

See inside of guide for a selection of plants found on this trail.

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 the list in this guide with a botanical field guide and see how many you can identify.

Happy hiking!



Species Checklist

Color	Species	Habit	Season
W	Ambrosia dumosa (burrobush)	S	C
W	Brickellia atractyloides (pungent brickellia)	S	C
W	Chaenactis fremontii (Fremont pincushion)	A	C
W	Chaenactis stevioides (Esteve's pincushion)	A	C
W	Cryptantha angustifolia (narrow-leaf forget-me-not)	A	C
W	Cryptantha barbiger (bearded forget-me-not)	A	C
W	Cryptantha circumsissa (western forget-me-not)	A	C
W	Cryptantha decipiens (gravelbar forget-me-not)	A	C
W	Cryptantha dumetorum (bush-loving forget-me-not)	A	C
W	Cryptantha maritima (white-haired forget-me-not)	A	C
W	Cryptantha micrantha (red-root forget-me-not)	A	C, H
W	Cryptantha nevadensis (Nevada forget-me-not)	A	C
W	Cryptantha pterocarya (wingnut forget-me-not)	A	C
W	Cryptantha utahensis (scented forget-me-not)	A	C
W	Descurainia pinnata (tansy mustard)	A	C
W	Eriogonum fasciculatum (California buckwheat)	S	C, H
W	Eriogonum saxatile (rock buckwheat)	SS	H
W	Eucrypta chrysanthemifolia (spotted eucrypta)	A	C
W	Euphorbia albomarginata (rattlesnake weed)	A	C, H
W	Galium angustifolium (slender bedstraw)	S	H
W	Galium stellatum (starry bedstraw)	SS	C
W	Lepidium lasiocarpum (white pepperweed)	A	C
W	Lycium andersonii (Anderson's boxthorn)	S	C
W	Porophyllum gracile (odora)	SS	C
W	Prunus fasciculata (desert almond)	S	C
W	Rafinesquia neomexicana (New Mexico chicory)	A	C
W	Thysanocarpus curvipes (fringe-pod)	A	C
W	Yucca brevifolia (Joshua tree)	T	C
W	Yucca schidigera (Mojave yucca)	S	C
Y	Acmispon rigidus (desert rock pea)	SS	C
Y	Amsinckia tessellata (desert fiddleneck)	A	C
Y	Anisocoma acaulis (scalebud)	A	C
Y	Artemisia ludoviciana (silver wormwood)	P	H
Y	Bahiopsis parishii (Parish's goldeneye)	S	C
Y	Brickellia californica (California brickellia)	S	H
Y	Cylindropuntia echinocarpa (silver cholla)	C	C
Y	Cylindropuntia ramosissima (pencil cholla)	C	H
Y	Dudleya saxosa (desert live-forever)	P	C
Y	Encelia actonii (Acton's brittlebush)	S	C, H
Y	Ericameria cooperi (Cooper's goldenbush)	S	C
Y	Ericameria cuneata (rock goldenbush)	S	H
Y	Ericameria linearifolia (linear-leaved goldenbush)	S	C
Y	Ericameria teretifolia (terete-leaved rabbitbrush)	S	H
Y	Eriogonum pusillum (yellow turbans)	A	C, H
Y	Eriophyllum wallacei (Wallace's woolly daisy)	A	C
Y	Eschscholzia minutiflora (little gold poppy)	A	C
Y	Keckiella antirrhinoides (bush penstemon)	S	C
Y	Larrea tridentata (creosote bush)	S	C
Y	Opuntia chlorotica (pancake cactus)	C	C
Y	Quercus cornelius-mulleri (Muller oak)	T	C

Species Checklist

Color	Species	Habit	Season
Y	Rhus aromatica (skunk bush)	S	C
Y	Senegalia greggii (cat's claw acacia)	S	H
Y	Senna armata (desert senna)	S	C, H
Y	Tetradymia stenolepis (Mojave cottonthorn)	S	H
O	Adenophyllum porophylloides (San Felipe dyssodia)	SS	C
O	Sphaeralcea ambigua (apricot mallow)	P	C
R	Calyptridium monandrum (sand-cress)	A	C, H
R	Castilleja chromosa (desert paintbrush)	P	H
R	Echinocereus mojavensis (Mojave mound cactus)	C	C
R	Epilobium canum (California fuschia)	SS	H
R	Lomatium mohavense (Mojave desert parsley)	P	C
P	Boechera xylopoda (bigfoot hybrid rockcress)	P	C
P	Coryphantha alversonii (cushion foxtail cactus)	P	C
P	Echinocereus engelmannii (hedgehog cactus)	C	C
P	Iragonum wrightii (Wright's buckwheat)	SS	H
P	Krameria erecta (littleleaf ratany)	S	C
P/W	Mirabilis laevis (wishbone bush)	P	C
P	Opuntia basilaris (beavertail cactus)	C	C
P	Stephanomeria pauciflora (brownplume wirelettuce)	SS	C
V	Delphinium parishii (Parish's larkspur)	P	C
V	Eriastrum eremicum (desert woollystar)	A	C
V	Lupinus concinnus (elegant lupine)	A	C
V	Lupinus sparsiflorus (Arizona lupine)	A	C
V	Phacelia distans (lace-leaf phacelia)	A	C
V	Salvia columbariae (chia)	A	C
V	Scutellaria mexicana (paper-bag bush)	S	C
V	Thamnosma montana (turpentine broom)	S	C
V	Xylorhiza tortifolia (Mojave aster)	S	C
F	Myriopteris viscida (viscid lip fern)	P	
G	Aristida purpurea (Fendler's threeawn)	PG	H
G	Phoradendron californicum (desert mistletoe)	PP	C
G	Simmondsia chinensis (jojoba)	S	C
G	Stipa speciosa (desert needlegrass)	PG	C, H
C	Ephedra nevadensis (Nevada jointfir)	S	C
C	Juniperus californica (California juniper)	S, T	
C	Pinus monophylla (singleleaf pinyon pine)	T	

KEY

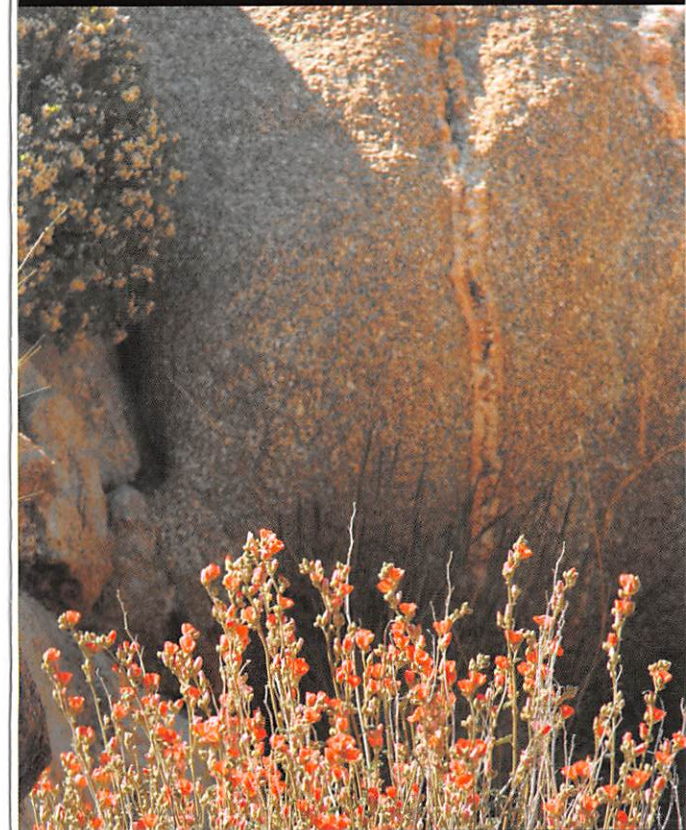
Color (flower color)
 W (white); Y (yellow); O (orange); R (red); P (pink to purple); V (violet to blue); F (fern); G (green); C (cone)

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

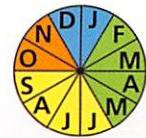


Skull Rock Trail

A Botanical Trail Guide

Start this dirt trail across the road from the entrance to Jumbo Rocks Campground, at the Skull Rock parking lot, or from within the campground. If you go counterclockwise from the parking lot, the trail proceeds north of Park Boulevard through Mojave mid-elevation mixed scrub and riparian corridors, where you will see cat's claw acacia and desert almond dominating the sandy areas. After crossing Park Boulevard you will see oak woodlands among the boulders, with California buckwheat and Mojave yucca along the ridgelines. This trail has many interpretive signs along the path and takes you by the famous Skull Rock. The last stretch of the loop follows the paved road through the campground. The loop is 1.8 miles (2.9 km) with an elevation gain of 120 feet (37 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.

Hedgehog Cactus (*Echinocereus engelmannii*)

One of our more common cacti, this species forms clumps of upright, cylindrical stems. In the spring, you can identify it easily by its brilliant magenta flowers, along with the dense clusters of calico-colored spines. The hedgehog cactus relies heavily on bees for pollination. The flowers avoid self-pollinating by only opening the stigma lobes (female reproductive parts) after the bees have carried the pollen away. This is called protandry.



Mojave Mound Cactus (*Echinocereus mojavensis*)

Like all members of the Cactaceae, the flowers of the Mojave mound cactus consist of many tepals, which means the petals and sepals cannot be distinguished. This is the only cactus with bright red flowers in California and it is also the only cactus pollinated by hummingbirds in this region! You will find it growing in low mounds of densely packed stems, which can reach nine feet across.



Desert Trumpet (*Eriogonum inflatum*)

Despite lacking a showy flower, desert trumpet stands out at any time of the year because of its inflated stems. The fistulose (hollow) portion of the stem occurs just below the whorl of branches. The amount of inflation is dependent on available moisture and is caused by carbon dioxide concentration. During drier periods of the year, the inflation will be less pronounced or lacking altogether. You can find these tall, airy plants throughout the park in a variety of habitats; watch for them along the roadside.



Bush Penstemon (*Keckiella antirrhinoides*)

The bush penstemon, also called a beardtongue, is aptly named. It is in the same family as domestic snapdragons, and like those flowers it has a furry pistil that looks like a "bearded tongue" for gathering pollen from visiting insects. Note the downward-facing, fused petals. These provide a landing platform for pollinators, and the overhanging petals and anthers deposit pollen on the insect while it gathers nectar. This woody shrub is quite showy with its large yellow flowers and shiny green leaves. Look for it on rocky slopes.



Cushion Foxtail Cactus (*Coryphantha alversonii*)

Cushion foxtail cactus, a stem succulent, is known for its brilliant pink bloom and reddish black tipped spines. It can be locally common throughout Joshua Tree National Park, but has a limited distribution. It is restricted to 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.



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.



Spring Annuals



Anisocoma acaulis



Chaenactis fremontii



Lupinus sparsiflorus



Rafinesquia neomexicana

Viscid Lip Fern (*Myriopteris viscida*)

The name, viscid lip fern, refers to the clear sticky substance exuded from the dense covering of glands on the leaf surfaces. Many members of the genus *Myriopteris* produce chemicals that help to block certain types of UV radiation, effectively protecting themselves from sun damage in harsh, xeric landscapes. You will find this plant in protected, rocky areas.



Bigfoot Hybrid Rockcress (*Boechera xylopoda*)

You will typically find the bigfoot hybrid rockcress growing on gravelly slopes, rocky outcrops, or in the shade of a tree. The erect flowering stalk emerges from a small rosette of dark green leaves and the flowers have four purple petals. The skinny fruits, called siliques, are quite noticeable on these plants and are often covered with small stellate (star-shaped) hairs.



Broom Matchweed (*Gutierrezia sarothrae*)

Broom matchweed is highly aromatic and flammable due to the resins in the leaves – hence the common name matchweed. The aromatic compounds lend it healing properties: for example, the Cahuilla used the plant as a cure for toothaches and other pains. The name *sarothrae* means "broom" in Greek, referring to the densely branched herbaceous stems that work well as a broom.



Spring Annuals



Cryptantha maritima



Eschscholzia minutiflora



Salvia columbariae



Eriastrum eremicum

Woody Forget-me-not (*Cryptantha racemosa*)

Although many members of this genus are annuals, the woody base of this species helps to distinguish it as a perennial. You can find woody forget-me-not growing from rock crevices, often along canyon walls. The small, white flowers and bristly hairs make the members of this genus difficult to tell apart, but if you can get a closer look at the nutlets (seeds) you will see a myriad of differences. The species name comes from the Latin meaning for "clustered," referring to the shape of the flowering stalk.



Beavertail Cactus (*Opuntia basilaris*)

This cactus has flat, blue-gray pads that are spineless and appear fuzzy and soft, tempting people to make the mistake of touching them. Beware: instead of spines, they are armed with many small bristles known as glochids, which are painful and very difficult to remove! The species name *basilaris* means "regal," referring to the plant's beauty when covered with large, nearly neon pink flowers. Ants can often be found swarming the newly formed pads and flowers due to the copious amounts of nectar they produce. Native Americans traditionally used beavertail cactus for both food and medicine.



California Fuschia (*Epilobium canum*)

An herbaceous perennial, California fuschia grows in the bottoms of canyons, along washes, or wherever there is moisture seeping from a crevice. Look for it during the summer and fall months, when it is covered in tube-shaped red to orange flowers. These flowers exhibit the classic morphology of a plant pollinated by birds: the red color is highly visible; the tubular shape holds nectar at the base, requiring the bird to get pollen on its face as it delves deep for food; and there is little scent.

