

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), 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 to be completely dormant. Looking at plants is a year-long activity in Joshua Tree. Pair this list with a botanical field guide and see how many you can identify. **Happy hiking!**



Species List

Color	Species	Habit	Season
W	<i>Ambrosia dumosa</i> (burrobush)	S	C
W	<i>Brickellia atractyloides</i> (pungent brickellia)	S	C
W	<i>Caulanthus cooperi</i> (Cooper's caulanthus)	A	C
W	<i>Chaenactis stevioides</i> (Esteve's pincushion)	A	C
W	<i>Cryptantha barbiger</i> (bearded forget-me-not)	A	C
W	<i>Cryptantha nevadensis</i> (Nevada forget-me-not)	A	C
W	<i>Eriogonum davidsonii</i> (Davidson's buckwheat)	A	C, H
W	<i>Eriogonum fasciculatum</i> (California buckwheat)	S	C, H
W	<i>Eriogonum wrightii</i> (Wright's buckwheat)	SS	H
W	<i>Euphorbia albomarginata</i> (rattlesnake weed)	A	C, H
W	<i>Galium stellatum</i> (starry bedstraw)	SS	C
W/P	<i>Gilia stellata</i> (star gilia)	A	C
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>Nolina parryi</i> (Parry nolina)	S	C
W	<i>Pectocarya recurvata</i> (arched-nut comb-bur)	A	C
W	<i>Pectocarya setosa</i> (round-nut comb-bur)	A	C
W	<i>Plantago patagonica</i> (woolly plantain)	A	C
W	<i>Porophyllum gracile</i> (odora)	SS	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>Acmispon rigidus</i> (desert rock pea)	SS	C
Y	<i>Ambrosia salsola</i> (cheesebush)	SS	C
Y	<i>Amsinckia tessellata</i> (desert fiddleneck)	A	C
Y	<i>Artemisia ludoviciana</i> (silver wormwood)	P	H
Y	<i>Bahiopsis parishii</i> (Parish's goldenbrake)	S	C
Y	<i>Brickellia californica</i> (California brickellia)	S	H
Y	<i>Calycoseris parryi</i> (yellow tackstem)	A	C
Y	<i>Chorizanthe brevicornu</i> (brittle spineflower)	A	C
Y	<i>Coleogyne ramosissima</i> (blackbrush)	S	C
Y	<i>Cylindropuntia echinocarpa</i> (silver cholla)	C	C
Y	<i>Dudleya saxosa</i> (desert live-forever)	P	C
Y	<i>Emmenanthe penduliflora</i> (whispering bells)	A	C
Y	<i>Encelia actonii</i> (Acton's brittlebush)	S	C, H
Y	<i>Ericameria cooperi</i> (Cooper's goldenbush)	S	C
Y	<i>Ericameria linearifolia</i> (linear-leaved goldenbush)	S	C
Y	<i>Ericameria teretifolia</i> (terete-leaved rabbitbrush)	S	H
Y	<i>Eriogonum inflatum</i> (desert trumpet)	P	C, H
Y	<i>Eriogonum nidularium</i> (whiskbroom buckwheat)	A	C, H
Y	<i>Eriogonum pusillum</i> (yellow turbans)	A	C, H
Y	<i>Eriophyllum wallacei</i> (Wallace's woolly daisy)	A	C
Y	<i>Eschscholzia androuxii</i> (Joshua Tree poppy)	A	C
Y	<i>Gutierrezia microcephala</i> (matchweed)	SS	H
Y	<i>Ivesia saxosa</i> (rock cinquefoil)	P	C, H
Y	<i>Larrea tridentata</i> (creosote bush)	S	C
Y	<i>Lomatium mohavense</i> (Mojave desert parsley)	P	C
Y	<i>Mentzelia albicaulis</i> (white-stem blazing star)	A	C

Species List

Color	Species	Habit	Season
Y	<i>Opuntia chlorotica</i> (pancake cactus)	C	C
Y	<i>Rhus aromatica</i> (skunk bush)	S	C
Y	<i>Senegalia greggii</i> (cat's claw acacia)	S	H
Y	<i>Senna armata</i> (desert senna)	S	C, H
Y	<i>Tetradymia stenolepis</i> (Mojave cottonthorn)	S	H
O	<i>Adenophyllum porophylloides</i> (San Felipe dysodia)	SS	C, H
O	<i>Sphaeralcea ambigua</i> (apricot mallow)	P	C
P	<i>Allium parishii</i> (Parish's onion)	B	C
P	<i>Cylindropuntia ramosissima</i> (pencil cholla)	C	H
P	<i>Echinocereus engelmannii</i> (hedgehog cactus)	C	C
P	<i>Krameria erecta</i> (littleleaf ratany)	S	C
P/W	<i>Mirabilis laevis</i> (wishbone bush)	P	C
P	<i>Opuntia basilaris</i> (beavertail cactus)	C	C
P	<i>Stephanomeria exigua</i> (small wirelettuce)	A	C, H
P	<i>Stephanomeria parryi</i> (Parry's wirelettuce)	P	C
P	<i>Stephanomeria pauciflora</i> (brownplume wirelettuce)	SS	C
V	<i>Boechera xylopoda</i> (bigfoot hybrid rockcress)	P	C
V	<i>Delphinium parishii</i> (Parish's larkspur)	P	C
V	<i>Eriastrum eremicum</i> (desert woollystar)	A	C
V	<i>Lupinus sparsiflorus</i> (Coulter's lupine)	A	C
V	<i>Phacelia campanularia</i> (Canterbury bells)	A	C
V	<i>Phacelia distans</i> (lace-leaf phacelia)	A	C
V	<i>Salvia columbariae</i> (chia)	A	C
V	<i>Scutellaria mexicana</i> (paper-bag bush)	S	C
V	<i>Xylorhiza tortifolia</i> (Mojave aster)	S	C
G	<i>Aristida purpurea</i> (purple threeawn)	PG	H
G	<i>Dasyochloa pulchella</i> (fluffgrass)	PG	C
G	<i>Hilaria rigida</i> (big galleta grass)	PG	C, H
G	<i>Phoradendron leucarpum ssp. tomentosum</i> (oak mistletoe)	P	H
G	<i>Simmondsia chinensis</i> (jojoba)	S	C
G	<i>Stipa speciosa</i> (desert needlegrass)	PG	C, H
G	<i>Tridens muticus</i> (slim tridens)	PG	C, H
C	<i>Ephedra nevadensis</i> (Nevada jointfir)	S	C
C	<i>Juniperus californica</i> (California juniper)	S, T	
C	<i>Pinus monophylla</i> (singleleaf pinyon pine)	T	

KEY

Color (flower color)

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

Habit (general growth shape)

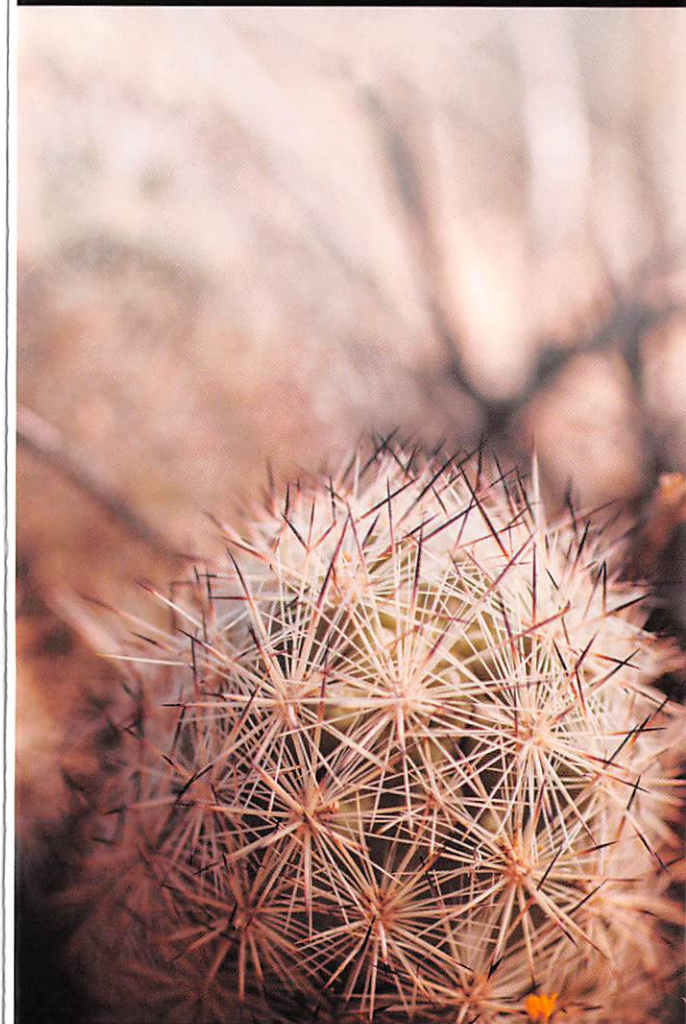
A (annual); P (perennial); PG (perennial grass); SS (subshrub); C (cactus); S (shrub); T (tree)

Season

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



Joshua Tree National Park



Split Rock Trail

A Botanical Trail Guide

This trail begins in rocky terrain, crosses washes, ascends through boulder fields, and then winds through oak and pine woodland before concluding with washes and Joshua tree woodland. The trail is a two mile (3.2 km) loop and total elevation gain is approximately 150 feet (46 m).

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

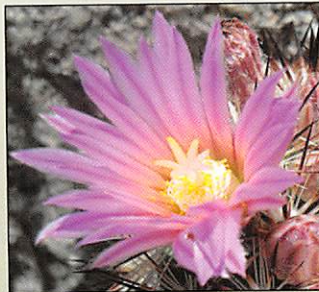
California Indigo Bush (*Psoralea argophylla* var. *simplicifolia*)

This shrub puts on a lovely display of blossoms that can vary from cobalt to violet. If it isn't in bloom, you can still look for the bean-like fruit that is characteristic of the Fabaceae family. The Cahuilla used indigo bush medicinally and as a light yellowish-brown dye for decorating their baskets.



Cushion Foxtail Cactus (*Coryphantha alversonii*)

Cushion foxtail cactus, a stem succulent, is known for its brilliant pink bloom and spines tipped with reddish black. Though you can find it throughout Joshua Tree National Park, it has a limited distribution elsewhere. It grows only in a small region in the transition zone between the Mojave and Sonoran Deserts in California, making it endemic to the state and of conservation concern.



False Woolly Daisy (*Syntrichopappus fremontii*)

This diminutive plant has only five distinct ray flowers, each of which appears as one "petal." It grows on sandy or gravelly soils above 2,000 feet (600 m) throughout the southwestern deserts, but is fairly uncommon in the park. It was named for John C. Frémont after he documented it in 1854 during one of his expeditions across North America.



Section 2

Turpentine Broom (*Thamnosma montana*)

Thamnosma means "odorless shrub" in Greek. Rub the stems or fruits of this gland-dotted shrub and you might recognize the spicy aroma: it is a close relative to the citrus fruits. The yellowish-green stems are leafless most of the year and bear a fruit that looks like a tiny two-lobed lemon.



Wright's Buckwheat (*Eriogonum wrightii*)

The sweet nectar of Wright's buckwheat provides nourishment for a great diversity of native bee pollinators, as well as butterflies such as the beautiful Mormon metalmark. This common but unassuming shrub reminds us that by protecting our native vegetation we also protect a multitude of other species.



Desert Paintbrush (*Castilleja chromosa*)

Desert paintbrush can be seen throughout the Mojave Desert. It is a root hemiparasite: although it can photosynthesize, it will insert haustoria (modified roots) into other plant roots to obtain nutrients. The bright red "floral" display is in fact not flowers, but red bracts surrounding the small, nectar-rich flower. These herbaceous perennial plants were a popular treat for Cahuilla children.



Spring Annuals



Phacelia campanularia *Gilia stellata* *Emmenanthe penduliflora* *Amsinckia tessellata*

Section 3

Birds-foot Fern (*Pellaea mucronata* var. *mucronata*)

Like other ferns, birds-foot fern reproduces via spores rather than seeds; it does not have flowers. In order to reproduce, the spores must be transported in water, which is why most ferns are found in very moist habitats. Desert ferns are often found in rock crevices or at the bases of boulders (keep an eye out on the left side of the trail), where they remain dormant until water becomes available.



Desert Mariposa Lily (*Calochortus kennedyi*)

In years when the rainfall is right, the desert mariposa lily displays brilliant orange flowers with rich, silky petals. In dry years, these geophytes (perennial plants with underground storage organs) wait underground as bulbs. For a nutritious treat, the Cahuilla people gathered these small bulbs from rocky soils and ate them raw, steamed, or roasted.



Mojave Sandwort (*Eremogone macradenia* var. *macradenia*)

Look for these tufted perennial plants with their erect stems, swollen stem nodes and needle-like leaves up on rocky slopes. Like many of the flowers in the pink, or carnation, family (Caryophyllaceae), the delicate petals of the Mojave sandwort look like they have been trimmed with pinking shears.



Spring Annuals

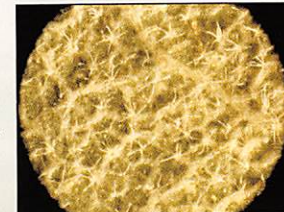
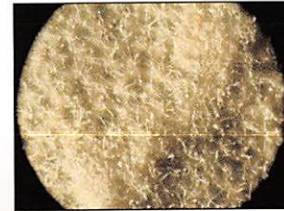


Salvia columbariae *Chaenactis stevioides* *Euphorbia albomarginata* *Eriastrum eremicum*

Section 4

Muller Oak (*Quercus cornelius-mulleri*) and Tucker Oak (*Quercus john-tuckeri*)

The Muller oak is named after botanist Dr. Cornelius Muller. Its acorns mature in one year, a characteristic that defines it as a white oak. The Muller oak's leaves are strongly bicolorous due to a dense mat of white, stellate (star-shaped) hairs on the underside of the leaf (top photo). This is the most common oak we have in the park. However, the Tucker oak is also present—especially along this trail. The leaves on the Tucker oak, named after oak expert Dr. John Tucker, do not appear bicolorous because they lack the dense white hairs on the lower leaf surface.



Microscopic view (6x): dense hairs on underside of Muller oak leaf (top) and green underside of Tucker oak leaf (bottom).



Oak Mistletoe (*Phoradendron leucarpum* ssp. *tomentosum*) and Desert Mistletoe (*Phoradendron californicum*)

Both mistletoes are hemiparasitic plants: although they draw nutrients from their host plant, they can also photosynthesize. The large, flat leaf blades distinguish oak mistletoe from desert mistletoe, which has scale-like leaves. Oak mistletoe taps into oak trees. In this case, you will find it on the Tucker oak (*Quercus john-tuckeri*), whereas the desert mistletoe utilizes arborescent shrubs and trees of the legume family (Fabaceae). The reddish stems of desert mistletoe (seen here growing on cat's claw acacia) produce the main food source for the phainopepla, a large black or gray bird with a feathered crest. The desert mistletoe's sticky berries can pass unharmed through the digestive tracts of the phainopepla. When the bird excretes the mistletoe's indigestible seeds the small mound of sticky red pulp clings to the branches. If the seeds germinate on a suitable host plant, the mistletoe will attach itself with specialized "roots." It's a win-win: the mistletoe provides food for the phainopepla, and the bird helps disperse the plant's seeds.

