink to purple); **V** (violet to blue); **F** (Fern); **G** (green/brown); **C** (cone)

Habit (general growth shape)

A (annual); **P** (perennial); **PG** (perennial grass); **SS** (subshrub); **C** (cactus); **S** (shrub); **T** (tree)

Season

H: responds to hot season precipitation (generally blooms June-Oct); **C**: responds to cool season precipitation (generally blooms Feb-June)

Trail Information

This trail is a 0.4 mile (0.6 km) loop with minimal elevation change. It winds through Joshua tree woodland and between spectacular monzogranite rock formations, where you will find excellent examples of species capitalizing on microhabitats such as shady boulder crevices. Juniper woodlands are represented here, as well as a spectacular diversity of desert shrubs.



Rock goldenbush (*Ericameria cuneata*) has a characteristic habit: it grows right out of rocks! Here, an individual is thriving in a crevice in a monzogranite rock face.



Cap Rock Trail

A Botanical Trail Guide

Key to Symbols



Denotes bloom months. Green=spring; Yellow=summer; Orange=fall; Blue=winter.



Displays the silhouette of a particular plant. Look for the form, then get closer for details.

Section 1

Desert Almond

(*Prunus fasciculata*)

These relatives of domestic cherry and almond trees are drought-deciduous—they lose their leaves during dry periods. In spring, though, you will find them covered in leaves, and often with infestations of tent caterpillars (*Malacosoma* spp.). Tent caterpillars have several intriguing adaptations: for instance, they can generate heat by twitching, and they exude cyanide from their bodies to thwart would-be predators.



Woolly Marigold

(*Baileya pleniradiata*)

The woolly marigold bloom is, upon closer inspection, composed of many small flowers. This flowering head has several yellow disk florets (small flowers) in the center and a fringe of sunny yellow ray florets arranged around the edge, each with one petal. You might notice that the leaves and stem on this plant have a dense covering of tomentose (intertwined) hair, giving the plant a woolly appearance.



Desert Sage

(*Salvia dorrii*)

A charismatic plant in leaf and in flower, *Salvia dorrii* is the eponymous plant of the classic western novel *Riders of the Purple Sage* and the films of the same name. If you see this woody shrub in flower, you will see why it is sometimes called purple sage—the flowers and bracts are a gorgeous dark purple. This aromatic shrub belongs to the mint family (Lamiaceae); its leaves can be used in cooking and were used to treat colds among many Native American tribes.



Section 2

Indian Ricegrass

(*Stipa hymenoides*)

As the name suggests, the Chemehuevi used Indian ricegrass as a food crop. They ate the seeds raw or ground them into flour to make cakes. The inflorescence of this grass is many-branched, lending it an airy appearance. The seeds of Indian ricegrass are also a staple for many desert rodents, birds, and rabbits.



California Brickellia

(*Brickellia californica*)

California brickellia is a perennial plant that blooms from late summer to early fall. The narrow flowering heads are inconspicuous, though quite pretty if you stop to look at them! There are more than three dozen species of *Brickellia* in the Southwest; the California brickellia is one of the most widespread. You will find this leafy shrub growing among boulders or rocky crevices, especially along wash corridors.



Rock Cinquefoil

(*Ivesia saxosa*)

The Latin translation of *saxosa* is “growing among rocks,” which aptly describes this plant. The rock cinquefoil is a boulder obligate—you’ll find it exclusively in volcanic or granitic crevices, such as the striking monzogranite formations that this trail is named for. Granite acts like a sponge and retains water quite well; plants with roots that can penetrate rock crevices are able to access the available moisture within.



Spring Annuals

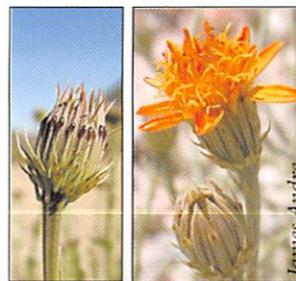


Camissonia campestris *Salvia columbariae* *Amsinckia tessellata* *Chaenactis stevioides*

Cooper's Dyssoidia

(*Adenophyllum cooperi*)

Lean in close and experience the scent of Cooper's dyssoidia—it isn't just visually striking! The arresting aroma of this plant is generated by oil glands near the tip of the leaves. Oil glands can also be found at the base of the phyllaries (green structures below the flowers). Plants produce oils for many purposes, such as defense against herbivory.



New Mexico Thistle

(*Cirsium neomexicanum*)

Though this plant only produces flowers once, it generally lives for two years. Biennials, like the New Mexico thistle, grow a large rosette (ground-level leaves) in their first year and then send up a stem and flowers in their second. The stout stem of this native thistle can grow to five feet tall and the flowering heads can be two inches wide; flower color varies from white to purple. Beware its spiny foliage!



Silver Cholla

(*Cylindropuntia echinocarpa*)

The silver cholla is a stem succulent: it photosynthesizes through its stem, rather than through leaves. The leaves of cacti have been modified into spines, an adaptation that greatly reduces water loss through evaporation. This is one of the many characteristics of cacti that allow them to thrive in the desert.



Spring Annuals



Amaranthus fimbriatus *Leptosiphon aureus* *Datura wrightii* *Malacothrix glabrata*

Section 3

Goldenhead

(*Acamptopappus sphaerocephalus*)

The name goldenhead suits this shrub, whose bloom is both golden and round: *sphaerocephalus* is Greek for sphere-headed. Look for the white, inch-long cases of the goldenhead bagworm (*Coleophora acamptopappi*) hanging from the slender branches. If you can get your ear close enough, you may hear the fat brown larva squirming around inside!



Coville's Fleabane

(*Erigeron breweri*)

Erigeron means “early old man” in Greek, a reference to the grayish appearance of this plant caused by the coarse, stiff hairs on its stems and leaves. Your best bet at spotting this herbaceous perennial is to find it when the daisy-like flowering heads are present. These heads consist of many yellow disc florets (small flowers) surrounded by ray florets, each with one light purple petal.



Rock Goldenbush

(*Ericameria cuneata*)

Give it a sniff! Like many plants that are used medicinally, rock goldenbush is aromatic due to the compounds that give it healing properties. Indigenous peoples made an infusion of its roots to cure colds and respiratory illnesses, and inhaled steam from the leaves to cure sore throats. They also made a poultice from its leaves to relieve pain and swelling.



Mojave Yucca

(*Yucca schidigera*)

Mojave yucca is found mostly within the Mojave Desert at elevations ranging from 3000 to 5000 feet (900-1500 meters). You can distinguish it from the related Joshua tree by its long leaves and short, shrubby stature. All yuccas are pollinated by yucca moths (*Tegeticula* spp.) that specialize in active pollination, a rare form of pollination mutualism. The female moth lays her eggs inside the flower's ovary, then pollinates the flower. This ensures that when the larvae emerge, they will have a fresh food source—the developing seeds!

