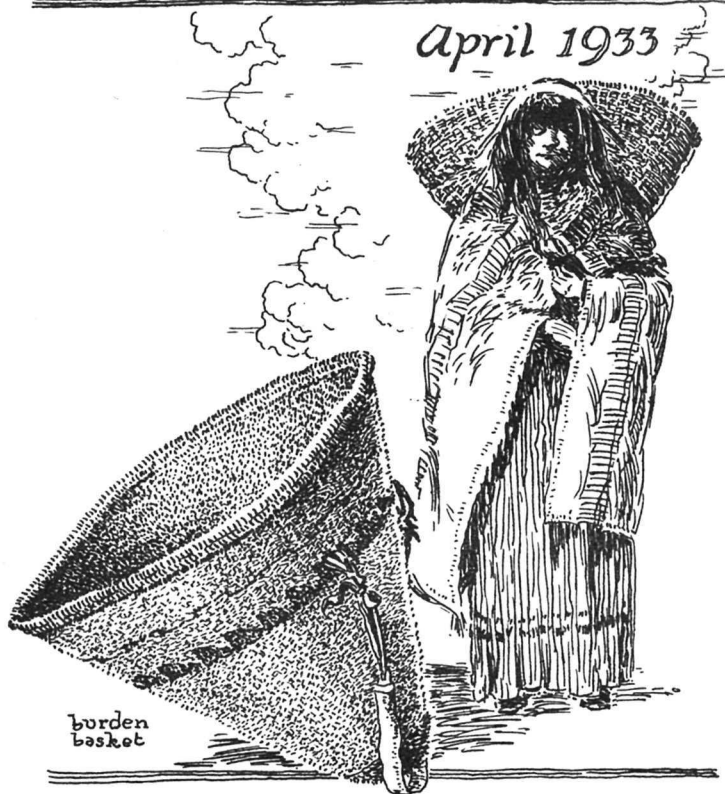


Grand Canyon Nature Notes

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History Association

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M. R. Tillotson,
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Edwin D. McKee,
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HAVASUPAI BASKETRY

By Edwin D. McKee, Park Naturalist

IN NORTHERN ARIZONA where dwell the Hopi Indians of ancient lineage, famed for their pottery and other arts, and where live the semi-nomadic Navahos, noted for their silver work and ~~bead~~ weaving, attention is seldom given to the enterprises of the Havasupai Indians - people far less picturesque yet capable of producing some of the most thoroughly artistic basket work found anywhere in the region.

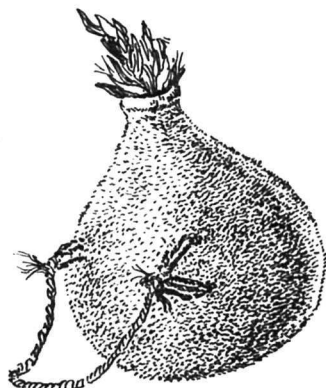
The Havasupai Indians (people of the blue-green waters) live today in the bottom of Havasu Canyon which joins Grand Canyon on the south some thirty miles west of Grand Canyon village. They were living there when the first white explorers came into the region, although they once ranged over considerable additional territory and some of them had homes at what is now known as Indian Gardens.

Apparently the art of basket-making dates back a long way with the Havasupai since their baskets largely take the place of pottery as water containers, burden carriers, and storage bins. The only ceramic utensils which they make are crude, undecorated types of jars used in cooking, although they obtain some pottery from the Hopi for other uses.

Havasupai baskets are of six types according to Spier.¹ These are burden baskets, water bottles, shallow bowls or trays in twine and in coil, stone-boiling bowls and parching trays. The first two and the last mentioned types are always made with twine weave. The others are made sometimes in twine, sometimes with a coiled technique.

The burden baskets of the Havasupai are large and conical with occasionally a projecting bulge at the apex. They are woven of coarse but strong fibers of cat's claw, willow, or cottonwood. Formerly two loops made of horsehair were secured to the upper part of the basket to hold a yucca carrying strap. Today both the loops and the strap are usually made of one piece of leather, sufficiently wide in the center to

rest conveniently against the forehead of the woman using the basket. (See cover).



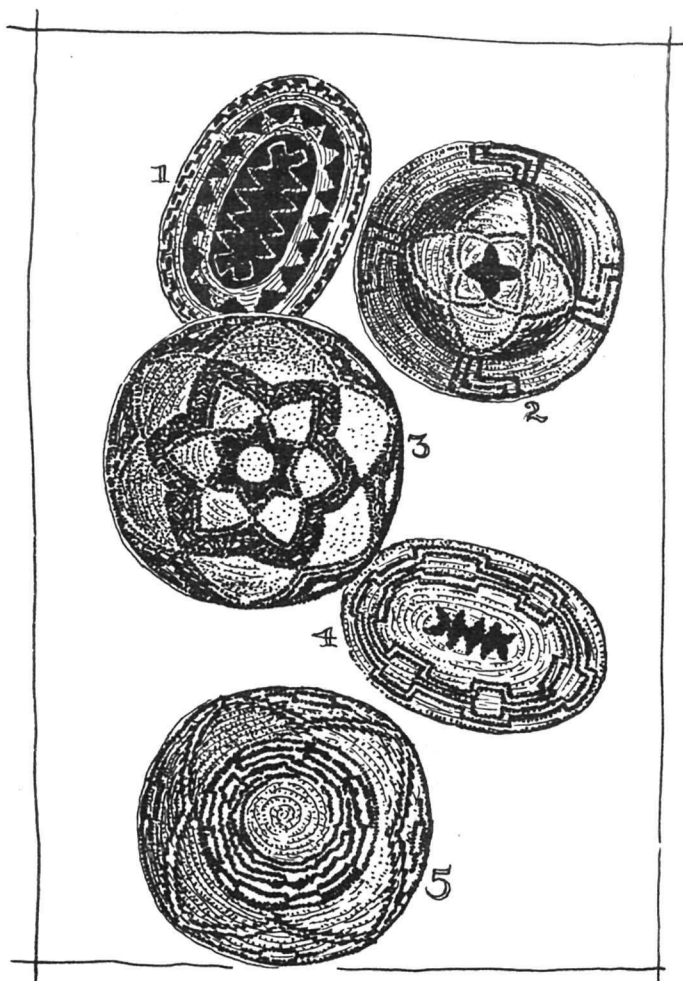
Havasupai Water Bottle

Water bottles are also made with a coarse weave and all of those seen by the writer have been very assymmetrical and irregular in shape. Some have conical bottoms, but a majority seem to be flat or even inversely cone-shaped. The necks are necessarily narrow, and are usually stoppered with leaves. Two handles of horsehair or yucca are fastened just above the widest part and the surface is covered with a coating of pitch from the Pin-yon Pine to make it impervious.

The real artistry of the Havasupai woman is seen in her trays and bowls. These are usually made of the split twigs of cat's claw, Acacia greggii, decorated with the black outer layer of the seedpod of the devil's claw, Martynia sp. In shape they vary from round or oval plaques, nearly flat but with slightly upturned margins, to baskets of bowl or cylindrical proportions. Apparently there is no type form or forms for practically every one of some dozens examined by the writer was unique in this respect. The amount of curvature, the height of the rim and the general shape showed remarkable diversity, though nearly all these baskets were symmetrical and well made.

Because of the interesting variety of types, of the real beauty obtained in many of the designs and of the comparative rarity of the baskets as a whole, the writer has, during the past few years, made a collection of Havasupai baskets, keeping a record in each case of the maker and date and obtaining other data when possible. The collection now numbers fifty specimens and includes some of exceptional quality and interest, thus prompting the brief discussion of design that follows.

Spier² records that "--there is very little attempt at



- 1 - Nina Siyuka
 2 - " "
 3 - Fay Marshall
 4 - Nina Siyuka
 5 - Fay Marshall

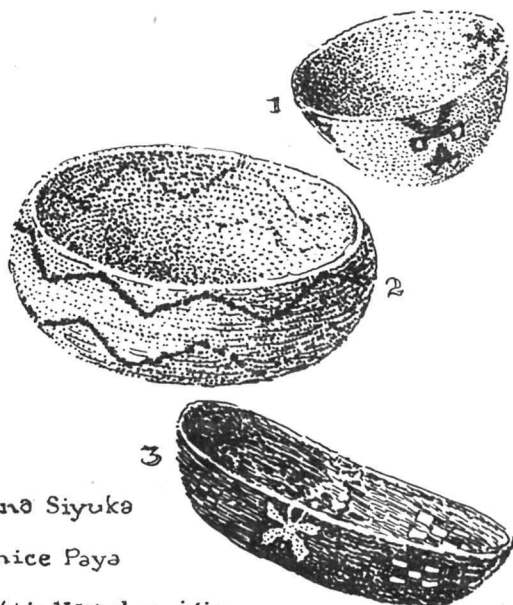
design composition and diverse units are crowded on the same basket without regard for their appropriateness--". This is probably true in the work of certain individuals, especially in baskets made for tourist sale. Certainly the workmanship and the artistic temperament of some of the women are infinitely inferior to those of others. Such designs as shown in the accompanying drawings, however, most assuredly demonstrate a real sense of art and beauty as well as careful thought. Elsie Sinyella says that it is customary to fully plan a pattern in advance. Sometimes, of course, the original idea is not entirely carried out, as shown in one of her baskets on which she points out that butterflies were planned but discontinued after the making of only one wing in each case. Mac Putesoy's wife says, "I plan ahead but do not always know what entire design will look like in the end." According to Gus Walema the women "draw the designs in their heads" before making them. It appears evident, therefore, that even in cases where parts of the designs are copies, the Havasupais plan the arrangement in advance.

Among the Havasupai women now making baskets, the work of Nina Siyuja and Fay Marshall is outstanding. Elsie Sinyella, Lina Iditicava, Eunice Paya, Lily Burro, Dottie and Elva Watahomigie, and Edith Putesoy also demonstrate ability combined with an artistic sense. No doubt there are others who make good baskets, but with whose work the writer is not acquainted.

The designs used commonly today are of animals and of geometrical figures often centering around six-pointed stars. After talking with several Havasupai women on the subject, the writer is fairly convinced that Spier³ was correct in saying, "Designs do not represent objects, and in fact, the women repudiate the idea that any meaning might be read into them. There are no recognized design units nor design names: the women did not seem inclined to speculate about them." The designs are merely ornaments -- in many cases extremely artistic. Elsie Sinyella indicated an eagle on a basket and said that it was "Indian" (Havasupai), a duck which she said was from a picture, and a geometrical design which she attributed to "Navaho rug". Apparently many ideas are from the latter source. Another symbol, , and also a swastika, she said, meant good luck. Gus Walema said that some of the

animal and other figures were "just copied from books", but Irene, his wife, was emphatic in stating, "All Indian designs have points, not only Navaho" - her way of explaining that most of the geometrical patterns were their own developments and not borrowed. Thus it is apparent that Havasupai design figures are both original and copied, but that they probably have no religious or other significance.

Essentially all of the Havasupai decorations are black on a white background, as already stated, however, the reverse is found in a basket made by Dottie Watahomigie in which the black devil's claw is used as the background and the design appears in white. In only two instances has the writer seen Havasupai baskets including any color. These were both of crude workmanwhip and were obviously for tourist trade. One used a bright red annalin dye and the other a strip of orange



1 Nina Siyuka

2 Eunice Paya

3 Dottie Watahomigie

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The time required in making a basket can scarcely be estimated. Asked concerning this matter, the Havasupai women almost invariably reply that they do not know. This is no doubt largely due to the fact that work is done during very irregular and scattered periods, so actually they do not know the total time spent. Gus Walema's wife, Irene, estimated about three months to complete a basket of fine weave and medium size. This, however, probably meant with work done only "now and then" as is usually the case. She added that in former years plaques and baskets were used as plates and dishes but that today the tin and china ware of white man has replaced the basketry for such uses.

Animals Used in Havasupai Baskets

	butterfly [numerous, several varieties]	
	eagle [frequently used]	
	owl	 horse
	bird [rooster?]	 duck
	deer	 lizard

1. Spier, Leslie. Havasupai Ethnography. Anthropological Papers of the Amer. Museum of Natural History. Volume XXIX, Part III, page 127.
2. Same, page 138.
3. Same, page 137.

THE STORY OF A FOREST FIRE

By Ralph Redburn, Ranger Naturalist

WHILE on one of the regular scenic sunrise flights over the Grand Canyon and Kaibab Forest this past summer, with Jack Thornburg as pilot, a fire burning briskly in the western portion of the forests within the park boundary was sighted. After landing I telephoned Ranger Hamilton and Ranger Laws about it, stating that another flight would be made in a few minutes on which they could go if they wished to determine the exact location of the fire. The two rangers drove the eighteen miles to the airport in record time. A flight was then made, this time going much closer to the fire. After returning, Rangers Hamilton and Laws started for the place in a permanently equipped fire truck maintained for such duty. It was with considerable interest that I later listened to their story concerning the remainder of the trip to the fire.

After driving some twenty miles through the thickly wooded forest over auto trails, good and not so good, the rangers stopped and climbed a tree to see if they were continuing in the right direction. Finding they could no longer profit by car travel because from there the auto trail led them in the wrong direction, they planned to abandon the truck and continue by foot. While in the tree looking for the fire, however, they had noticed some horses nearby inside a corral surrounding one of the few water holes found on the plateau. Quickly closing the gate through which the horses had entered the enclosure, they had the animals shut in. After some deliberation and skillful manipulation of a lariat made from various ropes found in the truck, they soon had these none too recently ridden horses under control. By use of improvised hackamores they were able to lead them to the truck and pack two of them with fire fighting equipment and food. The other two they mounted, and after giving the animals a preliminary try-out, were again on their way.

With some difficulty they were able to ride in the direction of the fire. Stops were made during which one of the rangers would climb a tree to get the correct bearing of

the fire. Arriving within three hundred yards of it, they dismounted, unpacked, and covered the remaining distance on foot.

After a few hours of hard labor they were able to bring the fire under control.

It may be of interest to call to mind the various means of transportation used in locating and arriving at the fire. First, by tri-motor airplane; second, by light truck; third, by horse; and fourth, by foot. Although this is reversing the evolutionary development of means of transportation, it still goes to show the great advantage of airplane observation for the discovery and control of forest fires.

NOTES ON PORCUPINES OF THE GRAND CANYON REGION

By Charles M. Bogert, Ranger Naturalist

BECAUSE of the nocturnal propensities of the porcupine, few people become acquainted with this, the second largest of the present-day rodents in North America. Nevertheless, in the forests of both the Kaibab and Coconino plateaus porcupines are quite abundant. On several occasions during the months of July and August as many as twenty porcupines were observed along the road between the El Tovar and Grand View Point when this twelve-mile stretch of road was driven at night.

Live specimens were collected on several occasions for use in lectures and certain observations were made upon them which it seems worthwhile to publish. During the early part of August porcupines were frequently seen in pairs. In fact,

on some nights practically all adults were seen in pairs. Thus, with mating season in the first days of August, young must be born some time in the fall. So far as the writer knows, no one has yet worked out the life history of the porcupine of the Grand Canyon region, so this is only conjecture; whether a nest is made on the ground or even possibly in a tree, how the young are cared for during the winter, remain to be observed. From observations which it has been possible to make, it seems that porcupines in this region normally spend the day in tree tops, selecting a position where foliage obscures them from the ground. This habit makes the idea of a tree nest a plausible one. It should be mentioned, however, that in a few instances porcupines have been found in caves during the day.

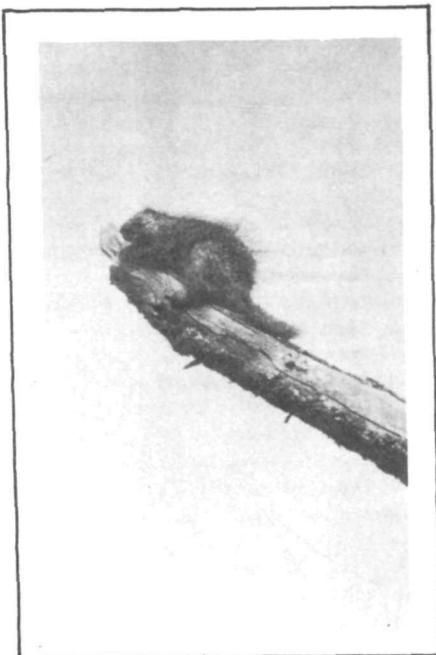


Photo by B.H.McKee

While Grand Canyon is probably a fairly effective barrier for this species, porcupines are not confined entirely to forested Transition Zone habitats, but seem occasionally to range well down into the Upper Sonoran Zone. Evidences of their food-getting activities are prominent along both rims of Grand Canyon, and on the South Rim at least the Pinyon Pine, Pinus edulis, is most often selected. Judging by the chips left, the outer layer of dead bark is removed and only the sap-filled, growing cambium layer is eaten. While scars left by this gnawing sometimes cover extensive areas, (as much as a square foot in a single patch), never has the writer observed a tree that has been completely "ringed". Young

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individuals liberated after a few hours of captivity, during which they had become quite tame, would amble off into the brush, pausing to nibble the green seeds from the desert mal-low. Sitting on the hind limbs with the tail as a "prop", the four-fingered hands in front would be used in bringing the stems to the mouth and with the incisors the foliage and buds would be stripped off, with intermissions for chewing and swallowing. A young captive specimen devoured canteloupe rinds (not too readily) and groaned most of the following day, exhibiting evident signs of discomfiture.

How far out of the timber porcupines range is a question, but it seems probable that a few are able to exist in the "sagebrush" areas where the timber is merging into the desert. In New Mexico near Acoma, a porcupine carcass was seen hanging from a fence post at a corn planting where Indians had doubtless found it destroying the crop. This was some distance away from any real forest, although along the edges of the valley there was a growth of juniper.

A medium-sized individual was found east of Flagstaff in a region where trees were only occasional, wedged tightly in one of the inner recesses of one of the old Indian caves in the lava near Saddle Peak.

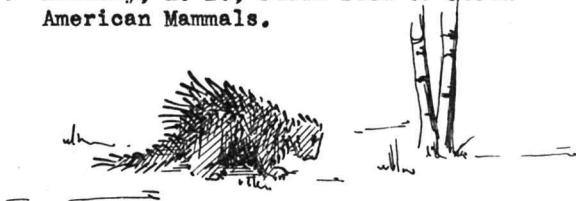
At the present time there are two subspecies of porcupines recognized within the limits of Grand Canyon National Park - the Yellow-haired, Erethizon epixanthum epixanthum Brandt, and the Arizona Porcupine, E. e. couesi Mearns. Anthony states that the Arizona Porcupine is "smaller and less yellow than typical epixanthum; ears larger; quills tipped with brown; long hair tipped with whitish; brownish on muzzle, feet and underparts. Found in Arizona (Yavapai County); limits of range unknown."

Aside from the length of the ears, the only distinction made here between the two subspecies is the color. Coloration has been observed to be exceedingly variable on South Rim specimens. Young individuals were all quite similar, but adults were of every color varying in general from dark blackish-brown to yellow. Older specimens had shorter quills than the young, but were more densely covered, especially in

the region behind the head. It seems plausible that the quills are not shed, but are lost only in encounters with enemies.

It is proposed to collect a series of porcupines of various ages from each rim and subject the two subspecies to a more rigid comparison to determine the validity of the classification of couesi and epixanthum.

1. Anthony, H. E., Field Book of North American Mammals.



DIARY OF EARLY SPRING

- March 1 - The first chipmunk to be noted on the North Rim was reported by Ranger Hamilton.
- March 1 - Chipping Sparrows and Cassin's Purple Finches arrived on the South Rim from their winter quarters. The Chipping Sparrows were several weeks earlier than last year, the finches much later.
- March 3 - A lizard of the genus *Uta* was found at Yavapai Point. His appearance, no doubt, was rather premature.
- March 5 - Cottonwoods at Phantom Ranch burst into leaf.
- March 13- Cedar Waxwings first noted on South Rim.



