

Zion and Bryce Nature Notes



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Zion-Bryce Nature Notes

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This bulletin is issued monthly for the purpose of giving information to those interested in the natural history and scientific features of Zion and Bryce Canyon National Parks. Additional copies of these bulletins may be obtained free of charge by those who can make use of them by addressing the Superintendent, Zion National Park, Utah. PUBLICATIONS USING THESE NOTES SHOULD GIVE CREDIT TO ZION-BRYCE NATURE NOTES.

P. P. Patraw, Superintendent C. C. Presnall, Park Naturalist

THE NAME MUKUNTUWEAP

By A. M. Woodbury, Ranger-Naturalist

The name Mukuntuweap (pronounced Mu-koon-tu-weap, without accent) is probably of Indian origin, but is a source of much dispute as to its derivation and application. Originally applied by Major Powell to both Zion Canyon and the river flowing through it, the name is now restricted to the river only. It is felt by many that this is a misnomer and in view of the fact that the name is nearly always mispronounced and has a harsh and almost vulgar sound when anglicized, suggestions have been made for a change of the name. To local people it is Little Zion Creek or the north fork of the Virgin River. To the Indian it was one fork of the Pah-roos River, the name signifying a swift stream of rippling or turbulent water bouncing or foaming over the rocks.

The first reference to the name in literature is given by Major Powell in his "Exploration of the Colorado River of the West and its Tributaries, Explored in 1869, 1870, 1871 and 1872", p. 111. Under date of September 12, 1870, he states: "Our course, for the last two days, through Pa-ru'-nu-weap Canyon, was directly to the west. Another stream comes down from the north, and unites just here at Schunesburg with the main branch of the Rio Virgen. We determine to spend a day in the exploration of this stream. The Indians call the canyon through which it runs Mu-koon-tu-weap, or Straight Canyon." The date of this trip seems to be in error. F. S. Dellenbaugh in a letter of April 18, 1930, makes the following statement in referring to it: "Powell says 'September 1870'. At that time he did go to the Grand Canyon at Trumbull but not to Parunu-weap. It was on a Sunday, September 29, 1872, that he, Stephen V. Jones,

one of our topographers, and Joseph W. Young, started for Long Valley, down through Parunuweap, on foot. They came out below the next day before noon. There were no Indians with this party."

Both Indians and whites seem to be in complete agreement that the latter part of the name - tuweap - means ground, earth or place. It is the balance of the word which creates dispute. John Dennett, an early pioneer of Rockville, gave it as his opinion in 1923 that the word was Mukuntuweap and that it meant the place or land of the gods or simply God's land. This interpretation, however, seems to have no foundation in fact so far as the writer has been able to ascertain.

William W. Seegmiller, formerly of Kanab, after much study among the Indians and the whites who understood the Indian language, concludes that it is named for a highly respected Indian chief of the Virgin River Indians named Mukun and therefore simply means the land of Mukun.

Old George of the Kaibab Indians who is now about 80 years old, when asked about Mukuntuweap, referred the name to Muggins Canyon on the Kaibab Plateau which comes into the Ryan Canyon about half way between Ryan and Big Spring and was named for Mug(k)ins, the grandfather of Tony Tillohash who used to live in the region of Neal Spring. When asked if it did not refer to Zion Canyon, he pronounced it Mu-koon-tau'-weap with an accent on the tau, and interpreted it to mean straight canyon, long and deep. He also referred to the canyon by the name I-u-goon, meaning a blind canyon or box canyon with only one outlet at the mouth. Supplemental to these terms, he used the name Mau-a-weap to refer to the region of heavy vegetation at the head of the river on the side of Cedar Mountain draining into Zion Canyon.

William Palmer of Cedar City, after much study among the Indians, (Utah Hist. Quart., 191): 5-26, Jan. 1923) suggests two possibilities, one derived from the Indian word for Yucca or oose, muk-unk, the whole word Muk-unk-o-weap meaning Oose Creek, or since the oose was sometimes used for soap, simply Soap Creek; and the other from muk-unt meaning straight and o-weap meaning a canyon without or sometimes with a stream of water. He insists that it should be spelled Muk-unt-o-weap, which is probably not the word Powell used.

Several of the better informed Indians on the Shivwits Reservation on the Santa Clara Creek did not recognize the word Mukuntuweap. The nearest resemblance was pronounced by Tommy Mayo as Huh-cut-u-weap and by Frank Mustache as Un-ga-tuweap or Un-ka-tuweap. These are different words, having a different origin and different meaning. Unka or unga means red, the whole name in each case implying red dirt, red country or place of red soil. Mustache further complicated matters by stating that Zion Canyon was sometimes called Un(k)-ga-timpe pai-ave unga or unka, the same as before meaning red, timpe rock and pai-ave signifying a deep canyon between high walls, in toto, interpreted to mean a big red-rock canyon. Tony Tillohash, a Kaibab Indian at Santa Clara, had still a different version, Huh-kon-tuweap, signifying simply a big canyon. He also referred to Mau-a-weap as the region above the head of Zion Canyon.

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It seems to be clearly established that different Indians referred to Zion Canyon and its stream of water by many different names. This is to be expected when the Indian custom of naming places from obvious characteristics is taken into consideration. In a region abounding in striking characteristics, it is but natural that different Indians would find different names, thus resulting in provincialisms.

Major Powell's information must have been derived from those Indians who, looking down from the Mau-a-weap country on the side of Cedar Mountain, could see a long deep straight-looking gorge. Incidentally the Indian trail from Long Valley to the lower Virgin ran from Orderville northwesterly around the head of Zion Canyon, thence southwesterly to Virgin. Probably this gave the Long Valley Indians their principal point of view of the canyon.

Those who gathered yucca root for soap from the open spaces of the canyon may have found a plentiful supply and hence referred to it as Muk-unk-o-weap as Palmer suggests. This is probably not the origin of the name which Powell used. Those who recognized Mukun as a great leader may have used the name Mukuntuweap which again was probably not the name given to Powell by the Indians. To the Shivwits from the south in the Arizona Strip it was a red country or a country of red cliffs. That would be the striking thing about it when viewed from that direction. However, their Un-ga-tu-weap is probably not the original name from which Mukuntuweap was derived.

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It would seem then that out of the numerous terms used to designate Zion Canyon by the Indians, the one Powell used was derived from the name which meant straight canyon. It would appear also that he applied to both canyon and river the Indian name which applied only to the canyon. With the change of the canyon name Mukuntuweap to Zion it left the Indian name of the canyon applied only to the river.

The most wide spread and commonly accepted names among the Indians seem to have been I-u-goan for the canyon and Pah-roos or Paroos for the river. So far as the writer has been able to ascertain, the name Mukuntuweap was never used by the Indians to refer to the stream. Its makeup precludes that use. In this sense, then, the application of the name to the stream is a misnomer. The proper name, if we should take the Indian terminology, would be the Paroos River.

This has several advantages over Mukuntuweap. It has priority in usage among the Indians. It cannot very well be mispronounced when anglicized. It is euphonious any way it is pronounced and cannot be made to sound harsh or vulgar. Its ease of pronunciation would provide a more popular appeal since no one would hesitate to try to pronounce it, as a majority of people do with the other, sometimes even after they have heard it.

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DOUGLAS FIR IN BRYCE CANYON

K.E. Weight, Ranger Naturalist

Douglas Fir (*Pseudotsuga taxifolia* Britton), which is not a true fir but is closely related to the hemlocks, ranks second to Western Yellow Pine in density in Bryce Canyon National Park. This species is found in localized areas in the canyon, with the greatest concentration at the south part of the park where higher elevations permit a continuous forest of Douglas Fir, White Fir, and Spruce.

Douglas Fir is moderately tolerant of shade in youth, but prefers more sunlight upon maturity. Its wide range of climate tolerance insures its successful growth in the park. When growing in the canyon it makes use of the cooler locations between the high walls that lead up to the rim. Probably the oldest and largest trees in the region are the Douglas Firs that are growing at the entrance of "Wall Street" on the Navajo Trail. These trees, and especially the "Forked Douglas" are one hundred and twenty-five feet high, and nearly six hundred years old. Their splendid growth speaks well of the protective influence of the walls in producing shade and breaking the wind, which results in more favorable conditions for plant growth.

The Douglas Fir can be identified from other conifers by the three-point thin bracts protruding from among the cone scales. The cones mature in one season, ripening about the middle of August, and usually dropping from the tree the same year. The cones are located on branches from the bottom to the top of the tree, and vary in length from one to two inches, with a diameter of about one inch. The needles (leaves) are flat, blunt, and about one inch in length. A short petiole is present at the base of the blade.

Young Douglas Firs are almost sure to be killed by any fire which burns through the stand; this is due to their thin bark and inflammable foliage. After the trees are mature they suffer less because of heavier bark. The "Forked Douglas" mentioned above has had its upper twenty feet killed by a fire of the past.

The Douglas fir of the Bryce Canyon region is quite different from that of the Pacific Coast, although they are of the same species. This is due to the lack of moisture, and the short growing season of this region. The trees here are distinctly smaller and grow much more slowly.

Because of its relative accessibility much Douglas fir was cut by the pioneers of the Bryce Canyon region. The wood being strong, hard and durable, it was used extensively for hay poles and lumber.



LIMESTONE LENSES IN NAVAJO SANDSTONE

By Gordon Y. Croft, Ranger-Naturalist

In many places throughout the Navajo sandstone there occur lenses of a white or light gray limestone. It is fine-grained, compact and tough, with isolated crystals of calcite. It is very hard and resistant to weathering and upon exposure shows lines of erosion which cross each other in all directions. No shell fragments have been found in it. These lenses vary in thickness from a few inches to three feet.

The origin of these lenses is somewhat in doubt. Many of our limestone are clastic, that is, they are made up of particles derived from other rocks which have broken up and have been cemented again into solid rocks. The limestone at Bryce is of such origin. Other limestones are made up of shells of sea animals, while some are thought to be precipitated as pure CaCO_3 from sea water.

As these lenses occur in the upper part of the Navajo sandstone, which is of eolian origin, they may represent old lake beds. Still another condition similar to what is taking place today at Baham Banks, south of Florida Straits, may account for the deposition of lime. After the hurricanes which flooded the lower islands and covered the beaches of the larger ones, a fine covering of limy ooze, similar to a soft white paste of nearly pure calcium carbonate covered the entire area.

CHARACTER OF THE FOREST COVER IN ZION CANYON

By C. C. Presnell, Park Naturalist

In the frequent and rather superficial comparisons which are made between the canyons of Zion and Yosemite, many persons fail to grasp the extreme contrast between the forest cover of the two places. Although the two canyons are at similar elevations and nearly equal latitude, the floor of Zion Canyon is covered almost exclusively with deciduous trees in contrast to the predominantly coniferous forests of Yosemite Valley. This is due to two factors - temperature and moisture. As regards tem-

perature, Zion Canyon is in the Upper Sonoran Zone, which in the interior usually extends 2,000 feet higher than on the western side of the Sierra Nevada, hence the mean temperature of Zion averages about five degrees higher than that of Yosemite. The upper Sonoran Zone is, in the Great Basin, characterized by junipers, pinon pines and sagebrush, but in such well watered valleys as Zion these are replaced by luxuriant growths of broad leaved trees.

Fremont Cottonwood (*Populus fremontii*) is the most common tree in the canyon floor, with Boxelder (*Acer interiorius*) a close second. Although the cottonwood is very short lived it is the largest species on the canyon floor. One gnarled old monarch at Oak Creek was recently found to be nineteen feet in circumference at a height of four feet from the ground, and several others over twelve feet in circumference are found in the same locality and in other protected tributary canyons. As an agent in controlling erosion the cottonwoods of Zion are of prime importance, since they are usually the first trees to reseed a gravel bar.

Less numerous species include Black Willow (*Salix laevigata*), Desert Ash (*Fraxinus volutina coriacea*), Big-tooth Maple (*Acer grandidentatum*), and Red Birch (*Betula fontinalis*), with White Oak (*Quercus utahensis*) on the dryer locations.

The latter species, with Juniper (*Juniperus utahensis*) and Pinon Pine (*Pinus monophylla*) on the more exposed slopes, form the predominating talus slope vegetation. Other coniferous trees are uncommon, being found only in the few cool, protected niches along the sides of the canyon where conditions are suitable for Douglas Fir (*Pseudotsuga taxifolia*), White Fir (*Abies concolor*), and Yellow Pine (*Pinus ponderosa*).

In this brief article no attempt has been made to list all the kinds of trees found in Zion Canyon but rather to emphasize the deciduous character of the forest cover as a whole. Articles dealing with each species will appear in future issues of Nature Notes as rapidly as time is available for the necessary research.



RATTLESNAKES EAT BIRDS

By A. M. Woodbury, Ranger-Naturalist

A second case of a rattlesnake eating a bird came to our attention recently. A visitor to the museum reported having seen a rattlesnake on the talus slope at the foot of Mount Zion about two hours earlier in the day. It was attempting to eat a bird, but upon being disturbed, left the bird and crawled into the security of the rocks.

The visitor agreed to guide us to the spot so we hastily climbed up the slope to a large boulder where the snake had hidden. As we approached we found the rattler with a young fully-feathered Woodhouse Jay half swallowed. It was a small snake, about twenty-nine inches in length, and the large size of the bird made it difficult to swallow. The large heavy bill of the Jay had been laid backward along the neck as the head was engulfed. The swallowing process had proceeded as far as the wings which presented the most difficulty in stretching the mouth over them.

Upon seeing us, the snake started for the shelter of the boulder, but by quickly pulling it back with a wire provided for that purpose, it was brought out into the open where we could handle it. It immediately started to disgorge the bird. In doing so the sharp point of the strong bill of the Jay, which was laid in position to go downward into the snake without difficulty, immediately caught in the snake's throat when the direction was reversed. As disgorging continued the bill punctured the side of the throat and projected outward making a hole the size of the bill. This allowed the final ejection of the bird and the bill was then withdrawn from the hole. We then captured the snake and brought both bird and snake down to the museum, where the snake quickly recovered and is still on exhibit.

The first case of a rattler eating a bird that came to our attention occurred last season when a small snake was found swallowing a Western Chipping Sparrow.



ALONG NATURE'S HIGHWAY

The speed of flight of a Black-chinned Hummingbird was recently determined while motoring with Chief Ranger Jolley at Bryce. We were traveling at a steady rate of thirty-five miles per hour when a male Hummer dashed in front of the car and flew straight down the road for about fifty yards, maintaining a position some fifteen feet ahead of the car for the entire distance. It then flew off at a tangent, apparently exceeding the speed of the car for a few yards.

C.C.P.



During the campfire lecture on August 24 a large meteor was seen close to the southern horizon. It was also noted by a party driving into the park by the east entrance. They reported that it seemed to explode before reaching the earth. The time was about 9:15 P.M.

P.P.P.

A rather late nesting record for Chipping Sparrows was noted on August 17, when adults were seen feeding young just off the nest.

C.C.P.