



**14 SHRUB LIVE OAK** *Quercus turbinella*

Found extensively throughout the park, shrub live oak forms low thickets. It has grayish green, prickly, holly-like leaves that remain year-round. Native cultures gathered its acorns for food and early settlers used the limbs and trunks for fence posts. Birds and mammals also eat the acorns and mule deer have been known to eat the leaves. The shrub provides shelter for birds and mammals.

*Can you find any acorns or acorn caps in its branches?*

**15 BLACKBRUSH** *Coleogyne ramosissima*

Blackbrush gets its name from the older stems, which have a rough black bark. A characteristic of blackbrush is its pattern of intricate branches. Each successive pair of branchlets tends to be at right angles to the stems from which they arise. Smaller branchlets end in spines. Desert bighorn sheep and deer browse the plant despite its spiny nature. The fruits and seeds are eaten by small rodents and birds, such as ground squirrels and quail.

**16 DESERT VARNISH**

At first glance, this blackish-maroon coating—in the distance—appears to be painted on the sandstone. It is actually an accumulation of minerals, iron and manganese, that are deposited as rain or groundwater move through the stone. Bacteria on the rock surface aid in the formation of these dark layers which can be very thin or several layers thick. The more manganese found in the mineral layer, the darker the varnish; the more iron, the redder the color. Desert varnish does not erode as quickly as the sandstone it covers.

*Do you notice any difference in appearance between the red sandstone that is covered with varnish as opposed to that without the varnish?*

**17 UTAH YUCCA** *Yucca utahensis*



Yucca was possibly the single most important non-cultivated plant to native peoples of the southwest. Buds, young flowers and tender growing stalks were eaten both raw and cooked, while leaves were chewed. Roots were used to make soap and cleaned fibers from yucca leaves were twisted into cord and small ropes to make sandals and mats. The dried stalks were used in making cradle boards. Female carpenter bees will tunnel into the dried flower stalks to lay their eggs.

*Do you see any small, circular holes in the dead stalks?*

Without leaving the trail, look towards the red rocks behind the signpost. *Can you see an arch?*

**18 CREOSOTE BUSH** *Larrea tridentata*

Researchers have dated stands of creosote in California and Arizona at between 11,000 and 12,000 years old. Creosote stands predate giant redwoods and bristlecone pines as one of the oldest living plants. Native cultures used creosote for a variety of medicines. Resins deposited on its stems by beetles were used to cement arrowheads to shafts, waterproof basketry and mend pottery. Small rodents, birds and reptiles use the plant for shelter. Though the leaves are unpalatable to wildlife, there are 22 species of bees that depend on the creosote's yellow flowers for pollen and nectar.

Creosote bush is found throughout the Mojave Desert. As you hike in Snow Canyon, look for creosote bushes to determine how far the Mojave habitat extends up the canyon.

**19 PINYON PINE** *Pinus monophylla*

This tree is often found in mixed stands with Utah Juniper. Mature trees average 20 feet in height and 18 inches in diameter. Leaves are needle-like, one to two inches long. The seeds are an important food source for songbirds, quail, squirrels and mule deer. Native cultures also relied on the pinyon seeds for food and were either eaten raw or roasted and ground into a flour. The seeds are still an important crop today.

*Can you find the Hidden Pinyon for which this trail is named?*

Your park fees provide for the care, protection and enhancement of this park.

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*Illustrations by Zackery Zdinak*

**Utah State Parks Mission**

To enhance the quality of life by preserving and providing natural, cultural and recreational resources for the enjoyment, education and inspiration of this and future generations.

Snow Canyon State Park

# Hidden Pinyon Trail Guide

Utah State Parks

## WELCOME TO THE HIDDEN PINYON NATURE TRAIL.

Plan on approximately one hour to complete this 1.5-mile round-trip hike. As you walk along the trail, follow the numbered posts listed in this guide. Please stay on the trail to prevent damage to trailside plants and animal burrows.

All plants, animals, rocks and other natural features in the park are protected, and it is unlawful to remove, alter or destroy them.

**Begin at the first numbered marker to the right of the trail guide box.**

### 1 MORMON TEA *Ephedra viridis*

These stick or broom-like shrubs grow between one and four feet tall. Although the plant appears leafless, scale-like leaves can be seen at jointed sections of branches. Related to pines and junipers, this shrub produces tiny cones instead of flowers each spring. Various native cultures roasted the seeds, ate them whole or ground them into meal. Early Utah pioneers brewed a tea from this shrub that reduced symptoms of mild colds and allergies; hence the name, Mormon or Brigham Tea.



**Watch for the next trail marker to your right.**

### 2 BASALT FLOWS

There are three separate and distinct lava flows in the park. The two oldest, dated between 1.4 and 1.1 million years ago, cap the cliff on the east side of the canyon. The flow at the canyon floor is the youngest, approximately 27,000 years old. The flows contain two types of lava:

- pahoehoe (pah-hoy-hoy) lava has a ropey surface
- a'a (ah-ah) lava is very rough, chunky and jagged

*Can you guess which type of lava this is?*

**The trail leaves the paved surface and follows the sandy trail to the left. Watch for the next numbered post on your right.**

### 3 CLIFFROSE *Cowania mexicana*

These shrubs are commonly four to six feet tall but occasionally reach 15 feet. Several native cultures used cliffrose bark to make mats, rope, sandals and padding for cradle boards (the bark is very absorbent). The leaves and twigs of this plant were used as a cleansing agent for sores and wounds. Cliffrose is an important winter browse plant for deer and rodents that feed on the seeds. In early spring, its cream-colored, rose-like flowers attract numerous insect pollinators such as honeybees and bee flies.

### 4 LICHENS

The small gray, green and yellow blotches on surrounding rocks are actually two organisms, algae and fungi, which live together for their mutual benefit. Algae provide food through photosynthesis, while the fungal partner gives protection and support. Lichens aid in eroding rocks to form soil so other plants can grow. Lichens are also good indicators of air quality since they are sensitive to changes in air pollution levels.

### 5 DESERT ALMOND *Prunus fasciculata*

This rigidly branched shrub has small clustered leaves and greenish flowers, that, when pollinated, produce fuzzy, dry, almond-shaped fruits. In spring, webs made by tent caterpillars can be seen hanging in branches. Though these caterpillars are voracious eaters, they rarely cause injury to the plants. Occasionally, clusters of ladybug beetles can be seen on these shrubs. See if you can spot some ladybugs.

*Can you see what they are eating?*

Hint: It is not the plant.

### 6 ENGLEMANN PRICKLY PEAR

*Opuntia phaeacantha*

Located near the bench on the short trail in front of you is a large branching cactus with pads eight to 15 inches long. Its flowers have soft, satiny, yellow petals and its fruits are dark red and pear-shaped. The fruits are edible and used for making jelly and candy. Many animals also eat the fruits and seeds. In winter, the pads of the prickly pear appear very wrinkled due to water loss. This water loss concentrates the plant's sap which acts as anti-freeze.

### 7 THREE-LEAF SUMAC *Rhus trilobata*

This two to six foot tall shrub has three lobed leaves similar to those of currants. In spring, tiny clusters of yellowish flowers bloom before the leaves appear. By summer, the flowers develop into bunches of dark red, sticky, fuzzy berries that native cultures dried and used in Pemmican (a mixture of dried meat, fat and fruit). Sumac berries can also be eaten raw or boiled in water to make a pink lemonade. Birds and small mammals eat the berries and use the shrub for shelter. Rabbits eat the bark and deer eat the twigs and foliage.

### 8 SAND SAGE *Artemisia filifolia*

This fragrant shrub is recognizable for its wispy, silvery-gray, thread-like leaves. This plant is an indicator of sandy soil and provides food and shelter for small birds and mammals. Some animals burrow under the roots of the plant for shelter.

*Can you see holes at the base of these plants?*

In this sandy area it is easier to see animal tracks. Look down around your feet. *Do you see tracks that might be from small lizards, rodents or birds?*

### 9 UTAH JUNIPER *Juniperus osteosperma*

Together with the pinyon pine, Utah Juniper is the most predominant tree in the southwest. It has rigid branches and berry-like cones the size of marbles. These blue "berries" are eaten by jackrabbits, foxes and coyotes, and many bird species depend on them for food in the fall and winter. Deer will browse on the foliage when other food is scarce. Early settlers used the limbs and trunks for fence posts. Although inaccurate, many refer to junipers as cedar trees.

### 10 BANANA YUCCA *Yucca baccata*

This species of yucca has a fat, banana-like fruit and broad, stiff leaves. Many native cultures used the leaf fibers to make baskets, mats, cloth, rope and sandals. They also ate the ripe, fleshy fruit either raw or cooked. When roasted, it tastes like sweet potato. The seeds of the yucca provide the sole food for the larvae of the yucca moth, which in turn, is the only pollinator of the yucca. This is a good example of mutualism, where one species cannot exist without the other.



### 11 MOSS

On the red rock wall in front of you are small round mounds of plants. These are moss. During dry times of the year they are dark-brown and appear dead. When seasonal rains come, they quickly rejuvenate and turn a bright green. Moss provides shelter for insects and small mammals. Birds and small mammals also use it for nesting material.

*Can you tell if moss prefers sun or shade?*

### 12 PURPLE TORCH CACTUS

*Echinocereus engelmannii*

Occurring as slender barrels in clusters of a few to many, this cactus generally displays bright purple flowers at the end of April. They are waxy, opening in midmorning and closing at night, and last for several days. The fruits are edible, tasting like strawberries.

### 13 CROSS BEDDING

Ancient sand once transported by wind formed massive dunes. As the sand grains were blown up the back surface of the dune and deposited on the down-wind side, layers formed. These layers later cemented together forming crossbeds. Vertical lines, as well as holes in the rock, are due to erosion.