



WALNUT CANYON RIM TRAIL

Walnut Canyon National Monument
Arizona



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with the
National Park Service.

By *Southwestern Monuments Association*

To insure your safety and to preserve the unspoiled beauty of this National Monument, as well as to protect its archeologic structures, the following rules and regulations must be observed:

Picking flowers, throwing rocks, molesting wildlife, or collecting specimens of any kind is prohibited. Poisonous reptiles are almost unknown here — you may report the sighting of a lizard or snake, but it is expressly forbidden to kill or harm these creatures.

All canyon travel is limited to the main trail, and visitors must not hike off the trail for any reason.

If you smoke, be very careful on the trail. A carelessly dropped cigarette stub or match may start a bad fire.

Cover photograph courtesy of the National Park Service by Martin Mayer

WALNUT CANYON RIM TRAIL

This trail proceeds along the rim of the Canyon, with a paved spur through the Pinyon-Juniper forest past excavated ruins. Its distance is about $\frac{5}{8}$ of a mile, and can be covered in approximately 30 minutes. Numbers along the trail will correspond to numbers in this leaflet.

Most of the plants identified along the trail will flower and bear fruit in the summer and spring. If you are walking the trail in winter you may not be able to see all the flowers and plants that are mentioned. Please ask for more information at the Visitor Center when you return.

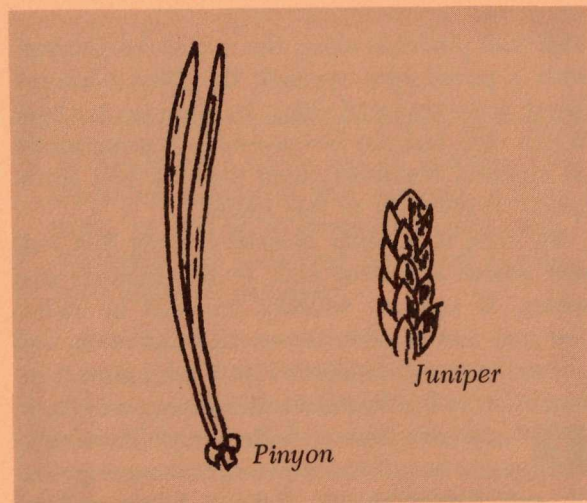
1 BLUEBERRY ELDER, “elderberry” (*Sambucus sp.*) is one of many plants that were probably used by prehistoric Indians. Flutes and arrowshafts came from branches; flowers from the tree were used for medicine. The blue-black berries are eagerly consumed by birds and small animals and today are used for making jams, jellies and wine.

2 THIS EVERGREEN SHRUB, the Fernbush (*Chamaebatiaria millefolium*) is common at Walnut Canyon and was named for the shape of its leaves. A member of the Rose family it

bears small, fragrant white flowers in July and August. It is a browse for deer.

3 DURING MOST OF THE SUMMER MONTHS you will see red trumpet flowers under this Pinyon tree. The Navajo use the leaves of certain species of this *Penstemon* as a poultice for snakebite. It is said to stop pain and help new skin grow. This is a Scarlet beardtongue, or *Penstemon barbatus*.

4 THE ONE-SEED JUNIPER (*Juniperus monosperma*) is one of four species of Juniper found on the Monument. It is an important plant to the Hopi Indians, as it undoubtedly was to the prehistoric people. It is used for firewood, and in the construction of buildings, and the leaves and berries are used for medicinal as well as ceremonial purposes.



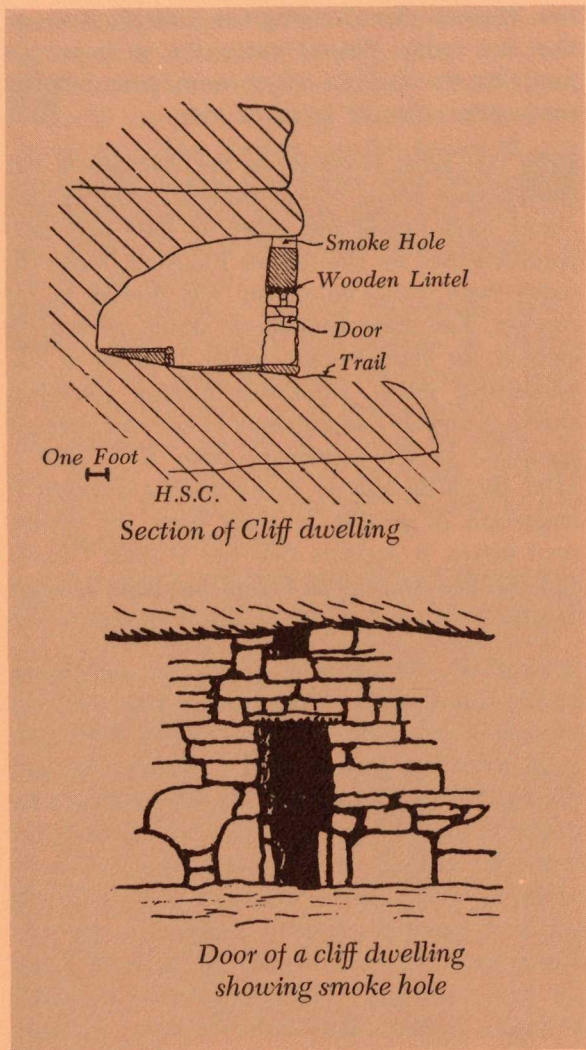
5 THIS PINON PINE (*Pinus edulis*) and the Juniper growing so near each other gives a ready opportunity to compare the types of leaves. On the Juniper the leaves are formed of scale-like sections, whereas the leaves of the Pinyon are short needles in groups of two. The trees are so commonly found growing together that the term "Pinyon-Juniper" is often used to describe a certain kind of plant community —

the Western Xeric Evergreen Forest. Even as they are today, Pinyon nuts were an important food for the Indians; they were pounded and made into cakes or gruel or soup.

6 THE HIGH PLATEAU in the distance is Anderson Mesa, where Walnut Creek begins. Dams built across the creek in 1904 and 1941 furnish water for the city of Flagstaff. Since the dams were built, no stream has flowed in the canyon. The early Indians no doubt picked the canyon for their homes partly because it had permanent water. Dendrochronology (tree-ring studies) reveals that 23 years of extreme drought prevailed in the Southwest from A.D. 1276 to 1299; this is thought to have caused a widespread migration of people in their hunt for permanent water. It appears that the Walnut Canyon cliff dwellers were gone before that time, perhaps displaced by a drought of less duration.

Most of the farming probably took place within a few miles of the canyon rim; evidence of rock check-dams exist, indicating that these were to collect top-soil and rain-water for gardening. Soil conditions may have been somewhat different than at present, due to volcanic ash from the eruption of Sunset Crater, 12 miles north, in 1065. Corn, squash and beans were the staple crops of the Indians. Because water is so scarce in Northern Arizona, the Spanish called the area "Sinagua" — without water — and archaeologists applied that term to the prehistoric Indian culture found in the northern plateau region.

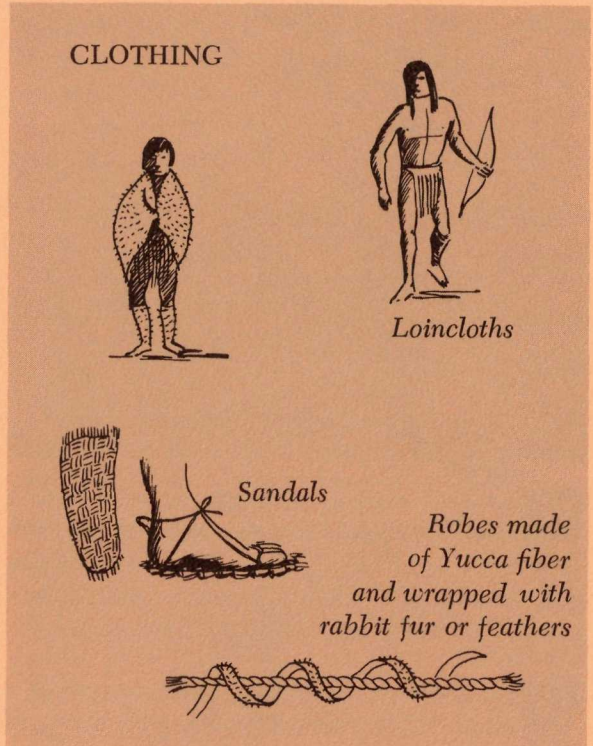
To the right you see the top of the "Island," a peninsula within a bend in the canyon. The trail from the Visitor Center leads into the canyon 200 feet passing about two dozen dwellings in the cliff overhangs.



7 BLUE YUCCA, datil (*Yucca baccata*) may be seen growing under the Pinyon trees. In the spring these plants, with their large pointed leaves, will send up short, thick flower stalks in the center, and produce large white waxy flowers. The fruit that later appears develops to the size and shape of a large light-green cucumber, which turns blue or lavender as it ripens. Yucca is pollinated by a small moth whose

larvae feed on the seeds – another example of the interdependence of organisms in nature.

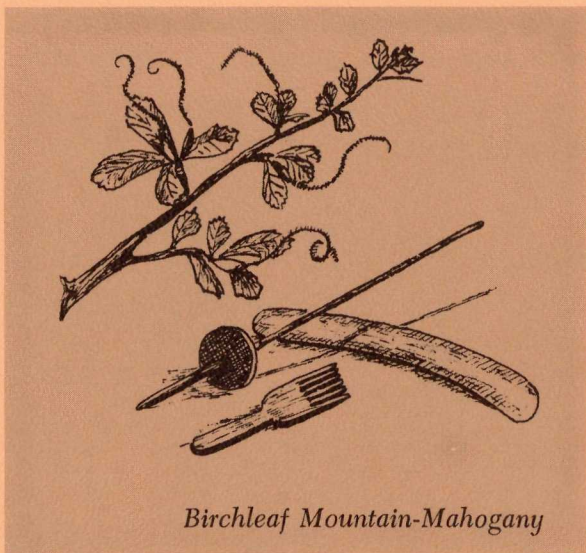
This plant was very important in the economy of the early cliff dwellers. Indians prized the fruit, buds, flowers, and stalks for food, and used its fiber for baskets, mats, cloth, rope and sandals. Leaves were sometimes laid across rafters in buildings and covered with mud for roofs. The roots made soap.



Keep Right at the Trail Junction to find Point No. 8. The Left Branch will be used on your Return Walk. Please Stay on the Trail.

8 THE WOOD OF THE BIRCHLEAF MOUNTAIN-MAHOGANY (*Cercocarpus betuloides*) was utilized for various implements such as combs and battens for weaving. Its dry wood makes a

very hot fire with little smoke. A decoction of the roots (the result of boiling with water) when mixed with juniper ashes and powdered bark of alder makes a red dye commonly used for dying leather. The Indians today use the bark as a tea to cure colds, and boil it for lung trouble.



Birchleaf Mountain-Mahogany

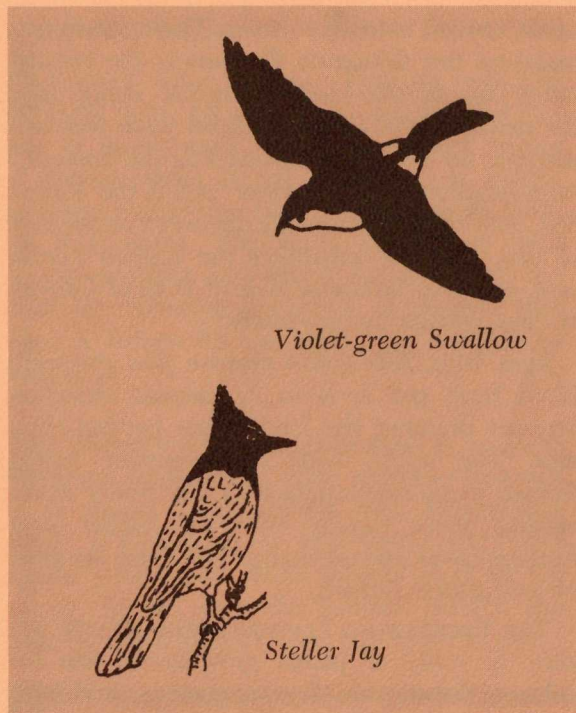
9 APACHE PLUME (*Fallugia paradoxa*) is a small shrub with leaves similar to the cliff-rose seen further along the trail. In August you will see lavender "plumes" on the fruits of this plant. The stems have been used for arrows.

10 ROCKMAT (*Petrophytum caespitosum*) is a small green plant which covers parts of the rock. These hardy annuals with tough large roots help break up the rocks and contribute to the evolution of the canyon.

The plants, seeds, cones and ruins are protected for the enjoyment of all. Please do not destroy or pick any of these evidences of nature and man for they are fragile — they play a vital part in the continuing interrelationship of the world around us.

11 TO THE RIGHT from this point you can see the East side of the Island. Several cliff dwellings may be seen where the roofs and floors of the natural ledges in the limestone furnished good protection from the weather.

Directly behind the balanced rock across the canyon may be seen two or three large dead trees. These are favorite roosting places for the Turkey Vultures, or "Buzzards" which live in the canyon and eat dead animals here and nearby. These large black birds are often seen soaring on air-currents over the canyon, and are sometimes mistaken for eagles. Other birds you may see are the Violet-green Swallow, the Steller Jay, the Red-tailed Hawk, and the Pinyon Jay.



Violet-green Swallow

Steller Jay

12 INDIAN PAINTBRUSH, or *Castilleja integra*, has a bright orange to red flower. This blooms in the summer and is the ceremonial "Red-flower" of the Hopi Indians.

13 CLUMPS OF LIGHT YELLOW GROWTH seen in the Juniper tree are best known as mistletoe (*Phoradendron juniperinum*). These parasitic shrubs sap the vitality of the host tree and when abundant, cause considerable damage to forests. Yet the berries are food for birds, and the Hopi reportedly use the plants for medicine. Man interacts with and depends on nature, and each part of nature depends on another.

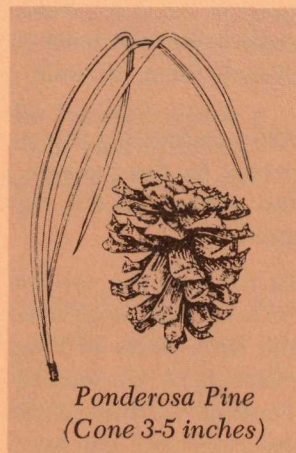
14 REST? The overlook area provides a convenient spot to sit and watch the beauty of the Canyon, and reflect on Tennyson's words — **Nothing in Nature is Unbeautiful.**

THE GEOLOGY: Two hundred million years ago this area was a vast flood plain, where shifting sands formed extensive dunes. These sands now make up the Coconino Formation, the twisted, taffey-like crossbedded sandstone rising from the canyon floor. Later this flood plain was submerged, for countless centuries as the floor of a large, shallow body of water called the Kaibab Sea. The calcium carbonate deposited on the floor of that sea now constitutes the Kaibab Formation, or upper limestone half of Walnut Canyon. It does contain marine fossils.

Ages later, this entire plateau was gradually lifted from sea level to its present elevation. Streams draining the land began cutting channels. The uplift, with stream-cutting action, formed many canyons such as this. Softer strata, eroding more rapidly than the harder ones, forming caves and overhangs like those occupied by prehistoric Indians.

THE VEGETATION: You will notice a great contrast in types of plants growing on the two sides of the canyon. The temperature and moisture conditions differ because of the relative exposure to the sun; this is most obvious in winter when it is seen that snow melts quickly on the North wall, but stays on the South slope much longer. Giant Ponderosa pine and Douglas fir

cover the slopes facing you, whereas Pinyon pine, Juniper and Yucca are dominant on the sunny side where you stand. A somewhat different community of plants grows on the floor of the Canyon, including the Arizona Walnut for which the canyon was named. This wide range of plant life is probably another reason why the Sinagua chose the canyon for their homes.



15 PRICKLY PEAR CACTUS (*Opuntia sp.*) The Hopi burn off the larger spines, boil the joints or pads, wash off the remaining spines and prepare them to eat. Each pad is dipped into syrup made from boiling baked sweet corn, then it is eaten. The fruits are picked with wooden tweezers and rolled in sand until the spines are removed. In parts of Arizona the cactus is forage for the wild "pig" called the Javelina.

16 CLIFFROSE (*Cowania mexicana*) is an evergreen shrub which often grows to tree size and is almost always found with Pinyon and Juniper. It belongs to the Rose family and bears fragrant yellow and white flowers most of the summer. In old days the Indians padded the cradle boards with bark from the larger stems.

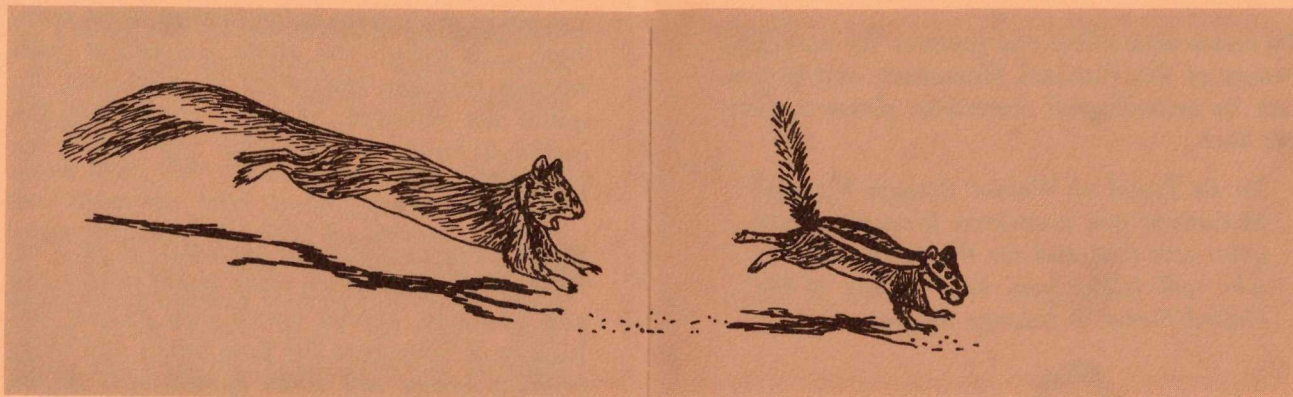
17 THIS WAS ONCE a prehistoric Indian dwelling — a one story house built of stone and mortar. There are many of these close to the rim of the canyon. Archeologists have mapped and inspected many of them but have excavated only a few. Many were probably in use at the same

time as the cliff dwellings in the canyon. **These ruins have not been excavated; please do not disturb them, or walk off the paved trail.**

After completing this portion of the walk, please return to the junction of the trail, and follow the portion to the right, which leads to other ruins.

In the area you are walking through, there can be seen stumps of trees. These were cut during the early years of Flagstaff's settlement, by the ranchers. After Walnut Canyon was declared a National Monument the first Rangers lived in a log cabin and cut wood for their cooking stove, until gas and electricity could be provided.

18 THE CLUMPS OF PLANTS seen here on the ground are Creeping Penstemon (*Penstemon linarioides*); they have blue to lavender flowers in the summer, and are related to the Scarlet Beardtongue seen earlier on the trail.



19 THE SMALL GAMBEL OAK (*Quercus Gambelii*) seen growing at the base of the Pinyon tree about forty feet from the trail, can regenerate by sending up sprouts from the roots. Acorns gathered by squirrels are often buried and forgotten, eventually starting new oak groves. The acorns were a source of food for the Indians. Hopi Indians have used the wood in

making rabbit sticks, arrows, bows, digging sticks, clubs, axe handles, and other utensils.

You are approaching the Junction where a Short Section of Trail will lead to several Excavated Ruins. Turn Right. Please stay on the Paved Trail.

These ruins were excavated by the National Park Service. For protection of the ruins, and for your safety, do not climb on or over walls. Please do not remove pottery, or any object.

20 THE ROOF-COVERED DWELLING to the right is a masonry pithouse which was built between A.D. 1100 and 1120. This was probably the type of dwelling used before the multi-roomed pueblos were built. The opening in the wall is from the ventilator shaft, which brought fresh air into the building. Entrance was through

a rooftop hatch and ladder. The walls were lined with blocks of Kaibab limestone. The roof now seen is for protection, and is not the type used by the Indians.

21 THIS RUIN is a two-room dwelling, probably built between A.D. 1150 and 1250, during the time the cliff dwellings in the canyon were being used. The rooms are unusually large

for this period, and it is possible that this ruin was a special structure. It was one or two stories high, and the walls were built of rough blocks of Kaibab limestone. There are firepits in the center of each room.

In the area between the pithouse and the pueblo rooms, there was an extensive refuse area where the prehistoric people accumulated their garbage. Since the soil here is very shallow, and digging in the limestone bedrock is difficult, most of the burials were apparently placed in the refuse heap. Excavation here revealed several burials, with items such as pottery and tools included — probably to help the deceased in his new life in the land of the dead.

Please Return on the Paved Trail and Turn Right to Return to the Parking Lot. If you have Questions, Please See the Ranger.

To insure your safety and preserve the unspoiled beauty of this National Monument, and to protect its archeological structures, please remember that

To Be Proud of Walnut Canyon National Monument you must keep it unspoiled for your next visit and for the fellow citizens who will follow you. As a citizen of the United States, it belongs to you.



If You Wish to Keep This Booklet, Please Deposit 10c in the Box at Trail End.

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