

Nature Notes
of
Grand Canyon

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DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
GRAND CANYON NATIONAL PARK
GRAND CANYON, ARIZONE.

NO. 1
GRAND CANYON NATURE NOTES

NO. 1.
MARCH 6, 1926.

This is one of a series of bulletins to be issued from time to time for the information of those interested in the natural history, scenic grandeur, and scientific features of Grand Canyon National Park. Additional copies of these bulletins may be obtained free of charge by those who can make use of them, by addressing request to Superintendent, Grand Canyon National Park, Grand Canyon, Arizona.

J. R. Eakin - - Superintendent.

KAIBAB SQUIRREL (*Sciurus kaibabensis*).
ABERT SQUIRREL (*Sciurus aberti*).
(By Glen E. Sturdevant).

Of the numerous species of squirrel that lend charm to the parks and forests of the United States, none surpass in beauty and grace the Kaibab squirrel and his near relative the Abert squirrel. These two species seem fittingly placed by nature in the forested areas of northern Arizona where they animate the heart of the nature lover.

These are the only American squirrels with conspicuous ear tufts. The home of both is almost entirely limited to the high plateau pine-forested region where the altitude ranges from six to nine thousand five hundred feet. Both species are characterized by their grace, beauty, conspicuous ear tufts, and broad and feathery tails. Both give vent to their feelings in the same manner by uttering a chucking, barking, call when an object that meets their disapproval happens near their abode. These two species of squirrel assume the attitude of the flying squirrel when leaping from branch to branch. They spread out their limbs and tail to the utmost particularly when they descend from a high branch to the ground. During a storm the squirrel seeks his nest for shelter where he remains until the inclement weather is over. They are about equal to a large gray squirrel in weight although they are somewhat shorter and distinctly more heavily proportioned.

Originally considered to be of the same specie, the powerful factor of isolation has brought about radical changes in the marking of the two species. The Abert squirrel is characterized by his gray tail, the dowry white markings on the underparts, the broad reddish-brown stripe along his back, and his gray sides. The Kaibab squirrel whose environment is entirely limited to an island-like pine-forested area on the north rim of the Grand Canyon is even more beautiful than his cousin. His tail is a feathery white with the underparts appearing almost solid black. The Abert squirrel and his several sub-species have a more extensive range. Their distribution ranges from northern Colorado, south through New Mexico, Arizona, Chihuahua, and Durango. The typical Abert squirrel lives along the south rim of the Grand Canyon less than fifteen miles away from the Kaibab Squirrel.

The two species live under practically the same conditions as to food and vegetation. Both store their food and build their nests in the same manner. The

Nests are generally confined to a high crotch in a pine tree although not infrequently they resolve on a knot hole or a hollow log as the logical place to bring forth their young. Their bulky nests are generally made of leaves, twigs, and pine needles, lined with shredded bark. It is fascinating to watch their scurrying and industrious antics in tearing off the stringy bark of the Utah juniper with which they line their nests. They raise one and sometimes two litters in a single season. The young numbering three to five with four as a fair average appear to be born at varying intervals from April to November. Occasionally the young are transferred to a new home. This frequently happens especially if they are molested in their old nest. When this occurs it is amusing to watch them carry the young by the nape of the neck in much the same manner as a cat carries her kittens. The offspring assumes a very docile and obedient attitude while being transferred by the parent.

The Abert squirrel is fast becoming a noted beggar near Grand Canyon Park Headquarters. He eats the nuts offered him from the hand of the tourist and then scampers up a tree to await the coming of another "hand out". Their principal food supply is furnished by the seeds and the tender bark from the small tips of branches of western yellow pine. In eating they sit erect holding the food in their fore-paws. They conceal cleverly from their enemies their winter's hoard of food. The amount of food stored away is often used as a criterion by the pioneer as a forecast of the character for the ensuing winter.

Competition for possession of certain trees during spring and summer is very keen between the squirrels and robins. The squirrels hold sway during the spring and the robins fly at their approach. After nesting season is started, however, the tables are turned. Now the robin evidently endowed with the parental and self-preservation instincts more than holds its own; for the squirrel is quickly put to flight when it approaches the forbidden tree.

Isolation of the Kaibab squirrel by the dutting of the Grand Canyon on the one side and by deserts on the other three sides, tends to curtail any great increase of the specie. Their numbers were thinned somewhat in the early days by the Piute Indians who desired both their meat and pelt. Now they are practically protected from the hunter. Their chief enemy at present is the hawk. The park is ordinarily a sanctuary for all wild life, however, when one form tends to prey upon another to the point of extermination, it is necessary to reduce the numbers of the preying specie. Hawks have been seen to swoop down and carry off both Kaibab and Abert squirrels although some authorities still maintain that hawks do not kill squirrels. Both species are given absolute protection within the park boundaries. Outside, however, it is not an uncommon sight to see a hunter carrying several of the Abert squirrel bodies.

With the continued protection of these two beautiful species of squirrel, it is hoped they will continue to add to the happiness of the nature lover who visits the Grand Canyon.

UTAH JUNIPER (*Juniperus utahensis*).

(By Glen E. Sturdevant)

Utah juniper is perhaps the cause of more comment on the part of the tourist than any of the trees at the Grand Canyon. The traveler is always interested in the heavily laden branches of dusty looking blue berries formerly known as "gin" berries in pre-Volstedian days. Often the branches are embraced in the parasitic arms of the mistletoe (*Phoradendron juniperum* Engelman). Further attraction is drawn to the pearly pink berries that appear on the mistletoe. This parasite, which is commonly termed "desert" mistletoe, is remarkably different from that commonly seen by the tourist in that it is almost entirely barren of leaves.

BOTANTICAL CHARACTERISTICS. Utah juniper is an evergreen with branchlets closely covered by short, minute, scale-like, leaves arranged in opposite pairs alternating around the stem. Male flowers (pollen bearing only) and female flowers (developing into fruit) are borne on different trees. The bark, which always appears ragged or stringy, is of a reddish hue weathering to a grayish color. Junipers are often mistaken for cedars although the former bear their fruit in the form of berries while the latter bear cones. A few instances have been recorded within the park where distorted fruits somewhat similar to cones have been found on juniper trees. These "cones" are the result of some injury, caused probably by an insect, early in life.

GROWTH. The growth of Utah juniper is found to be exceedingly crooked. The tendency to fork is very pronounced. Forking usually occurs at the surface of the ground although at times the first fork takes place two or three feet above the surface. A clear length of more than three or four feet is rarely found. On exposed sites, the tree shows the effect of the prevailing southwest wind by leaning slightly to the northeast.

REPRODUCTION. Utah juniper is similar to the other junipers in that it is a prolific seeder in open stands. How a struggle for existence is maintained by this specie is clearly shown by the best seed crops being nearly always produced on the poorer sites. Here the trees, usually laden with berries, are found sometimes to contain as much as two or three bushels in a single tree. On the better sites only a few trees bear seed and these rarely bear more than two or three quarts. Nowhere does the specie fruit at regular intervals. Most of the berries are eaten by birds, rodents, and predatory animals.

DISTRIBUTION. Although Utah juniper is widely distributed it attains its best growth south from the rim of the Grand Canyon for a distance of sixty miles. In general it occurs from eastern Utah to southeastern California and throughout northern and central Arizona, western Colorado, and southern Wyoming. The distribution is apparently limited to the high plateau region bordering the desert where the elevation ranges from about five to eight thousand feet. It grows exceedingly well in this semi-arid belt where the rainfall averages fourteen to eighteen inches. This distinctly desert-foothill type grows most commonly interspersed with pinon pine in open, stunted, stands.

SUICIDE ROBIN RETURNS.

Although robins have been observed on the rim of the canyon during the milder days of every month during the past winter, today marks the initial appearance for the season of Suicide Robin as he is popularly known at park headquarters. This robin, whose self-destructive caprices are very much in vogue, has earned for himself the above name. His chief attribute for fame, is to perch near the Superintendent's office window and at frequent intervals to dart at the window only to fall back half unconscious from his ill spent efforts. No absolute reason has been advanced for his renewed attacks on the window. The best solution so far advanced is that he dislikes the daring bird that always repulses his attacks at the window to such an extent that he wishes to blot it out for all time. Due to the location of the windows, they make almost perfect reflections of anything passing by. Rangers have frequently covered the windows with Ben Ami, but the bird moves over to the next one and it is not possible to frost over all the windows. However, he seems to have survived the assaults that lasted all last summer, and his chances seem to be against his accomplishing his evident purpose.