GRAND CANYON NATURE NOTES

VOL. VII NO. 3

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GRAND CANYON NATURE NOTES

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M. R. Tillotson,
Superintendent

Edwin D. McKee,
Park Naturalist

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Illustrations by Betty Kirwan

QUAKING ASPEN AT GRAND CANYON

By Donald Edward McHenry, Junior Naturalist

ONE CAN NEVER forget the north rim of the Grand Canyon in autumn. Driving along its enchanted scenic highways, one's fancy is intrigued by the varied colors of the turning aspen trees set deep in the somber green of the dense forest of tall spruces and firs. They appear almost to be patches of sunlight hurriedly left behind by a sun too eager to sink to rest after its day's journey.

Equally memorable is the sight of the Kaibab Forest at this time of the year as one skims over it in an aeroplane. Stretching to the very brink of the canyon and, in some places, even lopping over into the chasm, one sees an artist's dream in shades of yellow, red and burnt orange;dashes of brilliant color snugly nestled in the deep green carpet of the evergreen forest.

The quaking aspen,Populus tremuloides,is fascinating in all its various moods. It is among the foremost harbingers of a belated spring which, in its yearly visit to the Grand Canyon, reaches the north rim last of all. Wandering over the floor of the valleys in that area during the early part of June, one is surrounded by the slender white trunks of the aspen - trees not yet awakened to the advent of spring. But as one looks up the slopes on either side he can barely detect a delicate green haze beginning to appear in the tops of the aspen which grow high above. Each successive day brings a richer green to these pioneers,while the fresh spring color flows deeper and deeper into the valley. After two or three weeks even the most reluctant individuals along the bottom respond to the urge of spring and the whole region is at last clothed in the shimmering green so characteristic of the quaking aspen.

This change does not appear, however, at the same rate on both sides of the valley. The trees on the north facing slopes are just a little slower in acquiring their leaves than those on the opposite slopes. The north facing ones do not receive so much warmth as those facing the direct rays of

the sun. Another interesting effect of temperature differences is the relative rate of development seen between the top and bottom of the valley, as already suggested. This is explained by drainage of the cold air into the bottom of the valley, while the higher parts are warmer and more favorable to an earlier showing of spring growth.

It is not clearly evident that this order of development is reversed when autumn creeps into the valley as would be expected. Here and there a single branch of the aspen will stand out conspicuously as a golden wand against the quivering green of the leaves still in their summer color. This may appear on any part of the tree or be found on any part of the hillside. Occasionally a person may be led to suspect that there is an almost imperceptible tendency for the autumn colors to first appear on the north facing slopes, but such cannot be proved.

The relationship of the aspen to our common cottonwood tree is suggested in the habit of the female trees giving off spring showers of cotton-like material which bears the fruit. At times this is so conspicuous that the immediate territory seems to be enjoying a light, warm snowstorm. Ranger Ed Laws has reported that this "snow" has occasionally piled up in the corners of some of the government sheds to the depth of several feet.

If one is at all observant as he tramps through the aspen groves on the north rim of Grand Canyon,he will notice that most of those trees which grow on the sides of hills have such curving trunks just above the ground that they appear to have started growing downhill before they assumed a perpendicular position. This downhill sag is undoubtedly due to the force of snow as it pressed against the trees while they were very young. It has been suggested that the almost corkscrew twist which is so characteristic of some of the aspen stems is also the result of the weight of the snow on the young stems. This will bear more study.

It sometimes seems strange that the aspen trees thrive so well in a climate in which the hazards of snow are so great. Occasionally we do find cases where these trees succumb to such dangers. Persons who have visited Point Imperial during the past summer have been curious about the aspen

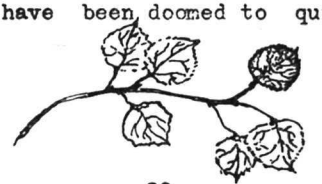
Photo By Grant-

trees which have been broken down in great numbers along the road. In some cases they are bent over in such a manner that they form an arch over the highway. This is the work of the snow last winter. With a total fall of about 210 inches on the north rim of Grand Canyon, the weight of the accumulated mass snapped the brittle trunks of these trees. At first some hopes were held for the recovery of at least a few of them, but the writer has noted no improvement in their condition. In fact they seemed to lean more as the sap ascended the stems and the leaves appeared.

It may interest those who enjoy our white-barked aspen to know that there is a legend which is suggested by Populus, the scientific name of this tree and others of the same family. Dr. Francis Ramaley of the University of Colorado tells it somewhat as follows: In the days of the Roman Empire there were many holidays celebrated by the people as a whole. It became the custom to plant trees on some of these occasions as part of the ceremonies of celebration, possibly to commemorate some deity or hero. The tree which became most generally used by the people, a tree evidently belonging to the aspen or cottonwood family, soon was known as the tree of the people, or in latin, populi. Today the name comes down to us as the generic scientific name Populus. It is the corruption of this name which accounts for the common name Poplar tree. There may possibly be some truth to this legend.

Populus tremuloides or quaking aspen gets its name from the trembling habit of its leaves in the slightest breeze. This activity is caused by the manner in which the petiole of the leaf is attached to the leaf blade. At the point of attachment the petiole is compressed at right angles to the plane of the leaf blade, thus allowing it to give with the slightest air current.

The manner in which the leaves of the quaking aspen tremble gives an excuse for still another legend. The story is that the wood of this tree was used in building the cross for the crucifixion of Jesus. Because of its ignominious duty, its leaves have been doomed to quiver in shame ever since.



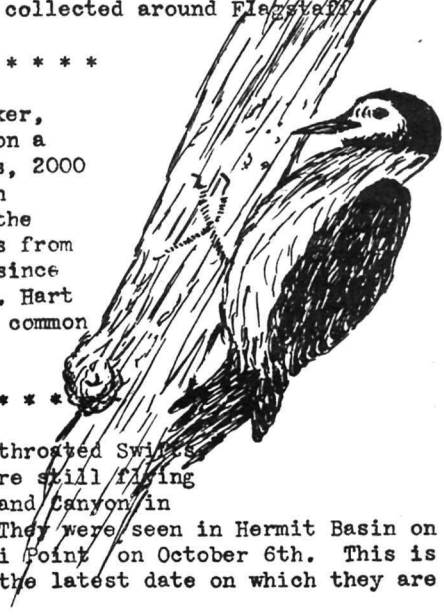
RECENT BIRD NOTES

By Edwin D. McKee, Park Naturalist

A SPECIMEN of nighthawk was collected in early July, 1932, just south of Grand Canyon village on the road to Williams. The specimen was identified by Dr. H. S. Oberholser as Chordeiles minor howelli. This is the first nighthawk from Grand Canyon to be definitely classified as to subspecies and differs from those recently collected around Flagstaff.

* * * *

A lone Lewis's Woodpecker, Asyndesmus lewis, was seen on a pinyon tree near Agave Flats, 2000 feet below the South Rim, on October 11, 1932. This is the first record of this species from Grand Canyon National Park since September, 1889, when Dr. C. Hart Merriam found it "tolerably common about spring on Tonto".



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Large groups of White-throated Swifts, Aeronautes s. saxatalis, were still flying about the upper parts of Grand Canyon in early October this year. They were seen in Hermit Basin on October 5th and near Yavapai Point on October 6th. This is nearly a month later than the latest date on which they are usually seen in the fall.

* * * *

Migrating Shufeldt Juncos were first seen here (South Rim) on October 8th this year; Cassin Purple Finches on October 25th. The great scarcity of the latter has been very noticeable.

* * * *

Two bird records new to the Grand Canyon National Park

have recently been established. While on a field trip with Dr. Alexander Wetmore of the U.S. National Museum on October 25th, the writer collected a specimen of Red-naped Sapsucker, Sphyrapicus varius nuchalis, near Hull Tank. On the following day a large hawk was seen above Indian Gardens which Dr. Wetmore identified as the Ferruginous Rough-legged Hawk, Buteo regalis. Both of these species had already been recorded from the Flagstaff region to the south, so were to be expected in the Grand Canyon area.

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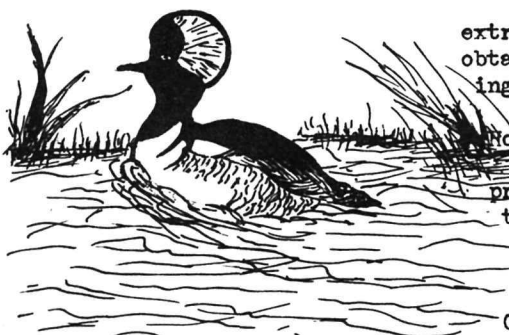


Several records of extreme interest have been obtained by the writer during field work down in the canyon this fall. The Hooded Merganser, Lophodytes cucullatus, not previously recorded from the Grand Canyon or the plateau region to the south (1) was seen at the great bend of the Colorado River north of Desert View on October 29th. The striking white crest patch on the black fan of the drake's head was so apparent from the close approach that the writer was able to make, that there was no reason for doubt concerning the identification.

On the following day the Northern Sage Sparrow, Amphispiza nevadensis nevadensis, and Baird's Wren, Thryomanes bewicki eremophilus, both recorded only comparatively few times in the region, were seen in Lava Canyon near the mouth of Chuar Creek.

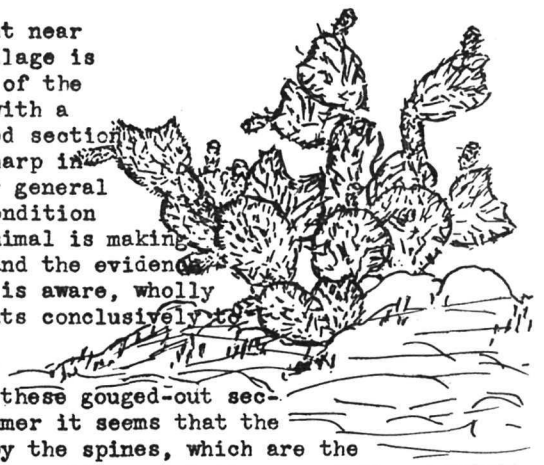
* * * *

A Horned Lark (subspecies could not be determined) near the Redwall, Kaibab Trail, on November 19th, and a Mallard Duck in Bright Angel Creek above Phantom Ranch on November 20th, are also interesting records.

1. Jenks, Randolph, Ornithology of the Life Zones, Technical Bulletin No. 5, Grand Canyon National Park.

DEER BROWSE ON CACTUS

By A. R. Croft, Ranger Naturalist



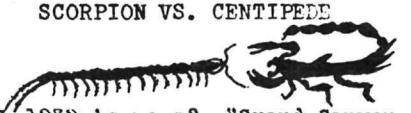
A VERY COMMON sight near Grand Canyon village is the flat, oval joint of the Prickly Pear Cactus with a large half moon-shaped section cut out as if by a sharp instrument. The rather general occurrence of this condition suggests that some animal is making food of this plant, and the evidence, as far as the writer is aware, wholly circumstantial - points conclusively to the deer.

As one looks at these gouged-out sections in the late summer it seems that the protection afforded by the spines, which are the branches of the cactus, would prevent the use of them as food. But the deer, probably to add variety to their diet, used the plant for food some time before the spines appeared. The new joints of the Prickly Pear are produced by a rather rapid growth and for a brief period of their existence bear only short, soft, cone-shaped, palatable leaves. The spines which are soon to appear develop from buds in the axils of the leaves. It is while in this rather inviting condition that deer choose to make the Prickly Pear Cactus a part of their diet.

In the vicinity of Indian Gardens, down in the canyon, the same condition is quite common, which suggests that the antelope in that section find a usable item of food in the same type of plant at certain seasons of the year.

BIOLOGICAL BRIEFS

SCORPION VS. CENTIPEDE



IN THE APRIL 1932 issue of "Grand Canyon Nature Notes" is an interesting description of a one-sided combat between a scorpion and a tarantula. In that battle the scorpion conquered its enemy with ease. ~ Recently a centipede scored an equally decisive victory over a large scorpion in a fight that was far more exciting. The scorpion tried desperately to use its mighty posterior weapon, but to no avail. The sharp needle-like spine merely slipped off the shelled body of its adversary without penetrating. Meanwhile the centipede got in its "licks" almost unnoticed and in a few brief moments its victim was sprawled upside down - weak and helpless. ~ Two days later the scorpion had been entirely devoured except for the hard shell parts and some fragments of his appendages.

- E. D. McKee -

MOUNTAIN SHEEP RECORD

While hiking in the vicinity of Indian Gardens on November 18th, 1932, I came upon four mountain sheep at the base of the Redwall formation. Two were ewes, one a lamb about one-third grown, and the other a ram. Although Nelson Bighorn

Sheep are known to inhabit many parts of the Grand Canyon area, sight records of them are sufficiently scarce to justify mention in every case.

- Ralph A. Redburn -

A LITTLE-KNOWN MAMMAL

"A baby mouse with an elongated nose like an elephant's" -- that's what trail-caretaker Lloyd Davis thought when he saw a diminutive creature in front of him as he descended the lower part of the Bright Angel Trail on October 1st. Little wonder either, for he had found a specimen of the only Lower Sonoran species of Shrew - a member of that family of animals with protruding muzzles which includes the smallest of mammals. Mr. Davis promptly collected the little animal, which was later identified as the Grey Shrew, Notiosorex c. crawfordi. According to the U. S. Biological Survey (1), the only other record of it from the northern part of the state is from the Painted Desert, although additional specimens have been collected in Arizona near Yuma.

The true value of the record made by Mr. Davis in collecting this shrew is apparent from the following statement by H. E. Anthony (2): "The Gray Shrew is the rarest of the North American Shrews. Unlike the other members of the family, it lives in dry regions and not only does it appear to be rather local in its distribution, but also exceedingly scarce in the regions where it is known to occur. The capture of one of these animals is a noteworthy achievement, ---".

- E. D. McKee -

(1) Jackson, H. H. T., Senior Biologist, Bureau of Biological Survey Personal Communication Oct. 25, 1932.

(2) Anthony, H. E., Field Book of North American Mammals, p. 45 G. P. Putnam's Sons, 1928.

The large gopher snake collected at Indian Gardens in September and reported in the October issue of Nature Notes has been examined by Mr. L. M. Klauber, who found it to be Pituophis c. stejnegeri, according to Van Denburgh's Key. Some herpetologists do not recognize the subspecies, but consider it synonymous with P. c. deserticola. As a matter of fact, the six-foot specimen in question, according to Klauber, "shows no particular difference from P. c. deserticola as found in the eastern Mohave Desert and resembles that species much more closely than it does P. c. rutilus of southern Arizona."

The measurements and other data obtained by Klauber concerning this snake are as follows:

Length	1861 mm.	Scale rows	29
Tail	225 mm.	Body spots	70
Ventrals	263	Tail bars	19
Candals	60		

Another snake of considerable interest was collected in this area in September. It was a rattlesnake found by Mr. Clyde Searl, ten miles southwest of Lee's Ferry - a locality from which no previous records of this reptile appear to have been obtained. Since the Lee's Ferry area is between the known ranges of several subspecies of rattlesnakes, the importance of the identification is apparent. Mr. Klauber reports that he considers it to be the Prairie Rattler, Crotalus c. confluentus, with, however, some leanings toward the Grand Canyon rattler, C. c. abyssus, and also toward the Great Basin rattler, C. c. lutosus, in color, the character of the spots, and the wide post-ocular light stripe.

- E. D. McKee -