

Type SOME NOTES ON THE

MAMMALS OF BRYCE CANYON NATIONAL PARK, UTAH

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Covering the period, October 1960
through July 1961.....

CHIROPTERA
Vespertilionidae

Our knowledge of the bats of the Paunsagunt region is admittedly sketchy, as few specimens have been collected and little study devoted to the subject.

Although several different types of bats inhabit this area, only one species has been collected in the Park, therefore there is only one species reported here.

MYOTIS

M. evotis evotis (H. Allen) Long-eared Myotis

There are no records of this species for Garfield Co. in the literature, and most of the records for Utah are from low and moderate elevations.

One specimen of this species was collected by Mrs. Melissa Stanley, former Ranger-Naturalist at Bryce Canyon. This specimen, in the Bryce Canyon collection, was taken in a butterfly net near the Bryce Canyon Inn. Elevation here is approximately 8,000 ft., within a well developed Ponderosa Pine forest.

The specimen, an adult male, was collected August 7, 1960. Apparently only the forearm was measured before preparation, this had a length of 38 mm. Other measurements are; ear (dry), 20; tragus (dry), 9; foot, (dry) 9.

INSECTIVORA

Soricidae--shrews

SOREX

Although there are no specimen records of shrews from Bryce Canyon or the Paunsagunt, mention has been made by J. L. Crawford (fide), of seeing a mummified specimen brought in by former Assist. Ch. Park Ranger J. G. Lewis. Specific characteristics were not well enough defined to make even a tentative identification other than it was probably a member of the genus Sorex.

LAGOMORPHA

Leporidae--hares and rabbits

LEPUS

L. townsendi townsendi Bachman White-tailed Jackrabbit

This species was not recorded for the Paunsagunt by Presnall, 1938; Durrant, 1952, records the species from Garfield Co. (3 mi. South of Winder) Hall and Kelson, 1959, record it from Kanab.

This is the least common of the two species of Lepus found on the Paunsagunt. What was probably the same individual was observed twice, $\frac{1}{2}$ mile south of the Visitor Center in Bryce Canyon during Feb., 1961. No subsequent observations were made during the year. Concerted effort~~at~~ to find the species during the spring and summer of 1961 failed reveal any in the park. This may indicate the species to be a seasonal migrant into the Paunsagunt area.

Records: One DOR specimen collected $\frac{1}{4}$ mile north of the Park on Hwy. 12. Skull only preserved, in collection of Idaho State College (ISC). This specimen was collected by Seasonal Ranger Dick Sense in November 1960, and was an adult male in transitional pelage.

L. americanus Snowshoe Hare

Although this species was persistently reported as varying from rare to common in the semi-annual wildlife census reports from Bryce Canyon, there is no specimen to support the reported occurrence here. The nearest specimen taken in this region is recorded from an area approximately 70 miles north of the Paunsagunt on the Aquarius Plateau.

L. californicus deserticola Mearns Black-tailed Jackrabbit

Durrant lists a number of localities near the Paunsagunt for the species; Presnall states that it "rarely comes into the canyons and forests of the parks."

This is the commonest of the leporids found on the Paunsagunt. Although most abundant in the open sagebrush-grassland plant association, it is also found throughout the Ponderosa Pine Forest and has been observed near the Natural Bridge and Farview Point areas. These latter points are in comparatively heavy timber. In the flats to the north of Bryce Canyon it prefers the broken topography where shelter is available in the brushy draws filled with Big Sagebrush (Artemisia tridentata) and Rabbitbrush (Chrysothamnus sp.)

SYLVILAGUS

S. nuttallii grangeri (J. A. Allen) Mountain Cottontail

Durrant (ibid) makes no record of the species being found in Garfield County, however, Hall and Kelson (ibid) record marginal records as "Upper Kanab" Creek ?; and Panguitch. Presnall (ibid) states that it appeared to be uncommon and limited to Transition Zone and higher.

This species is the common small rabbit found at the higher elevations of the Paunsagunt. Here it is apparently restricted to the timbered sections and displays a preference for areas with heavy understory of shrub forms such as Manzanita (Arctostaphylos sp.) and Common Juniper (Juniperus communis). It was commonly observed in the vicinity of Paria View during the winter of 1960-61 and likewise was judged to be common around Rainbow and Yovimpa points. At Paria view one was observed using a den in an old hollow deadfall. Here the cover was heavy Manzanita with an open overstory of Ponderosa Pine and Juniper.

The preferred cover at the higher elevations seemed to be Common Juniper in and around heavy stands of White Fir (Abies concolor). Dens were usually located under fallen logs, burrowing activity was not observed.

S. nuttallii grangeri (continued)

Records: One specimen, BCNP # 462, taken near Paria View, 8,000 ft., 12-18-60. Cover was dense Manzanita understory, under Yellow Pine (Ponderosa) and Rocky Mt. Juniper (Juniperus scopulorum). This was an adult female with the following measurements. Total Length-325 (mm); Hind Foot-81; Ear-60. Non-gravid.

This seems to be the first specimen taken in Bryce Canyon or on the Paunsagunt Plateau.

S. auduboni arizonae (J.A.Allen) Desert Cottontail

Presnall lists this species as being common in the "Upper Transition Zone" at Swamp Canyon. This record is listed by Durrant (ibid) and is probably the same as mentioned by Hall and Kelson (ibid) as being 7 miles SW of Tropic.

Observations indicate the species as being not uncommon among the Pinon-Juniper zone in Tropic Canyon. Although efforts were made no specimens were collected in this area. One DOR specimen was examined near the mouth of Water Canyon on Hwy. 54 and two Dor specimens found on Hwy. 12 in Red Canyon were of this species. In the former instance adjacent cover was primarily riparian shrubs; Mt. Maple (Acer sp.), Gambels Oak (Quercus gambeli) and Squaw Bush (Rhus trilobata). In red canyon the cover was principally Big Sagebrush in the gullies and mixed conifer forest on the slopes.

Apparently the Desert Cottontail does not exist on top of the Plateau as none were observed in typical cover during a considerable time afield.

Records: Sight records only, as cited above.

RODENTIA
Sciuridae

TAMIASCIURUS

T. hudsonicus dixiensis Hardy Dixie Red Squirrel

Durrant (ibid) indicated the species presence on the Paunsagunt by virtue of including it on the distribution map, but records no specimens from the area. Presnall (ibid) includes the species under T. fremonti with the notation that it "is found in all forested areas above 8,000 ft."

On the Paunsagunt dixiensis is rather shy and retiring, much quieter than other members of the species observed elsewhere.

In Bryce Canyon it seems to be common though infrequently observed in the heavier stands of Ponderosa Pine, and most common at the higher elevations. In this locality dens in hollow trees seem to be the rule, but one constructed nest was observed in a Ponderosa Pine 7 miles south of the Park Headquarters. This nest was located in a "witches broom" approximately 15 feet above the ground.

Records: Two specimens taken in the Dixie Nat. Forest, adjacent to Bryce Canyon. BCNP # 461 and # 460 with measurements respectively as follows: 330-110-51, male; 330-110-45, male.

MARMOTA

M. flaviventer englehardti Allen Yellow-bellied Marmot

Presnall records the species as occurring from Bryce Point, southward in Bryce Canyon. Durrant (ibid) records no specimen from the Paunsagunt or Garfield Co. but includes within the distribution map, the northern portion of the Paunsagunt. Hall and Kelson (ibid) does not include records from the Paunsagunt.

Observations through the spring and summer indicated the species to be reasonably common from the Headquarters area to Rainbow Point in the Park. Also it was observed in Red Canyon on the west side of the Paunsagunt. It apparently prefers rocky outcrops and dense deadfall tangles, but is also found in the developed area around buildings, in the park.

Records: Sight records only.

CYNOMYS

C. parvidens Allen Utah Prairie Dog

Presnall (ibid) records the species from Bryce Canyon; Durrant (ibid) repeats this record.

Typical of the genus elsewhere, the Utah Prairie Dog is on the Paunsagunt, restricted to open areas covered with sagebrush and various grasses. Although presently found mainly outside of the park, signs of their former activity are common in many places in the northern and eastern portions of the park.

A typical colony is found, approximately one mile west of the East Fork of the Sevier River along Hwy. 12. In this locality the tendency is toward excavating several burrows in close proximity, eventually forming a large mound. Shrubs are commonly found to be established in the mounds, perhaps because of protection afforded by some sucssional species and as the occupants are averse to dense vegetation, they continue to expand the size of the mounds by burrowing around the ~~periferae~~ ^{periphery}. These mounds are common through the open

sagebrush and grass flats to the west and north of the park and are commonly referred to as "mima or mina mounds". As runoff from summer rains is rapid and the topography rather uneven, the burrows are not so constructed to provide a natural dike around the entrance. In this respect they resemble the burrows of the Zuni Prairie Dog of north-eastern Arizona.

Hibernation apparently occurs during mid-November and emergence begins in March. Activity is apparently sustained by stored energy until the beginning of the growing season. One individual collected shortly after emergence was still exceedingly fat.

Specimens and records: Numerous sight records; one specimen BCNP # 493; Adult male, 2/61 with measurements: 345-40-62. Taken in a fallow field, 1 mile north of Park.

SPERMOPHILUS

S. variegatus

Rock Squirrel

Presnall (ibid) makes no specific mention of this species in Bryce Canyon. Durrant (ibid) does not record it from the Paunsagunt region, although the distribution map includes this locality.

In the Bryce Canyon-Paunsagunt area, the Rock Squirrel is found most frequently below the rim in the pygmy-conifer zone, although they have been observed in the Ponderosa Pine zone above Swamp Canyon and near the head of Red Canyon along Hwy. 12.

This area lies on the margin of the ranges of two subspecies of variegatus as defined by Durrant (ibid), therefore our specimens are probably intergrades between S. variegatus utah and S. v. grammurus.

Records: Two specimens; BCNP #494 with measurements of 460-173-58-26, ad. female taken near east boundary of park in Tropic Canyon. A poor specimen, Fld. # 39 taken by Mrs. Melissa Stalney labeled "sexually immature male", August 19, 1960 had measurements of 440-196-61-26.

S. lateralis lateralis (Say) Golden-mantled Groundsquirrel

Presnall (ibid) and Durrant (ibid) both record the species from Bryce Canyon.

Of the Paunsagunt this is one of the ^{most} common diurnal rodents. Although found throughout the plateau they are most common in "edge" habitats, rarely in deep timber or in extensive grass and brush flats. Most dens are located beneath fallen logs or in rocky outcrops, but have also been observed in open ground where they were excavated in a fashion similar to other citellids.

Records: Three specimens: BCNP #33, collected in Bryce Canyon 10-11-34, msmts.: 274-90-40-15, L.F.Keller; # 405, collected by Wayne Alcorn, no data. One specimen collected near the north end of the park, ad. female; gravid with 5 embryos, 11 mm. CRL; msmts. 275-79-44-21, 5/11/61.

EUTAMIAS

E. minimus consobrinus (Allen) Least Chipmunk

Presnall lists the species for Bryce Canyon without definite locality but specimens in the Zion N. P. collection are labeled Sunrise Point. Durrant (ibid) refers this record to Kane Co.

On the Paunsagunt the Least Chipmunk is found throughout the Ponderosa Pine forest and the sagebrush flats to the north of the park. It occurs with E. umbrinus in ledge habitats, but apparently does not extend into the spruce-fir forest or at least in extensive stands of timber. Where minimus and umbrinus occur together, the latter seems to be dominant.

Records: Several specimens taken near the old residence area in Bryce Canyon, taken May 1961. Average and extreme measurements of three specimens are: 195 (195-196); 82 (76-86); 30; 11.

E. umbrinus adsitus J. A. Allen Uinta Chipmunk

Presnall (ibid) referred specimens from Bryce Canyon to E. quadrivittatus inyoensis. Durrant (ibid) placed the animals from the Paunsagunt region under E. q. adsitus, later changed to E. umbrinus adsitus, 1953.

This is the most common chipmunk on the Paunsagunt and although found in all habitats they are most numerous in the Ponderosa Pine Forest. There seems to be little choice of habitats as it has been noted in the ledge formations at 6,700 ft., open and dense timber and throughout the big sagebrush draws to the north of the Park. In the latter type however, they are apparently outnumbered by minimus.

Our specimens seem to be typical adsitus as described by Durrant (ibid) and are easily placed under umbrinus as defined by Hall and Kelson, 1959.

Records: Several specimens in the Bryce Canyon Collections, taken throughout the park. Average measurements and extremes of six specimens are as follows: 216 (225-210); 87; (92-80); 33; 19.

E. dorsalis utahensis Merriam Cliff Chipmunk

Presnall (ibid) makes no specific mention of this species occurring in Bryce Canyon, but makes the statement that it is the only species regularly found below 7,000 feet. The first record of the species in Bryce Canyon was made by Mrs. Melissa Stanley when she collected

two specimens near the east boundary of Bryce Canyon N. P. and Hwy. 54, 6,700 feet., July 1960.

Habitat at this locality is rock ledge with Pinon and Juniper on the south exposures; Gambel's Oak and other riparian shrubs in the ~~ravines~~ ^{canyons} and a mixture of Pinon, Juniper and Ponderosa Pine with varying understory on the North exposures. In this area it is found in company with E. umbrinus adsitus.

Generally speaking dorsalis is restricted to ledge habitats from the edge of the plateau down through the Pinon-Juniper zone. An exception to this is an immature (sexually inactive) male, taken 50 yards east of the Jct. of the Park road and the Fairyland road, May 1961. Elevation at this point is approximately 7,750 and the habitat is typical Ponderosa Pine forest with a few exposed surface rocks, but no ledge habitat. The individual was taken near a burrow under a Ceanothus martini shrub. Both umbrinus and minusus are found in this area.

Records: Collections cited above. Specimen taken by Melissa Stanley is in the Bryce Canyon collection. Specimen taken by author is in the ISC collection. Measurements of these specimens were 204, 202; 93, 88; 34, 31; 19, 15.

GLAUCOMYS

G. sabrinus lucifugus Hall. Northern Flying Squirrel

The first record of this species is one recorded by Tanner, 1940. The location of this specimen is not known.

One sight record for the species has been recorded by Ranger-naturalist George Brox (fide), June 1959. The locality for the sight record is approximately 3.5 miles south of the Headquarters. The specimen was found early one morning near the main park road and apparently was an immature. Ponderosa Pine is the principal tree in this locality.

A specimen was taken near Whiteman Cave in dense blue spruce-white fir (A. concolor)- douglas fir forest. Method used in capture was by fastening snap traps 6 ft. above ground on large trees and baiting with a mixture of ground beef and peanut butter. The specimen taken was an adult female, gravid with 5 embryos. Stomach contents consisted of spruce buds. June 1961. This type of "set" was used for several weeks in Ponderosa Forest without success.

Records: Specimen (collection cited above) with following data: 333-125-42-23; adult female.

Geomyidae

THOMOMYS

T. talpoides parowanensis Goldman Pocket Gopher

Durrant (ibid) records the species from specimens examined

from Bryce Canyon.

On the Paunsagunt this rodent is widely distributed wherever there are soils of sufficient depth to permit its burrowing activities. Most numerous in the Ponderosa Pine forest and grassy swales, it is also found in the open sagebrush flats.

Records: Three specimens taken near the Headquarters area in Bryce Canyon, all adults taken 5-61; average and extreme measurements are as follows: 213 (212-216); 54 (50-58); 26 (25-27).

Our specimens are most likely intergrades between T. t. parowensis and T. t. levis.

Reports of a larger type of "gopher" from the vicinity of Tropic may indicate the presence of T. umbrinus = T. bottae in the lower elevations east of the park. If the species occurs there it may also occur in the lower portions of the park.

Heteromidae

PEROGNATHUS

P. parvus trumbellinsis Benson Great-basin Pocket Mouse

One specimen, an adult male, was collected, April 1961, approximately 1 mile west of the Pines Motel. Although well within the range of the species this is the first record of its occurrence on the Paunsagunt Plateau.

The locality where it was taken consists of open, rolling range, covered with a low growth of Black Sagebrush (Artemisia nova) and associated forbes and grasses. Soils are generally rocky. None were taken in the park but in view of the continuous nature of the vegetative type, the species occurrence within the Park is not unlikely.

Record: One specimen, ad. male, (collection cited above), msmts. 190-99-25; breeding condition.

DIPodomys

D. ordii cupidineus Goldman Ords Kangaroo Rat

Durrant (ibid) records the species from Garfield Co., but makes no mention of it occurring in Bryce Canyon or on the Paunsagunt Plateau. Bressnall (ibid) mentions rather casually its occurrence in the "upper sonoran" of Bryce. This is backed up by one specimen prepared by W. S. Long, Oct. 11, 1935, presently in the Bryce Canyon collection on loan from Zion N. P.

Although apparently uncommon, the Kangaroo Rat has been observed on several occasions on Highway 12 near the east or upper end of Red Canyon. Attempts to collect the species in this and other vicinities has failed. Kangaroo Rats were more frequently observed at the west end or entrance of Red Canyon where several were observed and several road kills examined. These were in very poor conditions and could not be prepared as specimens.

The sight record closest to the park was made at a point about one mile west of the Pines Cafe where the animal was observed for nearly a minute in auto lights.

As the habitat where these animals were observed is essentially continuous across the plateau, there is a strong possibility that they occur in suitable habitat on the plateau. If this is so, intergradation may be found in this area between D. o. cupidineus and D. o. panguitchensis. It may also disclose the presence of cupidineus in the sevier drainage and may indicate a need to revise the taxonomy of this species for this region.

Record: cited above; specimen has following data: Collected in Campbell Canyon, BCNP; 230-132-36-25, male. These measurements are closer to the range of measurements given for cupidineus as given by Durrant (ibid).

Castoridae

CASTOR

C. canadensis Beaver

Presnall makes no mention of the Beaver on the Paunsagunt and Durrant (ibid) records no specimens from Utah of the sub-species repentinus, the one which would occur on the Paunsagunt.

Although Beavers are uncommon on the Paunsagunt, old dams and what appeared to be recent activity were noted along the East Fork of the Sevier River in January 1961. They are apparently present if not common on the upper reaches of the stream, and its tributaries.

Beaver in 1962 & 1963 are commonly recorded & several specimens trapped for Pelts north of Tropic Reservoir.

Gricetidae

REITHRODONTOMYS

R. megalotis megalotis (Baird) Harvest Mouse

Presnall makes no mention of this species being found in Bryce Canyon and Durrant has but one record for the county (Garfield.)

One specimen of this species was taken near the east boundary of Bryce along Hwy. 54. This locality supported a plant cover consisting of Big Sagebrush, Gambel's Oak and Utah Juniper. Understory was sparse and consisted mainly of Western Wheatgrass (Agropyron Smithii) and a few herbs

including Russian Thistle (Salsola Kali). The specimen was taken at the edge of an accumulation of Russian Thistle where it had lodged against some sagebrush.

Records: Collection cited above. Measurements were as follows:
151-59-17-13; adult female, non-gravid. 4-12-60

PEROMYSCUS

P. maniculatus sonoriensis (Le Conte) Deer Mouse

Presnall records this species as being common throughout all "zones". Durrant lists no specific collections on the Paunsagunt, however it is included in the distribution map for the species.

Specimens of this mouse were taken throughout the Plateau area where trapping was conducted. It was found to be common from the lowest to the highest elevations and in all types of habitat. The highest populations seemed to be in the Ponderosa Pine forest-Spruce-Fir forest, it was also commonly taken in sand stone talus in the Pinon-Juniper forest and through out the Sagebrush flats to the north of the Park.

Records: Collections Cited above. Specimens in Bryce Canyon Collections.

P. boylii

Brush Mouse.

Neither Presnall (ibid) nor Durrant (ibid) make any mention of this species occurring in the Paunsagunt region, however the distribution as outlined by the latter author takes in the Paunsagunt.

Apparently this species is restricted in this locality to the sandstone-shale talus in the Pigmy Conifer Forest and perhaps lower elevations. The first specimen recorded from Bryce Canyon was collected by Mrs. Melissa Stanley (unless there are some in the Zion Collection) in 1960. Subsequently other specimens were taken along Hwy. 54 near Glory Cove in 1961. The vegetative cover where the specimens were taken is rather dense oak brush, Pinon Pine, Juniper, wild Rose and several less common shrubs. Around several springs and their drainages the habitat is riparian. Here as elsewhere in the species range it does not appear to be common.

Records: Collection cited above. Specimens in Bryce Canyon Collection.

P. truei truei (Shufeldt) Pinon Mouse

Presnall (ibid) records this species from Swamp Canyon in Bryce Canyon N. P. with the remark that it was "thus far recorded only from moist places." Durrant (ibid) records the species elsewhere in Garfield Co. and lists Presnall records.

Specimens of this species were taken in Water Canyon and in the sandstone-shale talus formations in Glory Cove. In the former locality they were taken in and near limestone talus at the edge of the stream cutbank. Vegetation consisted of a mixture of Pinyon conifers and riparian species. Also in this locale they were found to be associated with P. maniculatus.

In Glory Cove the total environment was decidedly arid where the specimens were collected. Cover here consisted of Pinon Pine, Utah Juniper and Buffalo Berry (Shepherdia retundifolia). P. truei was the only species collected here.

Records: Collections cited above. Average and extreme measurements of five specimens are as follows: 176 (160-182); 86 (80-90) 24 (23-25); 26 (25-27).

ONYCHOMYS

O. leucogaster melanophrys Merriam Northern Grasshopper Mouse

Presnall (ibid) records this species from Bryce Canyon, where it was taken on the "east side." Durrant lists this record but no others from Garfield Co.

No specimens were taken in the course of this study.

NEOTOMA

N. lepida monstabilis (Goldman) Desert Woodrat

Presnall makes no mention of this species occurring in Bryce Canyon. Durrant lists collections from the vicinity of Escalante, for Garfield Co.

Two specimens were taken near Hwy. 54 in Glory Cove, May 1961. This is the first such record for the species in the Paunsagunt area. The locality here was sandstone ledge next to riparian stream-side habitat. Both specimens were taken from the same den which was located under a sandstone boulder.

Records: collection cited above: These specimens had the following measurements: ad male, 280-125-32-30; female, 270-110-30-30.

N. cinerea acraia (Elliot) Bushy-tailed Woodrat

Presnall (ibid) makes no specific mention of this species occurring in Bryce Canyon except that "here it is found in the Upper Sonoran and low Transition-." Durrant (ibid) lists the species for "Kane Co., Bryce National Park" under additional records, citing Presnall 1938-16. For Garfield Co. he cites Long, 1940-178 (Panguitch).

I have seen no specimens from the Paunsagunt area or from Bryce Canyon

and the references cited for Bryce certainly gives no specific information on its occurrence here. Attempts to collect the species during the study period were wholly unsuccessful.

MICROTUS

M. montanus

Mountain Vole

Durrant (ibid) includes this region within the distribution of M. m. amosus (Hall and Hayward). Specimens are from the Boulder Mt.-Aquarius Plateau area from Garfield Co. For Kane Co. as follows: "Steep Creek, Aquarius Plateau," which is questionable, inasmuch as the Aquarius Plateau does not extend into Kane Co. by approximately 60 airline miles.

Two specimens of M. montanus were taken in a sedge swale, $\frac{1}{4}$ mile south of Hwy 12, near the Wilson Peak Road. This is the first record for the species on the Paunsagunt. The vegetation for this locality consists of a rather heavy growth of Sedges and grasses adjacent to open rangeland covered with Black Sage and Rabbitbrush.

Our specimens are considerably smaller than measurements given by Durrant for topotypes and near topotypes of M. m. amosus and are near the minima for M. m. nexus. Measurements of our specimens are as follows: Male, with caudus epididimus distended, 155-34-20; Female, non-gravid, 150-33-20 (no ear measurements.)

Records: Collections cited above.

No specimens of this species were taken in the Park, however microtine runways and burrows were noted in several of the small "swales" near the cattleguard south of the Headquarters. No specimens were taken in these localities.

M. longicaudus latus Hall Longtailed Vole

Recorded by Presnall as M. mordax and taken in Swamp Canyon. Durrant (ibid) cites the Presnall record for Bryce.

No specimens of this species were taken in the course of this study, however, some material is in the Zion collection from this area. This should be checked as much of the mammal material is mis-identified.

LAGURUS

L. curtatus intermedius (Taylor) Sagebrush Vole

Presnall (ibid) records this species from the Paunsagunt, as L. c. pauperrimus. Collection area was listed as "Daves Hollow". Durrant (ibid) lists this record.

Two specimens were taken about $\frac{1}{2}$ mile south west of the East Fork of the Sevier River, one mile north of the Dave's Hollow Ranger Station. Both of the specimens were taken in open sagebrush and rabbitbrush cover on old "Mima mounds". A number of burrows and distinct runways were observed in both situations. Surrounding cover consisted of low and open Black Sage with little other vegetation.

Records: Two specimens, collection cited above. Measurements OF our specimens are somewhat greater than those given by Durrant. Adult male, 121-19-16-10; female, non-gravid, (sub-adult?), 117-17-15-9.

Erethizontidae

ERETHIZON

E. dorsatum epixanthum Brandt. Porcupine

Presnall and Durrant (ibid) ⁿ neither one make a specific mention of Bryce or the Paunsagunt region as having Porcupines, however they are common in all forested areas in the region and occur throughout the Paunsagunt region.

CARNIVORA

Canidae

Canis

C. latrans Coyote

Two coyotes were observed during the course of the study period. These were observed running a jackrabbit in an area approximately 4 miles west of Bryce Canyon N. P. Apparently they are uncommon as of this writing, and although there is a great abundance of jackrabbits, control, is still being done by the state and/or the fish and wildlife svc. as cyanide stations were being operated in the area west of the park and probably elsewhere. Bounty trapper Geo. Proctor stated (fide) that they were much less common than they used to be.

UROCYON

U. cinereoargenteus scottii Mearns Gray Fox

This species was found to be common through the study period with sight records along the Tropic Canyon road (Hwy. 54) in the Park, around the old residential area, along the Fairyland Road, near Bryce Point and $\frac{1}{2}$ mile north of the visitor center. Several of these sightings were made during the day. One road kill was observed approximately 1 mile West of the Pines.

VULPES

V. fulva Red Fox

The only record of the Red Fox on the Paunsagunt is one by Presnall (ibid), 1934.

Ursidae

URSUS

U. americanus Black Bear

Scattered reports only are available for this species on the Paunsagunt. It probably occurs only as a transient or is accidental. *Reported on numerous occasions near Long Valley, Southern edge of Paunsagunt Plateau, Kane Co.*

Procyonidae

BASSARISCUS

B. astutus Ring-tailed Cat

Presnall (ibid) makes no mention of the species being found in Bryce; Durrant (ibid) makes no record of the species from Garfield Co.

Ring-tails are recorded here on the basis of sight records from Bryce Canyon and also from sight records from Tropic where they are said to be quite common (Dean Wirth, fide).

Mustelidae

MUSTELA

M. erminea muricus (Bangs) Ermine

Durrant (ibid) lists this species from Garfield Co. on the basis of one specimen taken on the Aquarius Plateau.

One specimen found in the Zion collection was taken near the old entrance station site in Bryce Canyon. Unfortunately no data is on the specimen as it was mislabeled, however it appears to be of this species.

M. frenata nevadensis Hall Long-tailed Weasle

One specimen is in the Bryce Canyon collections. This species is apparently common on the Paunsagunt and not infrequently observed.

SPILOGALE

S. gracilis saxatilis Merriam Spotted Skunk

Durrant (ibid) makes no reference of this species being found in Garfield Co. Presnall (ibid) does not record it from Bryce Canyon.

One specimen, a road kill, was found near the east boundary of Bryce Canyon on Hwy. 54, March 1961. Also one was observed near the west end of Red Canyon on Hwy. 12. The skull of the former specimen is now in the ISC collection. A partial skull was found in an owl pellet collected near the old GCO area. *Two observations occurred in 1962 in new residence area.*

Records: Cited above. This appears to be the first recorded instance of the species occurring on the Paunsagunt.

TAXIDEA

T. taxus Badger

Several specimens of this species were observed during the study period, but none were collected. From the amount of "diggings" they are apparently common in the open areas to the north and west of the Park. Neither Durrant nor Presnall make specific mention of the badger occurring on the Paunsagunt and as the ranges of two subspecies, taxus and berlanderi come together in this locality, no designation is made here.

Felidae

LYNX

L. rufus Bobcat

No specimens were taken during the study period, but from spoor sign during the winter indicated the species to be present if not actually common. The distribution as outlined by Durrant (ibid) includes the Paunsagunt Plateau within the range of L.r. pallescens and the Paria drainage immediately to the east within the range of L. r. baileyi. Geo. Proctor of Panguitch (fide) mentioned that there seemed to be two types of bobcats in the region, the larger and grayer specimens coming from the higher elevations. This would tend to bear out the contention of a rather well marked ecological split in the ranges of the two subspecies.

FELIS

F. concolor kaibabensis Nelson and Goldman Cougar

Several sight records of this species were recorded during and just prior to the study period, all from the Paunsagunt. In addition several specimens were taken from the surrounding region during this period.

ARTIODACTYLA
Cervidae

CERVUS

C. canadensis nelsoni Bailey Wapiti or Elk

Although not resident on the Paunsagunt, small numbers of this species occasionally wander through the area during the winter. Tracks believed to be of this animal were observed at Rainbow Point during the winter of 1960-61. Several sight records are in the files at Bryce Canyon.

DAMA

D. hemionus hemionus (Rafinesque) Mule Deer

This species is common throughout the Paunsagunt area and Bryce Canyon. During the study period they were always present, and although they usually migrate from the higher elevations during the winter, this season which was quite open did not force them out of Bryce Canyon.

Several kills were noted in the Park during the winter (1960-61) one at Paria View and two in Glory Cove which were apparently made by predators. In the two cases at Glory Cove, bobcat tracks were found around the remains, but evidence here is not conclusive and the kills may have been made by a larger animal. In all cases the remains did not indicate starvation.

BIBLIOGRAPHY

- DURRANT, S. D.
1952 Mammals of Utah, taxonomy and distribution. Univ. Kansas
Publ., Mus. Nat. Hist, 6: 1-549, 91 figs. in text, 30
tables, August 10.
- , LEE, M. R. and HANSEN, R. M.
1955 Additional Records and extensions of Known Ranges of
Mammals from Utah. Vol. 9, No. 2, 69-80; Univ. Kansas
Publ., Mus. Nat. Hist., December 10.
- HALL, E. R. and Kelson, K. R.
1959 The Mammals of North America, The Ronald Press Co., New
York, N. Y.
- PRESNALL, C. C.
1938 Mammals of Zion, Bryce, and Cedar Breaks. Zion-Bryce
Nat. Hist. (Mus.) Bull., 2:1-20, January, 1938