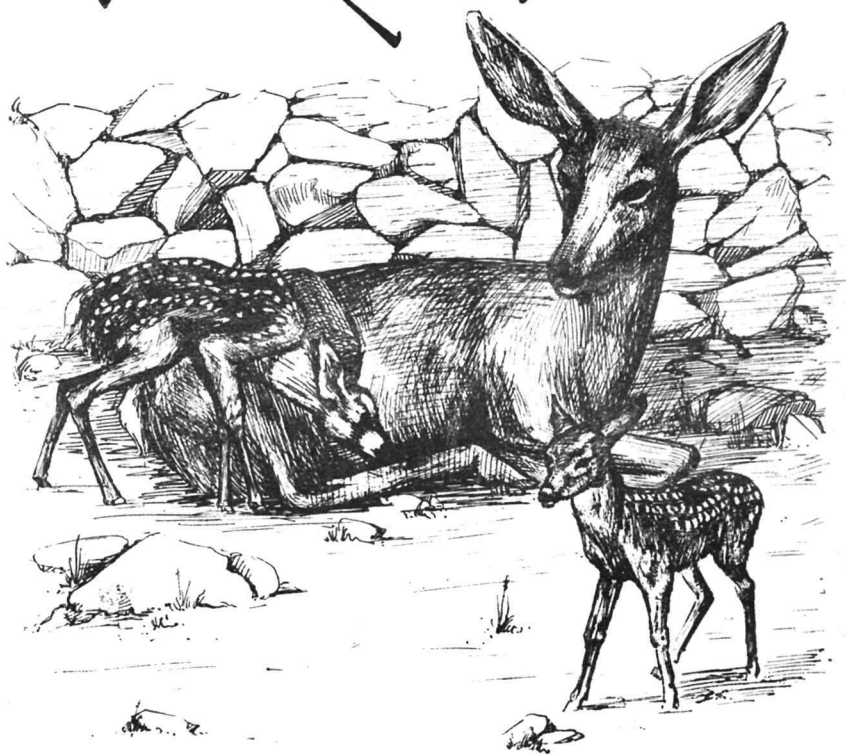


GRAND CANYON NATURE NOTES



VOLUME 8 NUMBER 5
AUGUST 1933

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GRAND CANYON NATURE NOTES

Volume 8, Number 5,
August 1933.

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Grand Canyon National Park

Grand Canyon Natural
History Association

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M. R. Tillotson,
Superintendent.

Edwin D. McKee,
Park Naturalist

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ON CANYON TRAILS *

By Edwin D. McKee, Park Naturalist.

MUCH of the romance of the Grand Canyon is intimately associated with the development and history of its trails. Although only two of these are commonly used today, no less than eleven are found zig-zagging down from the South Rim into the Canyon depths, and four others occur on the north side, within the boundaries of the National Park. This number is rather remarkable when one considers the general structure and topography of the Canyon walls which form an absolute barrier to man in most places. Throughout the Grand Canyon the Coconino sandstone cliff, averaging 300 feet in height, and the great Redwall, forming a sheer drop of over 500 feet, are two of many obstacles to the descent.

Undoubtedly the best known of Grand Canyon trails is the Bright Angel, which starts at Grand Canyon Village, and, descending the great valley caused by a fault of the same name, passes through Indian Gardens, and thence on to the Colorado River below. This trail is not lacking in history. During part of the past century and perhaps for a long time before, the natural route which the trail now follows was used by Havasupai Indians who lived and farmed at Indian Gardens.

In 1890-91 a group of hardy pioneers, including Ralph Cameron and the late Pete Berry, did the first real work on constructing the Bright Angel trail - then known as the Cameron trail. Their labors were largely due to the inspiration given by mining claims in the neighborhood of Indian Gardens, but their rewards were derived from toll collected at the head of the trail rather than from valuable ores at its base.

In the course of years, when the mining claims along it were shown to be invalid, the old Bright Angel Trail with its

* The eastern half of Grand Canyon National Park is included in this issue; the western section will be covered in the next number.

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famed Devil's Cork-screw and its Jacob's Ladder passed into the hands of the county. Toll continued to be collected however, until 1928, when, after a complicated deal, the trail became the property of the National Park Service. In the winter of 1930 it was largely remade in order to lessen the grade and in 1932 it was oiled. At present it is one of the two trails in common use, and is considered a "boulevard" by old timers.

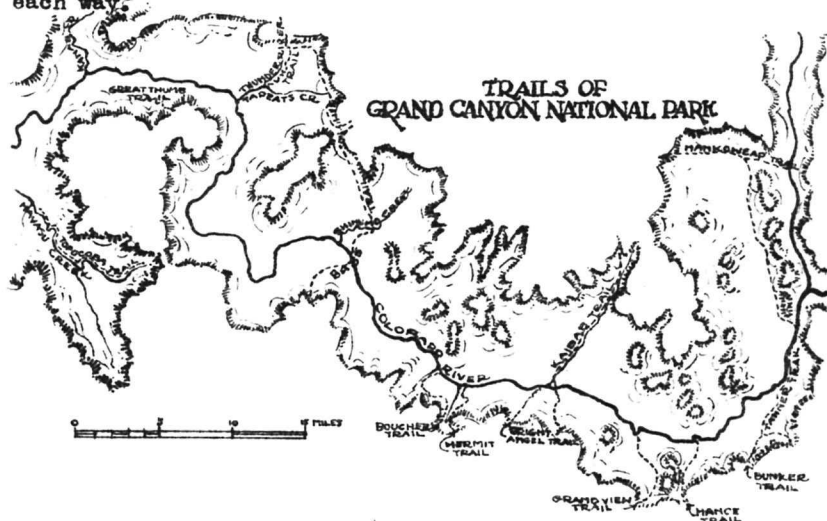
Today the Kaibab trail, the construction of which was completed by the National Park Service in 1928, is the only practical route for crossing from rim to rim of Grand Canyon. Large parts of it, particularly on the south side of the Colorado River, were built by the sheer power of blasting, but the section along Bright Angel Creek follows a natural passageway which was used by Matthes¹ with a pack train as early as 1902. To be sure, the creek had to be forded some 94 times in former days, as compared to seven today - nevertheless, this part of the route was a natural one for both man and beast as is testified by the proximity of several cliff dwellings built by early Pueblans, and by the mescal pits of later Indians.

In former times, two other routes - one to the east and the other to the west - were commonly used in traversing Grand Canyon. The eastern route began in the little basin just west of Cedar Mountain and followed the promontory in front of Desert View Point down to the river. According to Mr. George McCormick² of Flagstaff, whose name has long been associated with the eastern part of the Grand Canyon, this - the Tanner trail - was used by the Navaho Indians under Old Begonia when they were trying to escape the American soldiers under Col. Kit Carson in the 'sixties. "In about 1889 Tanner, Lewis Bedlias and Fred Bunker built the trail (a branch from the original) from the Blue Lime up to the top, close to Desert View, and it was called the Bunker Trail." Mr. McCormick further states that the present upper part of the trail was built by himself at a later date, and, as is commonly known it has been improved by him from time to time as assessment work on his copper claims below. It is still passable without extreme danger or difficulty for a pack train.

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The usual route followed by cross-canyon travelers after descending the Tanner or Bunker trails was along the east side of the Colorado River as far as the McCormick copper claims opposite Chuar Creek, thence across the river at a fairly wide but calm stretch, up Lava Canyon to the natural break formed by the Butte fault, and then along the west side of the Buttes to Nankoweap Basin. The writer hiked over much of this route while doing geological work in the fall of 1932, and found the river crossing and the trail fairly easy to travel. During the preceding spring, on the other hand, the river had been found so high that it could not have been crossed at the same place without considerable danger.

Although today this remote section is seldom frequented by man, there are many evidences of his former presence, Rock piles and cairns are to be seen in numerous places, and even an ancient distillery was found near the upper part of Chuar Creek.³ According to many stories that still survive, this section of Grand Canyon was a favorite hide-out for renegades, poachers and horse thieves. It seems that stealing horses was a particularly profitable business, for thieves could take the animals from the Mormons of Southern Utah, drive them through the Canyon into the Flagstaff area to sell, then steal horses in that area and take them up into Utah, thus making a profit each way.



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The North Rim and House Rock Valley could be reached from eastern Grand Canyon over the Nankowap trail which was built just prior to 1880 under the direction of Major J. W. Powell to be used by Dr. Walcott in making geological studies in that region. Its upper end is in the "Saddle" near Point Imperial, and although much washed and worn by now, was still sufficiently good to permit a party⁴ to travel it by mule as recently as 1931.*

West of the Bunker-Tanner trail is the Hance trail, or what still remains of it, leading down Red (Congress) Canyon to the river. This trail is undoubtedly in the worst shape of any in Grand Canyon with the possible exception of the Boucher. It is today impossible to take mules over the Hance trail without repairing it in many places, and it is even very difficult to negotiate on foot. According to Tillotson⁵ it is a reworked Indian trail, and was traveled in February 1882 by a Mrs. Edward Ayres who was reputed to be the first white woman to go to the bottom of the Grand Canyon. Later it was used to some extent for packing asbestos out of the Canyon from mines located across the river. The writer recently found an old wooden sign still in place, nailed to a large tree at the trail head, with much weathered but faintly discernible words on it - "Toll on Trail, Foot Man \$1.00, Saddle Animal \$2.00." This sign now reposes in the Park historical collection.

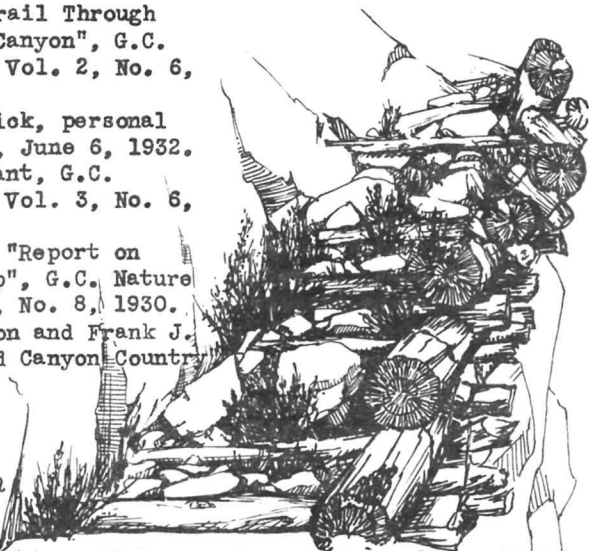
Hance Canyon has no regular trail descending it, although game paths wind over the talus near the top. In October, 1929 the writer was able, with extreme difficulty, to climb down it to the Tonto, and thence part way into the Inner Gorge, where passage was finally blocked by a cliff.

The trail below Grandview Point was formerly known as the Berry Trail, after the late Mr. P. D. Berry, who built it. Within recent years, however, it has commonly been called the Grandview trail. According to information obtained from Mr. Berry just before his death last year, work on this trail was commenced on July 20, 1892, and finished the following year. The primary purpose in building it was to enable the working

of copper mines near its lower end. The cost of building and upkeep during the time it was used was estimated by Mr. Berry to have been about \$12,000.00, however, during much of this time eight or ten mules with a packer were run over it each day. About 200 pounds of ore were brought from the mine to the head of the trail on each mule, and the train could make one and a half trips per day. Work on the mines was continued until 1907 when a decline in the price of copper made it necessary to give this up. As late as 1916, however, Mr. Berry took down a party. The writer has been over the Grandview trail several times during the past few years and found it still in fair shape for hiking, although covered in places by slides.

1. "Breaking a Trail Through Bright Angel Canyon", G.C. Nature Notes, Vol. 2, No. 6, 1927.
2. George McCormick, personal communication, June 6, 1932.
3. G. E. Sturdevant, G.C. Nature Notes, Vol. 3, No. 6, 1928.
4. C. E. Resser, "Report on Nankoweap Trip", G.C. Nature Notes, Vol. 4, No. 8, 1930.
5. M. R. Tillotson and Frank J. Taylor, "Grand Canyon Country" p. 65, 1929.

Log construction on Grand View Trail



* Since writing this article, another geological expedition has used the Nankoweap trail. This party, under Dr. N.E.A. Hinds, found it in poor shape and it was necessary to do repair work in many places enroute. It took 12 hours for pack train to descend. The party went down July 12, 1933 and remained about one month.

A BROKEN-WINGED ROBIN

By Donald Edward McHenry, Junior Park Naturalist.

SOME called her Wingy, others just the broken-winged robin. Either term was appropriate for each told just why she was different from all other robins.

No one had noticed her until one day she attracted the attention of the wife of a ranger by her peculiar antics about the bird bath. When the ranger saw the bird that evening, he realized that it had at some time broken its wing. The wing had mended imperfectly so the robin could do little more than elevate it to a stationary, horizontal position. Naturally this made normal flying impossible.

An impaired wing did not dull the call of spring and motherhood. In a few days the robin was seen gathering mud from the region of the bird bath in obvious preparation for a nest. Not being able to fly was of course a great handicap, but she overcame this by hopping up hill to a low juniper tree about a hundred feet to the rear of the ranger cabin. Here with the utmost patience she set about building her nest in one of the upper branches, reaching it by jumping up from one branch to the next. Of course such ceaseless industry soon attracted considerable attention and admiration from people living in the vicinity, and led to numerous invasions of her privacy.

Need we wonder that the robin was considerably disturbed by all this attention, and decided to seek greater seclusion in the upper branches of a taller tree growing down hill at the corner of the ranger cabin? Yet, with her injured wing, how was she to reach this coveted place? Desire for motherhood urged her to a solution. With a mouth full of mud, or carrying the strings which by this time the ranger's wife was putting out for her, she would hop up the hill to a low branched juniper. Climbing this by her unique method of jumping from one branch to the next, she reached the top. From this height she would spread her wings and glide down to a

branch on the next tree, thence climb to the top of this as she had climbed the first one. Again she would set sail, and so by repeating this method several times she finally reached the branch on which she began her second nest.

Day after day she labored on until the new nest was all but completed. Then one afternoon the ranger parked his car beneath the tree in which the new home was being established, little suspecting that this would disturb his new found friend. But the robin did not find this new arrangement to her liking and decided upon another location. This time she chose a tree higher even than those used before, and about a hundred feet west of the ranger cabin. All the labor of climbing the juniper up on the hill and of gliding and climbing to her new perch had to be reenacted.

In about two weeks time the new nest was completed. During the following weeks little or no attention was paid to the robin. One morning, however, the ranger heard new sounds coming from the nest. Suspicion became fact when he noticed that the mother bird was again making trips up the hill and thence to her nest, but this time with food for the new members of the family. At times she would vary her route by hopping up the trunk of a pinyon pine which had been blown over at a sharp angle. Once in its top, she could easily glide to the nest.

Later one of the young robins fell to the ground. The invalid mother was greatly perturbed by this misfortune, for how was she to return her baby to safety? She did not waste much time deciding on a course of action, for she was soon herding the reluctant young bird around the ranger cabin and up the hill. Leaving him here for a moment, she gathered some food for the little fellow, then they continued on their way. Eventually the two birds reached a low thick shrub near the base of the tree in which the nest was located. Beneath this the wayward young robin found a new home. This, of course, doubled the work for the mother in feeding her brood, but she was undaunted.

In time the young robins grew up. One morning the ran-



ger's wife saw the family at what must have been their farewell feast. The mother with her children, stood on the edge of the bird bath. Even then she was feeding her overgrown offspring. This was the last time the family was seen together.

Summer passed into autumn and autumn into winter. During this time the broken-winged robin became more and more a pet of the park people. Indeed she became so friendly that when food was thrown out to her she acted more like a domestic chicken than a robin.

With the coming of winter, it became quite obvious that the lame robin would not be able to join the migration to the warmer south lands, and her many friends became concerned for her welfare. Some considered taking her to the local doctor to have her wing broken and reset in the proper position, but he felt that this would be of no avail. The chief ranger thought of catching her and taking her down to Indian Gardens since this is a much lower altitude and so would be warmer than on the rim. Here would be protection from snow. The robin, however, spent the winter among the ranger cabins, apparently content with her lot.

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The broken-winged robin welcomed spring among her friends at Grand Canyon with the distinction of being one of the few of her species to have wintered in the region. But all was not well for her injured wing now dragged dejectedly along the ground, a second injury having made it more useless than before. No longer could she even simulate those feeble leaps into the air which had served to baffle her enemies and probably saved her life. Days passed and gradually the people of Grand Canyon began to miss the cheerful calls of this friendly bird. No amount of searching revealed a hiding place. Finally it became evident that the robin was gone, probably never to return, for how could she have escaped lurking enemies with a wing rendered so useless?



FAWN OBSERVATIONS

THIS year for the first time on record two doe Mule Deer gave birth to young right in Grand Canyon Village, one within a few yards of the local hospital! This, of course gave an exceptional opportunity for obtaining dates and making observations of movements.

In both cases the does had twins. One pair arrived about 6:00 P.M. on April 13, and the other probably early the following morning. The first pair of fawns was observed by Chief Ranger Brooks standing up nursing within an hour after birth, and the animals even walked a few feet to a new hiding place at that time.

On the day following that of birth, the fawns moved distances of twenty to fifty feet several times. Their protective coloration was so effective that after each of these moves they could be located only with difficulty, even though it was known that they were nearby.

The fawns of the first pair were still near their place of birth on April 17, but apparently they moved away soon afterwards. The time of departure was undoubtedly hastened by numerous visits paid by curious humans. On April 18 one of the fawns returned but became frightened by the presence of some people and ran off through the woods, not to be seen again for several weeks.

One doe with her fawns, the latter much developed in strength and size, reappeared at Grand Canyon Village on July 14, and they have been seen often since. The fawns have become very frisky and can travel with apparent ease. The other doe, quite lame even when her twins were born, has recently been seen limping about with only one fawn accompanying her, so it is feared that something happened to the other.

Edwin D. McKee, Park Naturalist.

A STUDY OF THE ALGONKIAN FORMATIONS IN GRAND CANYON

By Dr. Norman E. A. Hinds, University of California.

IN 1931, the writer was invited by Dr. J. C. Merriam to outline a program of research on the pre-Cambrian rocks of the Grand Canyon for the Carnegie Institution of Washington and to undertake investigation of the Algonkian rocks in the region. A brief trip was made to the Canyon in that year. Illness prevented continuation of the work in 1932.

In May of this year, the writer, accompanied by C.E. Van Gundy, Georges Vorbe, and E. C. Doell, graduate students of the University of California, began an intensive study of the

Algonkian formations exposed in the vicinity of Bright Angel Creek. A map of this district has been made, showing the distribution of Archean, Algonkian and Cambrian strata, detailed sections have been measured, conditions of deposition studied, and an extensive suite of specimens collected for laboratory study.

An expedition was made into the difficultly accessible Nankoweap and Kwagunt Valleys in the eastern part of the Grand Canyon to investigate the Chuar series, upper member of the Algonkian group. This region, studied over fifty years ago by the late Charles D. Walcott, has been visited by few geologists since that time.

The Chuar strata in the Nankoweap and Kwagunt Valleys have been mapped by Vorbe and Doell, sections have been measured, and collections made for laboratory study. Next year the work in this eastern district, both north and south of the Colorado River, will be continued until the entire area of Chuar and Unkar formations is covered. Other areas to the west where the Unkar is exposed also will be investigated.

After completing the work in the Bright Angel district, a brief trip was made into central Arizona by Hinds and Van Gundy, to inspect sections of the Apache and Mazatzal groups which also are assigned to the Algonkian. These groups have been correlated in various ways with the Grand Canyon series.

Owing to the many phases of the research, regarding which further information is essential, a statement of results does not seem advisable at present.



