

JOURNAL 1947

JAMES W. BEE

Lehi, Utah County, Utah

Jan 6, 1947

John Hutchings reports the following. (excellent informant)
 1. His father reports antelope in Cedar Valley, Utah Co., Utah before Johnson army arrived in Cedar Valley. 2. Buffalo were in Utah County. Partly fossilized skull of the Buffalo was taken from a gravel pit on the Provo level at a pass which goes from Utah Valley side into Cedar valley. This skull compares with skulls taken from the ^{exposed} lake floor of Utah Lake. Numerous buffalo skulls have been found along dry creek that passes thru Lehi. His father tells of great numbers of buffalo wintering in the cottonwoods in Dry Creek near Lehi during the severe period of snow in 1857. They died during this winter. The first blacksmith in Lehi presented John Hutchings with a set of buffalo horns which had been taken in Dry Creek during the winter [1857] when the buffalo perished. These horns have been in his blacksmith shop since that time. 3. Otter occurred in Utah Lake about 1860 in great numbers. His father observed several otter swimming in a single line which gave the appearance of a lake dragon. Because of this incident of the undulating ~~movement~~ movement of these otter, several men requested to be put to shore. 4. During the early day in 1860, a wolverine was taken from Provo Canyon, Utah County, and prepared as a skin.

Provo, Utah County, Utah

Jan 8, 1947

Heard the first flicker call of the season. This call is probably not associated with the spring breeding calls.

Ecker Hill, Utah

Jan 9, 1947

Enroute to Ecker Hill to see the ski jumps observed 800 Gray-crowned Leucosticte (sp?) at Deer Creek Reservoir. They were moving about in large flocks from one exposed area to another. They were apparently using the bare hillsides where the earth had been removed for the construction of the Deer Creek dam. The areas are now in a partially weedy successional stage.

Rock Canyon, Utah County, Utah.

Jan 14, 1947

visited trap line at mouth of Rock Canyon N.E. of Provo, with Lowell Miller. Two *Peromyscus truei* and one *Peromyscus maniculatus* taken from among cliffs on north side of canyon at the pre-Cambrian, Tertiary, Cambrian quartzite contact. Several bees and bumblebees were active. This rock exposure may be responsible for permitting insects and other mammals to move favorable pass the winter months due to the warming up of the rocks during the day and retention of the heat during the night. Lowell has been taking *P. truei*, *P. m.*, and *Peromyscus boylii rawleyi* from these rocky cliffs.

Aspen Grove, Mt. Timpanogas, Utah County, Utah.

Jan 18, 1947

made overnight trip to Aspen Grove with David Stimpson, Edith Stimpson and Annette. Left Provo at 3:00 P.M. and arrived Stewart's Flat by car at 4:00 P.M. Considerable snow along north fork. Left Stewart's flat on skis at 4:00 P.M. and arrived Reed's Cabin at Aspen Grove at 6:00 P.M. shortly after dark. Remained overnight here.

Provo, Utah County, Utah

Jan 18, 1947

Last two days with stormy weather from east & south.

Provo, Utah Co., Utah

Jan 19, 1947

The flicker has been calling the last three days.

Mouth of Provo River, Utah Co., Utah

Jan 19, 1947

Counted 5 thousand ducks. 1 Sparrow Hawk, 3 pied billed grebe, and 18 coots today.

Jan 19, 1947

made return trip from Reed's Cabin at Aspen Grove to ^{Stewart's Flat.} ~~Stewart's Flat.~~ in one hour. On the snow covered road counted the following number of fresh tracks.

- 6 snow shoe rabbits.
- 8 weasels
- 4 *Peromyscus maniculatus*

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2 Porcupine on Deer Creek Ridge near top in traps. The porcupine that usually inhabited the culvert at about half way between Aspen Grove and Stewart Flat was not there at this time of year. Several snow shoe rabbits among fir & spruce at Reeds Cabin.

Provo, Utah Co., Utah

Jan 20, 1947

Reinwald Leighton of Provo, informs me that before 1910, his father collected many dusky grouse from the upper Rock Canyon area for the city market getting about 15¢ to 20¢ apiece. Since 1910 there have been very few grouse in rock canyon until 1935 when they became increasingly more plentiful because of the check on sheep and cattle grazing. In 1939 Reinwald flushed about 30 dusky grouse from a dry lake bed in the cirque just n and east of Provo Peak at the extreme upper limit of Rock Canyon. During the hunting season [Oct 20, 1947] 200 dusky grouse were observed in the same area. They left the conifer grove when 5 buck deer ran into the conifers. According to Reinwald, deer were rare during 1920 to 1930 but increased after the sheep & cattle were taken from the Rock Canyon water shed. During the summers of this period would seldom see more than 2 or three deer during the week.

7th North and 3rd East, Provo, Utah Co., Utah

Jan 23, 1947

Observed one Tamiasciurus hudsonicus in tree. This squirrel was well within the residential area of the city.

Between Hubble Creek and Maple Canyon, Utah Co., Utah

a Tamiasciurus hudsonicus was collected at the base of the Bonneville level between Hubble & Maple Creeks. This would suggest that this mammal follows the Creek bottoms down into the valley proper. It was associated with cottonwood, spruce brush, rose. Prepared and presented to Brigham Young University. (1-2-23-47). Collected by Cliff Hopla. Measured 330-131-46-22.5 grams ♂

Rock Canyon, N.E. Provo, Utah County, Utah

Jan 23, 1947

Collected a Eutamias dorsalis alaticus (2-2-23-47) from the mouth of Rock Canyon among rocky cliffs. Prepared and placed in Brigham Young Collection. Measurements 215-95-32.5-65 grams testis .17 m.m.

Altamont, Mt. Timpanogas, Utah County, Utah

Jan 26, 1947

David Stimpson and I made a trip to the American Fork, North Fork Divide to check on the feasibility of a ski trip for the following week. Left ^{multiple Dell} Altamont at 6:15 A.M. and arrived at Timpanoche switchback at 8:15 A.M. Arrived at 10:40 A.M. with a 20 minute pause for lunch. Departed divide at 10:45 A.M. and arrived at Altamont at 12:00 A.M. At a point 3 blocks down road from divide observed six Rocky Mountain Pine Grosbeaks. One magpie at Altamont and heard 2 others enroute. This trip was marked by few rabbit tracks and other smaller tracks and probably deer to new snow. Bird life scarce. Wind currents down canyon. Three deer at 4 blocks down canyon from Timpanoche turn off. They approached within 30 feet before they left. They were feeding among chokecherries and left to run into aspens. A deer scared aspen and willow were observed in the immediate vicinity of where these deer were first observed.

Deer Creek Dam, Wasatch County, Utah.

Feb 28, 1947

Drove to Reservoir and returned. Considerable snow in canyon.

Provo, Utah Co., Utah.

Jan 28, 1947

Photographed Annette and Jay at home. Anses color (slide)

Aspen Grove, Mt. Timpanogas, Utah Co., Utah

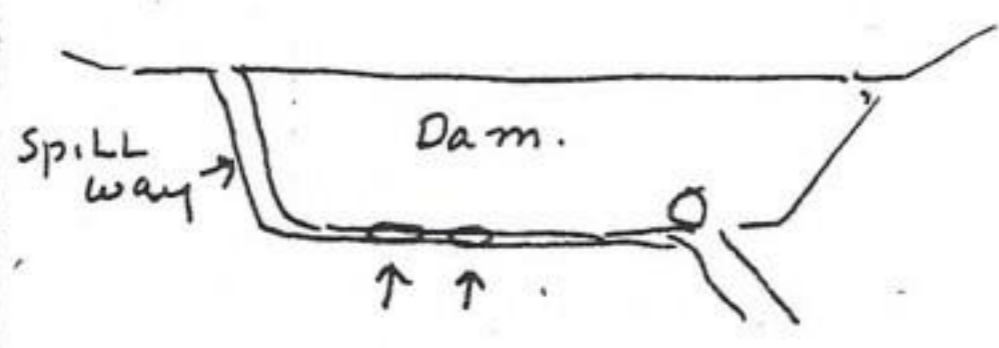
Feb 2, 1947

Annette and I spent the day at Aspen Grove. Skied from Stewarts Flat, to Aspen & back.

Deer Creek Dam, Wasatch County, Utah.

Feb 2, 1947

Two red-wing blackbirds on territories in canal below overflow runway in a cattail pond approx 40' x 20'. Snow



completely surrounded these ponds on all sides and still appeared to be winter. Dr. D. Elden Beck reports the blackbirds in his orchard since the first of the month. Eight

Aspen Grove, Mt. Pimpanogoa, Utah County, Utah

Feb 2, 1946.

Annette and I skied to Reed's Cabin at Aspen Grove today for overnite. Departed from Stewart's Flat in early morning. Snow in perfect condition for cross country skiing. At the second switchback along Stewart Flat-Aspen road recorded an anasco color of Mt. Pimpanogoa (Stewart Curves) with Annette to left. The sun had not, at this hour, arrived at the road position. Wind can be observed blowing loose snow along the Cheaps profile of Mt. Pimp. Little if any snow slide activity on the slopes. This shot is no (1-2-2-46). ^(this number also a black + white) Near the above locality recorded several black and white including: (4-2-2-46) of Annette in foreground with Mt. Pimpanogoa in background. no (5-2-2-46) of Annettes skis and plodder. Sun had just arrived and the surface of the snow still retained its high reflective surface of last night's crystallization. Photo (6-2-2-46) of the general country around the Stewart's Flat area and Aspen Grove area. Oak and maple in the immediate foreground with aspen trees dominating the background. Douglas fir in lower left. Continued on to Reed's Cabin at Aspen Grove where we remained until the next day. At the cabin observed living arachnids and several midges on the snow surface. Only *Peromyscus maniculatus* had made its nest in an old cardboard box (cereal) in the cupboard. Food storage satisfactory (Photo (7-2-2-46) of Annette at Reed's Cabin.)

outside of the damage to food stored in paper and cardboard boxes. Spent considerable time in getting wood for the fire this evening and nite. Coyotes called this evening. At about 10:00 P.M. a snow shoe passed near kitchen window on snow which was near the window ledge. Considerable snowshoe activity among the conifers near the cabin.

Aspen Grove, Mt. Pimpanogoa, Utah Co., Utah. (Continued)

This morning Annette and I ^{Jan 3, 1946} made an early ski trip toward Aspen Drive Cascades on new snow. Observed 12 Rocky Mt. grouse ^{Jan 4, 1946} 5 porcupines, Coyotes on terraces above falls. Eagle or hawk nest at falls.

Continued trekking in Aspen Grove area

- ^{Jan 5, 1946}
- Photo 1-2-5-46 Douglas fir near Cabin at Aspen Grove. Base Elk Peak & beyond.
 - Photo 2-2-5-46 same as above with Annette in foreground
 - Photo 3-2-5-46 as above with Annette in foreground. Elk Peak still in clouds.
 - Photo 4-2-5-46 same area as above. More of Aspen Grove terraces to W.
 - Photo 5-2-5-46 Annette in Aspen Grove area with Elk Peak to left and terraces beyond.
 - Photo 6-2-5-46 Annette. Elk peak beyond.
- Left cabin and returned to Wildwood on fast snow. Mother & Dad met us there

spoonbills, 8 green-winged teal and 2 pied billed grebe were observed in the open water in these ponds. The blackbird community, even if established, will be destroyed by the overflow water which normally flows later in the season.

Cedar Valley, Utah County, Utah.

Feb 13, 1947

made trip with Napla to show areas for collecting mosquitoes. Entered valley from north end across 7 mile pass to Fairfield. Along this route ^{from Jordan river to 7 mi pass} observed the following. Sturnella neglecta, Passer domesticus, Nethon carolinensis, Agelaius p. utahensis, Pica hudsonicus. From 7 mile pass S.W. to Fairfield across the Artemisia flats observed. Circus hudsonicus, Otocoris, Lepus californicus, Corvus corax, Eutamias minimus, Purdes migratorius. At Fairfield proper observed. Pica hudsonicus, Oxyechus vociferans, Phainopepla nitens, 2 Anas platyrhynchos, 2 Corvus corax. and on Buteo borealis also 1 Flicker, some Redwing blackbirds and a house finch. Between Fairfield and the sinks to the south east observed 2 Lepus californicus. at the sinks which are a series of lakes, created as runoff water from the valley and from Fairfield ^{patch by the} observed 2 Golden eagles. Both birds with white tail, but immature. They circled several times and then alighted at the edge of one of the ponds. The ducks or other birds did not seem to be concerned. Several groups of blackbirds (redwing) The following birds and animals observed in the sinks area:

- Ruddy duck
- mt. Bluebird
- Pontails
- Baldpate
- Spoonbills
- Horned Larks

The ducks were numerous and would estimate 600 or all. Mosquito larvae present. water in certain areas supported solid surface of mudge castes. Red diptomas present. Cyclops blue. Observed an interesting incident of a Lepus californicus which left

the ground around the ponds and when cornered chose to lobe to the water. The water was not deep enough to keep it from running straight forward. This would indicate that the rabbit

Mt. Pompanogos, Utah County, Utah.

Feb. 16, 1947

Mary, David, Annette and myself made the Pompanogos Loop trip from Mutual Dell to Stewarts flat. Entire trip by skis. Used skis entire trip. Left Mutual Dell at 7:00 A.M. Arrived Altamont 9:15 A.M. Left Altamont 9:30 A.M. Arrived divide

between North Fork and American Fork Canyon at 1:15 with a 30 minute stop 3 blocks down from divide. Departed divide 1:30 P.M. Arrived Reed's Cabin 3:45 P.M. Left 4:20 P.M. and arrived at Stewart's Flat at 5:00 P.M. Ten hour trip. The following observed enroute.

Peromyscus active at Altamont. with fresh spruce scales below trees. Few other tracks in snow, some of which were not associated with leucifera.

Cinclus mexicana. One bird at Altamont in creek.

Chickadee. Few at both Mutual Dell & Altamont

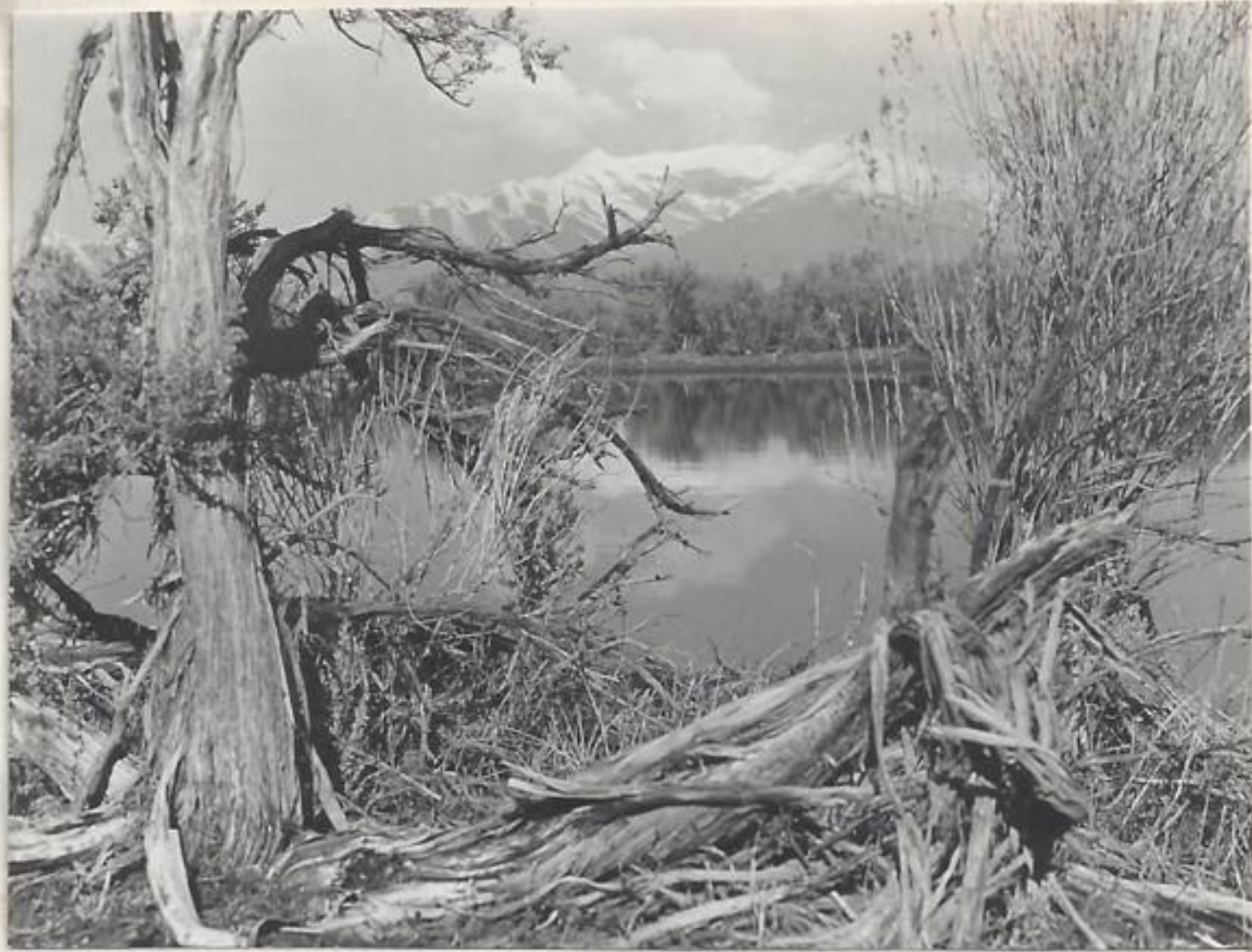
L.C. Jay. One at Altamont.

Canis latrans. First tracks about half way between Mutual Dell & Altamont. Two other sets of tracks and ^{wine} ~~nesting~~ spots just a block this side of the divide. All in all 8 crossings were observed between Altamont & the divide. On the east side of the divide, ^{to aspen zone} and generally more common in the first 2 miles below the divide, counted 18 crossings and 5 wine spots. As stated the greatest congregation is between the divide and Salamander Lake area.

Ruffed Grouse 2 at last switchback before coming to the divide. One fanned its tail and then walked up hill on the snow for 50 feet and then flew. Found among the aspen.

Both Mary and Annette made the trip without too much fatigue. Distance skied approx 10 miles.

Edith drove us to starting point in American Fork Canyon and mother and Dad picked us up at Stewart's Flat. Entire loop trip on skis



1-3-13-47



2-3-13-47



3-3-13-47

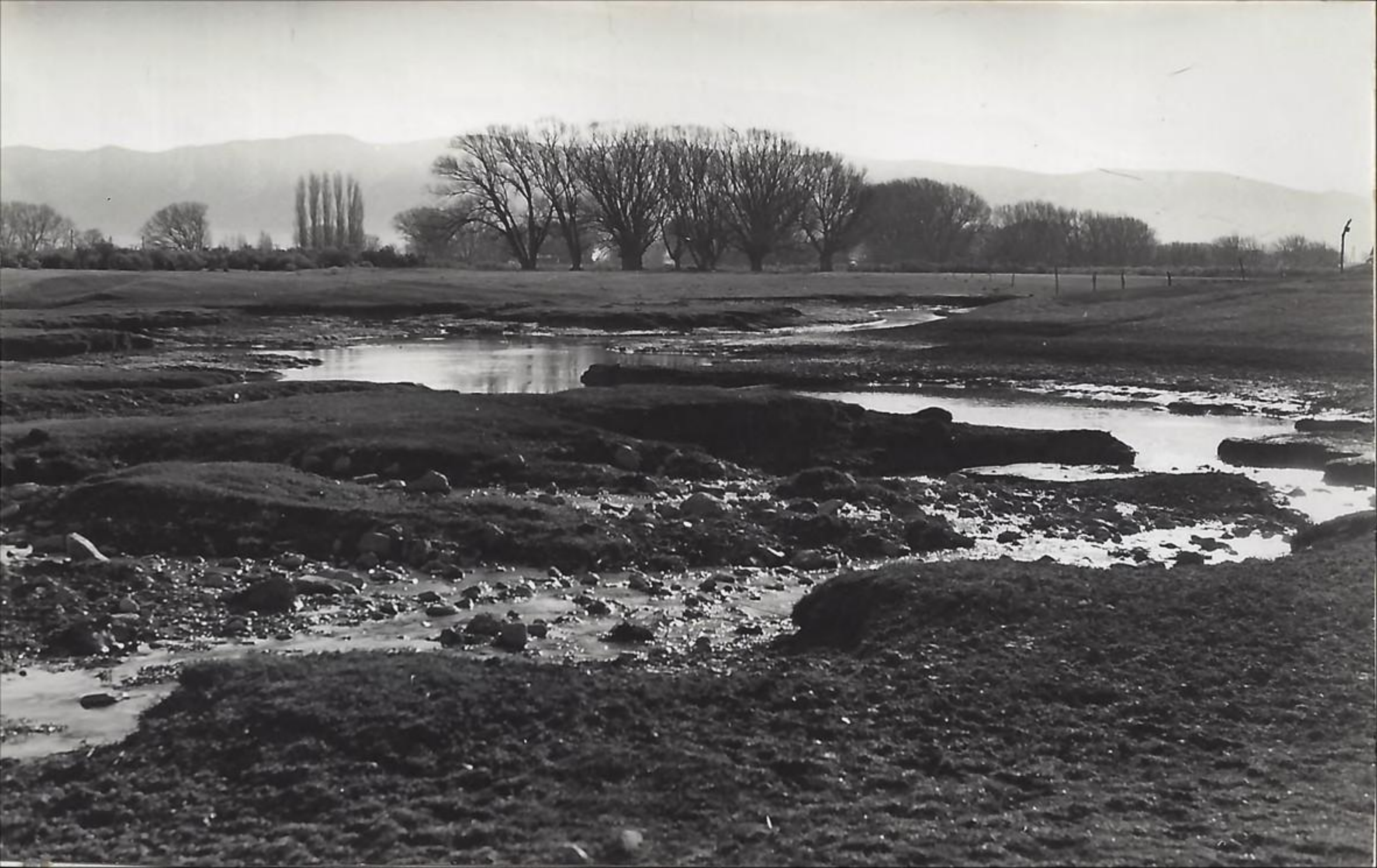








4-3-13-47



upon being cornered take to the water rather than be captured. Then, again, experience, might have conditioned these rabbits to trust the desert ponds in being always shallow and affordinging trespass with only the wetting of the feet. I wanted judging that the depth of the water was approx 7 inches deep. at the sinks photographed several of the ponds. no (1-3-13-47) showing the Ogumuk Range with a good growth of Artemisia in the foreground. no (2-3-13-47) with Ogumuk Range in distance at the north end of the valley and excellent growth of Artemisia in the middle grounds. The Cheyathammun inundated in the foreground. no (3-3-13-47) same as no (1-3-13-47) but with different foreground. note the high growth of Artemisia on the other side of the lake. These lakes are very shallow and many of them probably dry up during the late summer. Photo (4-3-13-47) of spring at Fairfield. These springs are the source of the sinks: It was at this point where Johnson's Army remained while in Utah. It is not too difficult a job to find buttons, parts of metal equipment, etc from the exposed banks around these springs. Several killedeer were feeding among the exposed mud banks of the spring channels. Fairfield in the background and Lake Mountain Range in the distance.

From Fairfield and the sinks continued S. east across Cedar valley and arrived at Goshen Pass. Several small shrubs and groups of Hained Lark across the flats.

Continuing south around south end of Goshen Bay of Utah Lake observed many California Gulls. Estimated 15,000 ducks generally distributed in the wet areas of the bay. Observed one Sturnella at 30 miles per hour. Several groups of 9 red wing blackbirds. As we approach Lincoln Beach observed several western Grebe. At Lincoln Beach examined hot springs (warm) for mosquito larvae. Good collection of larvae taken from within old swimming pool. Temperature of main spring 80° F. no shore birds in area except the killedeer. Concluded investigation of springs and continued south, hence to Am Fork, hence to Provo.

Rock Canyon, N.E. Provo City, Utah County, Utah.

March 17, 1947

Reinwald Leighty collected a Citellus variegatus utah from old Slaughter House about 2 blocks from the mouth of Rock Canyon. measured 469-211-61 wt 581.6 gms ♂ Placed skull in Brigham Young Collection. Cal. no (1-3-17-49)

Rock Canyon, N. E. Provo City, Utah Co., Utah.

March 19, 1947

Reinhold Lechty collected 2 Citellus variegatus utah from the mouth of Rock Canyon in same area as (1-3-17-47). These squirrels measured ♂ (1-3-19-47) 450-185-58-683.4gms. and ♀ (2-3-19-47) 482-207-60-751.7gms.

Brigham Young University, Utah Co., Provo, Utah.

March 24, 1947

8 western evening Grosbeaks were observed flying north about 200 feet above the tops of the trees. This afternoon photographed a representative series of Lepidoptera taken from Margherita, Assam during 1944. (see notes of Assam for that year.) The butterflies recorded are as follows and all taken from the west side of the Deiting River and approx 2 miles n.n.w. of Margherita. Photographs (1-3-24-47), (2-3-24-47), (3-3-24-47), (4-3-24-47), (5-3-24-47) and (6-3-24-47) include the following specimens. (see respective dates of catalogue numbers) to be identified (now in collection Brigham Young University, Provo, Utah)

1-10-24-44

1-10-24-44

1a-10-24-44

2-10-24-44

3-10-24-44

4-10-24-44

5-10-24-44

6-10-24-44

7-10-24-44

8-10-24-44

9-10-24-44

9-10-24-44

10-10-24-44

10a-10-24-44

11-10-24-44

12-10-24-44

12-10-24-44

12-10-24-44

12-10-24-44

13-10-24-44

13-10-24-44

14-10-24-44

15-10-24-44

15-10-24-44

16-10-24-44

16-10-24-44

17-10-24-44

17-10-24-44

17-10-24-44

18-10-24-44



Photo 7-3-24-47

18-10-24-44

19-10-24-44

20-10-24-44

22-10-24-44

30-10-24-44

31-10-24-44

2-10-28-44

4-10-28-44

5-10-28-44

6-10-28-44

8-10-28-44

4-11-4-44

5-11-4-44

6-11-4-44

7-11-4-44

8-11-4-44

9-11-4-44

9-11-4-44

10-11-4-44

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12-11-4-44

14-11-4-44

15-11-4-44

16-11-4-44

21-11-4-44

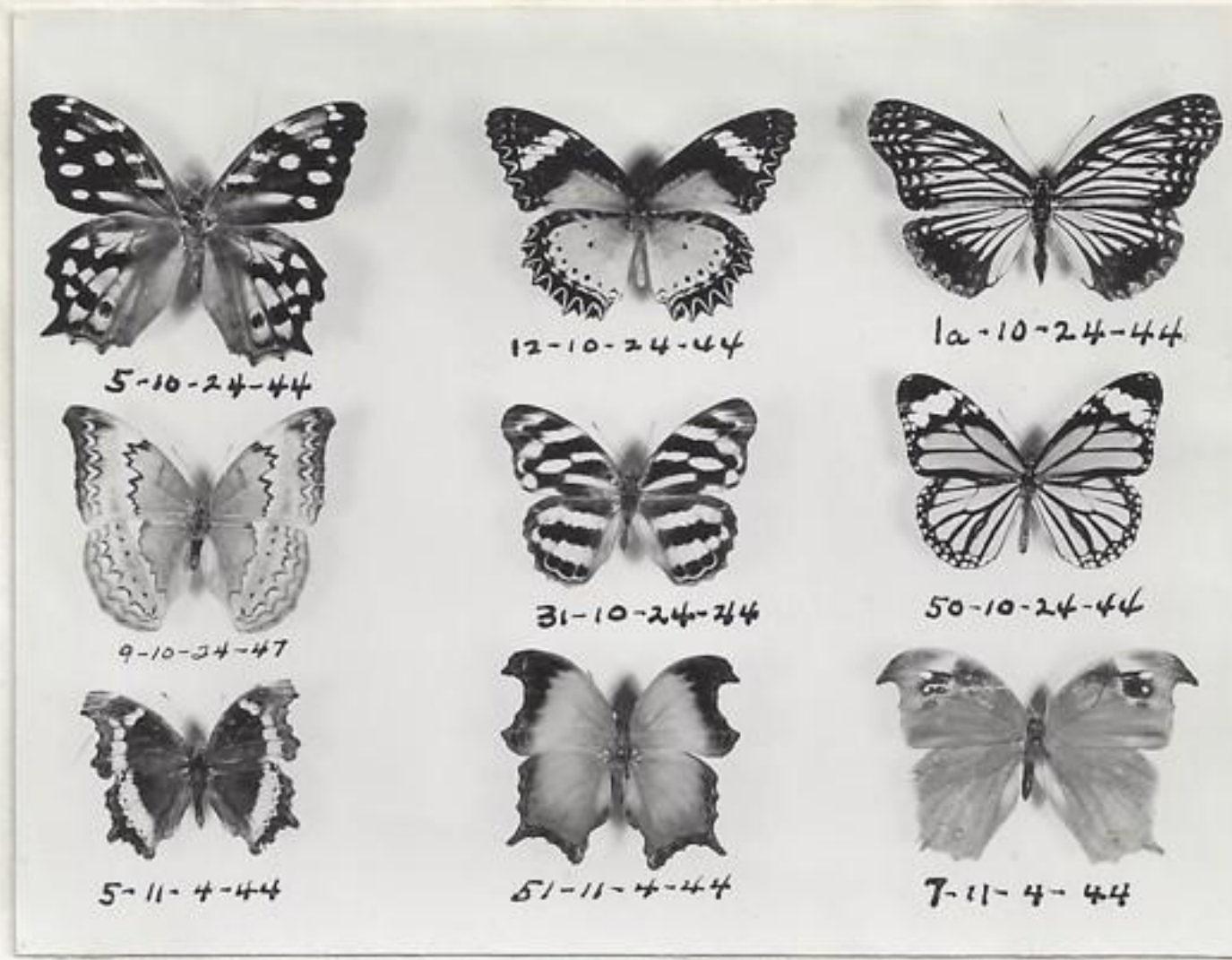
22-11-4-44

50-10-24-44

51-10-24-44

7-3-24-47 (This lepidoptera from Provo, Utah Co., Utah)





1-3-24-47



2-3-24-47



3-3-24-47



5-10-24-44



12-10-24-44



1a-10-24-44



9-10-24-47



31-10-24-264



50-10-24-44



5-11-4-44



51-11-4-44



7-11-4-44



~~13-10-24-44~~
6-10-28-44



11-10-24-44



12-10-24-44



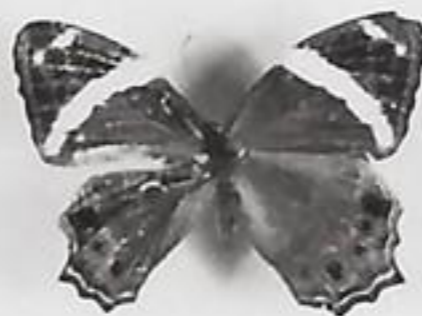
13-10-24-44



18-10-24-44



13-10-24-44



10-10-24-44



10a-10-24-44



4-10-24-44



15-10-24-44



7-10-24-44



8-11-4-44



22-10-24-44



30-10-24-44



15-11-4-44



6-11-4-44



10-11-4-44
~~1-10-24-44~~



4-3-24-47



5-3-24-47



6-3-24-47



~~6-10-24-44~~
9-11-4-44



11-11-4-44



14-10-24-44



9-10-24-44



20-10-24-44

1-10-24-44



5-10-28-44



16-10-24-44



4-10-28-44



22-11-4-44



16-10-24-44



17-10-24-44



12-10-24-44



3-10-24-44



17-10-24-44



8-10-28-44



12-10-24-44



17-10-24-44



15-10-24-44



2-10-24-44



4-11-4-44



19-10-24-44



8-10-24-44



2-10-28-44



21-11-4-44



1-10-24-44



14-11-4-44



12-11-4-44



16-16-4-44



9-11-4-44



6-10-24-44

Brigham Young University, Provo, Utah County, Utah.

3-24-47



9-3-24-47

Concluded work on identification of bone and artifact material from Benson Mound, south-west Provo for Ross Christensen. The collection was taken from a section of the mound during summer of 1946. Of the material collected the following was identified: (Photo - 9-3-24-47)

1. *Odocoileus hemionus macratus* (True)
2. Not deer or elk. (Species?)
3. *Erethyon epixanthum epixanthum* Brandt.
4. Skull of bird. (Sp.?)
5. *Ondatra zibethica oregonensis* (Lard)
6. *Thomomys lottae albicaudatus* Hall
7. *Anas platyrhynchos* (Sp.?)
8. Not deer or elk. (Sp.?)
9. *Ondatra zibethica oregonensis* (Lard)
10. *Lepus californicus deserticola* Gray
11. *Sylvilagus nuttalli gangeri* (Allen)
12. *Cyprinus carpio* Linn.
13. *Catastomus fecundus* Cope and Garrow.

Goshen Pass, Utah County, Utah.

March 26, 1947

Annette, Dad and myself visited golden eagle nest in Goshen Pass. Left Provo at 1:30 P.M., hence Santequin, hence Elberta, hence north to Moxeda, hence west to Goshen Pass. From here returned to Provo, via Peleeau Point, Lehi etc. Day without a cloud in the sky. No wind. Cool in the shade. Entire trip characterized by lack of bird life.



1



2



3



4



5



7



8



9



10



6



11




12



13

Pavant Cone, west of Filmore, Millard Co., Utah

March 30, 1947

Annette, Dad and myself visited the Pavant Cone (Cinder) a few miles west of Filmore to check upon the nesting of the Golden Eagle. Enroute observed 2 raven 3 miles N. Sevier Reservoir. On the reservoir counted 5 cormorant and 32 red breasted Merganser. At the Chicken reservoir found numerous scaup ducks, mallards and geese. 1 raven first valley south of Chicken Reservoir. Elevation at pass 5880 feet as one drops down into the Filmore Country. Raven becoming more numerous with flocks of 2-2-3-1-4 as we approached the turn off, to the cones. Several rock squirrels (*Citellus variegatus*) in hay stacks. Immediately west of Filmore found the raven in groups of 7-4-3-2-4-2-3. Approached Cinder cones. Valley level just east of cone 4690 feet. Top of Crater 5,002 feet. Nest of Golden eagle approx 4,800 feet. While the nest was on the inside of the cone and on the south wall, it was only 110' feet above the main valley floor. The nest ~~used this year~~ the same as used last year. The old eagle with pure white tail base sailed over the top and apparently unbeknown of our presence. Nest held ~~no~~ eggs. Circumnavigated the cone and found the physiography interesting on the west side where the lava flows left the Cinder cone. Grasses were growing in many places where the sheep were unable to get. The entire area is essentially rock or lava. At several points the lava had formed a dome in which the upper layers were arched over  leaving a protected chamber beneath.

The general appearance of the cone and its subsequent erosion would indicate a rather recent appearance. These cones and lava flows are placed upon the old Lake Bonneville floor. From the top or rather on the east slope recorded one photo (1-3-30-47) shooting to the south and showing the tuffaceous lava flows. Several playa lakes form to the south of the lava edge. The numerous lakes supported many ducks. It is interesting to note that the alignment of volcanic cones and eruptions can be seen to be trending in a straight line to the south. Photo (2-3-30-47) of Annette taken from the top of the Pavant cone. Photo (3-3-30-47) of Annette on east face of the Pavant cone. There is a decided lack of vegetation on this exposure. The rocks are predominantly red in color. Photo (4-3-30-47) of Pavant Cone taken from the west. The dotted line indicates the former outline of the cone before collapse. The western outlet can also be observed. *Artemisia* now covers most of this old lava flow. The point X approx. marks the position of the Golden eagle nest. Nest inside cone. Photo (5-3-30-47) shows original position of eggs in nest. ~~Fe~~ no jumper bows placed on top of the nest. The nest structure



1-3-30-47



2-3-30-47

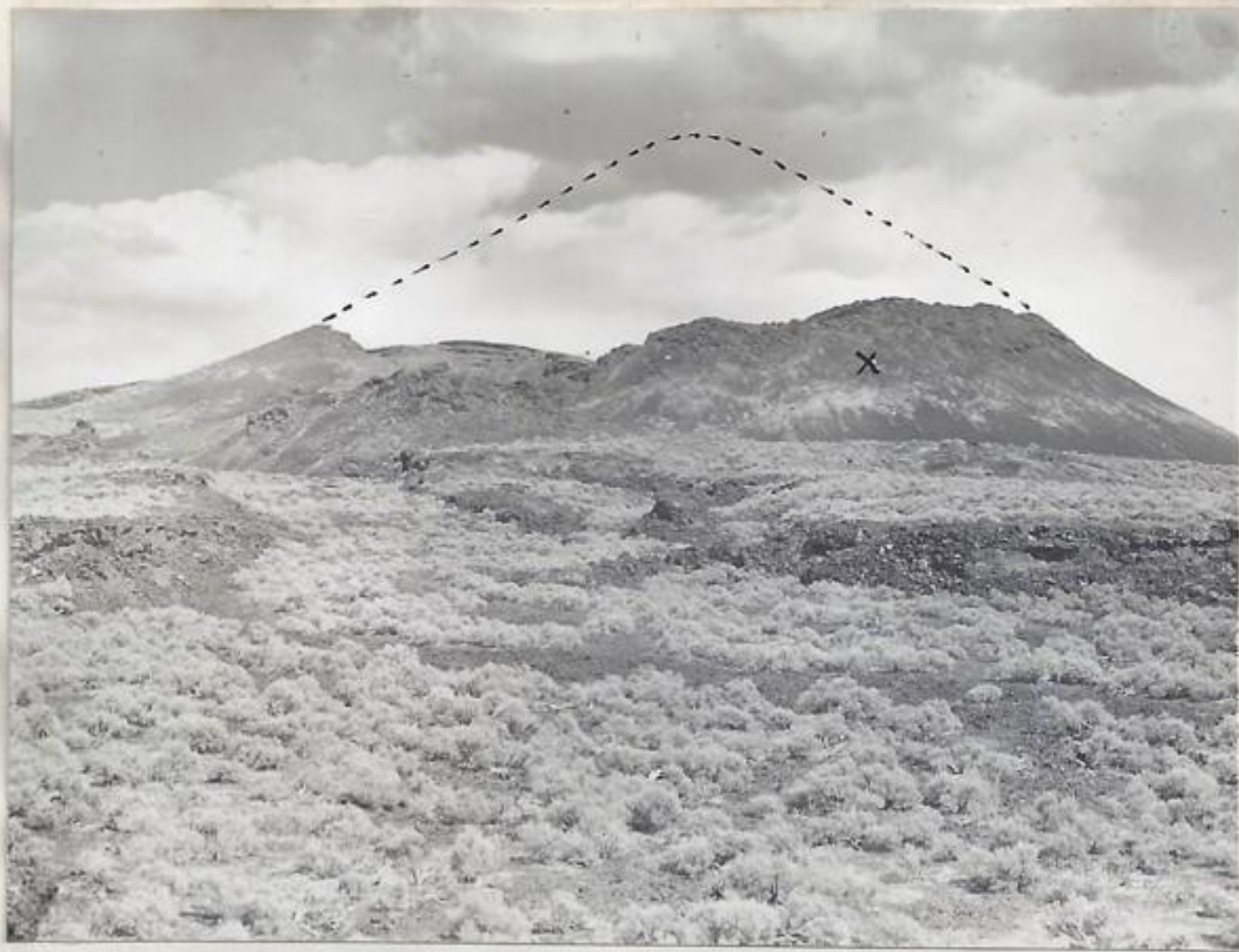


3-3-30-47









4-3-30-47



5-3-30-47





green winged teal, red breasted Mergansers ⁴⁷⁰³³⁰⁻²⁰, Cinnamon teal in area. ^{→ American Coot →} Several of the duck groups left by pairs. Midgees still numerous near mainland section of the dike. They are restricted to the vegetation that is gradually invading the dike from the mainland contact. The gulls are probably responsible for the lack of vegetation beyond.

Provo, Utah County, Utah.

April 5, 1947

The western Evening Grosbeak were heard calling in town today. Swallows observed on the campus of Brigham Young University. Either northern violet greens or tree swallows. Snowed one inch last night. A robin at home has been building a nest since March 28th.

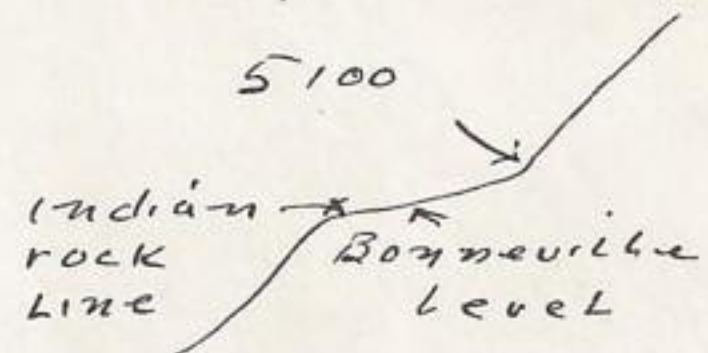
Provo, Utah County, Utah

April 6, 1947

Snowed one inch and half inches last night. Photographed James R. Bee today in Anasco color transparency. Outside lighting. Photo no. (1-4-6-47)

State Canyon, S.W. Provo, Utah Co., Utah.

Checked Bonneville levels just north of the mouth of State Canyon. Level below Bonneville 5,000 ft., edge of Bonneville 5,085 feet; base of mt slope 5,105 feet; upper limit of clear slope to edge of rocks 5,180 feet. The level at the base of the mt. slope appears to be consistently 5,100 feet across face of Wasatch Range from State Canyon to Slide Canyon.



On the Bonneville level about 2 or 3 blocks north of State Canyon is a line of stones placed along the trim of the Bonneville level and would appear to have been placed in such a way as to suggest an Indian origin. Several rock piles should be examined for Indian burials. Citellus v. Utah and the woodhouse jay most conspicuous life across the front of the range. This levels make an ideal scenic route for hiking Rock Canyon to State Canyon, Utah Co., Utah.

April 11, 1947

Annette, Edith and I made trip along Bonneville level from mouth of Rock Canyon to State Canyon. The fault at the mouth of Rock Canyon across the terraces measured 5060 and 5105 feet. This fault has been very recent as the escarpment is still preserved in the canyon bottom which has actively been undergoing aggrading and also erosion. Birds observed across the foot hills to State Canyon are:

18 Woodhouse jays
Bluebirds
Kinglets 2
Robin 3

Magpies
Sparrow Hawk
Rock Wren
Eutamias dorsalis Utahensis
Spurred Towhee.

remained essentially as of last year inspection. Eagle never seen after first observed upon arrival. It is likely that it has an alternate nest in the area but a thorough examination of the cone did not show signs of another nest. It is also possible that these birds will nest later. From the Point cones returned to Felmore and hence to Dog Valley. (see notes of 3-23-46 for location of eagle nest) where we visited the nest of another Golden Eagle. This nest is located approx 6 mile north of the Mcclard, Beaver County line and on the main highway. On approach to the nest and about and about 1/2 block away, saw an eagle awkwardly flying up the canyon and alighted upon the nest in the cliffs. It apparent awkwardness may have been due to the presence of two deer at the base of the cliff and not over 50' from the nest. Bird did not leave nest until within 20 feet of nest. Dad recorded movie. Bird did not reappear in area while at nest. Took photo no. 5-3-30.47 of nest and eggs. The nest consisted of juniper, pinyon, artemisia, and cliffrose. On the edge of the nest was a Lepus Californicus foot. Few Sialia currucoides in the canyon. From inspection of the distribution of the artemisia and juniper would say that it is a result of slope, drainage and soil.

Mouth of Rock Canyon, Utah County, Utah

March 30, 1947

Mrs. and Mr. Lowell Miller collected a Peromyscus erinites from the mouth of Rock Canyon, N.E. of Provo. It was taken from the south side of the canyon among the rocky ledges and about 7 feet down canyon from Devils Kitchen. Measured 298-101-22-27.8 3x1 embryos.


Mouth of Rock Canyon, Utah Co., Utah

March 31, 1947

Lowell Miller collected another Peromyscus erinites from the mouth of Rock Canyon in identical same spot as of Mar. 30, 1947. It measured 188-96-21.6. Testis 7.5 x 13 m.m.

Geneva Steel Plant, Utah Co., Utah

April 1, 1947

Larus californicus not laying as yet. About 30 excavated nests and some nesting material. Birds mainly established. As we proceeded down the reservoir dike (central one ) they would leave ground at about 30-100 feet. On a previous visit they would consistently leave at about 150 feet. The birds at the first part of the dike did not return but as we proceeded down the dike they would alight in back of us at about 80 feet showing that the birds near the end of the dike were farther along in the nesting process. Examined six regurgitated piles of insects bodies and legs. Few birds seemed to return to their restricted territories; others did not. No copulation observed. Several mallards

Aspen Grove, Utah County, Utah. Mt. Pampunagoz

April 12, 1947

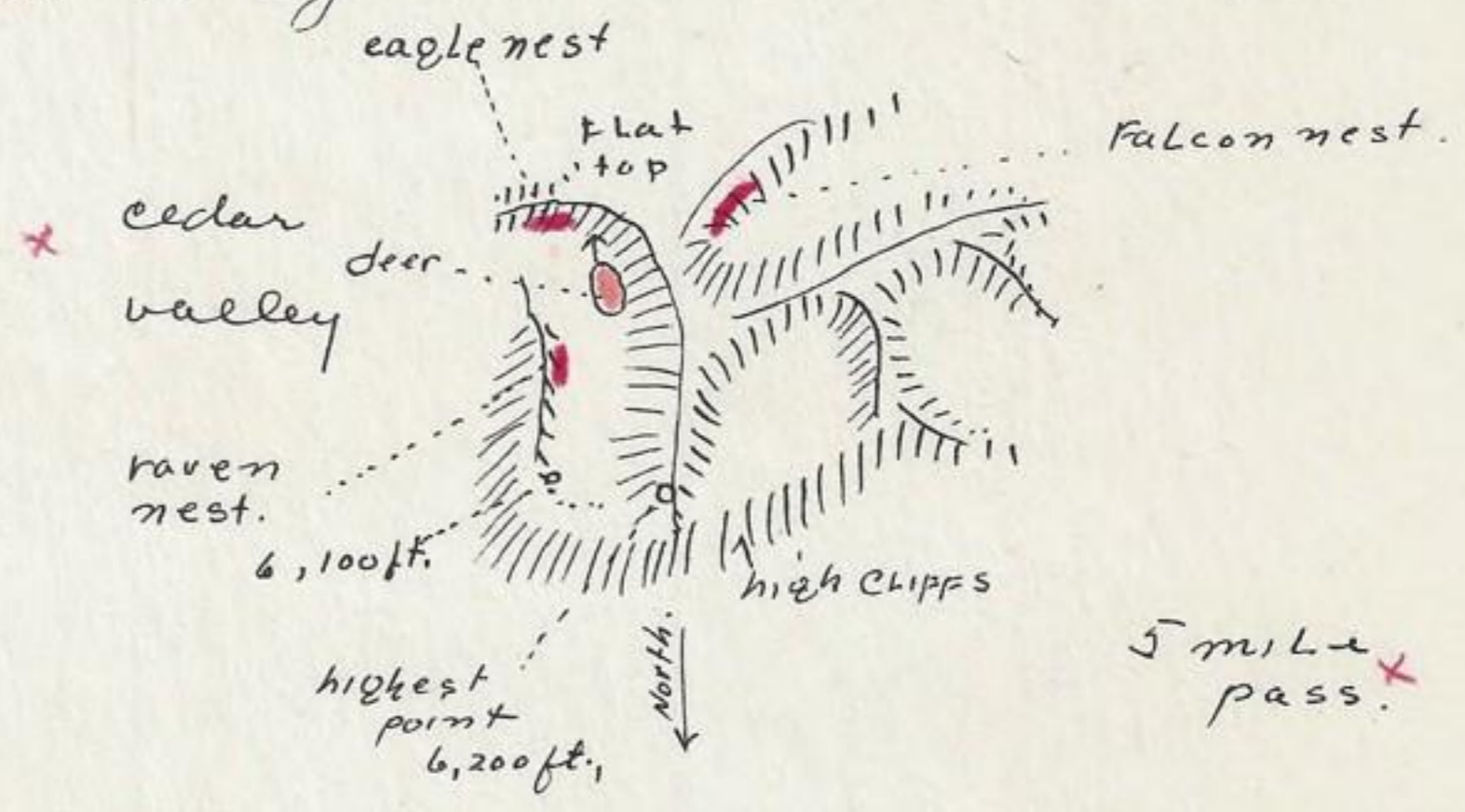
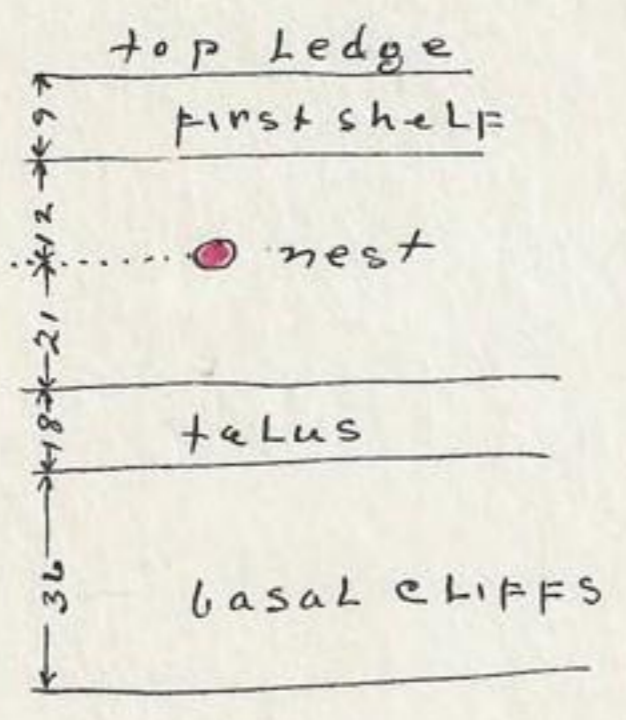
Found Citellus armatus and Eutamias m. censobrinus active between Stewart's Flat and Aspen Grove. They were also active at all points in South Fork from Devan Park south.

Mesa top mountain, just south of 5 mile Pass, Utah County, Utah

April 14, 1947

Dad and I spent the day checking on the eagles of Cedar Valley. The nest is located in the range of mountain just south of 5 mile Pass, west of Fairfield. The general orientation is as follows. The eagle

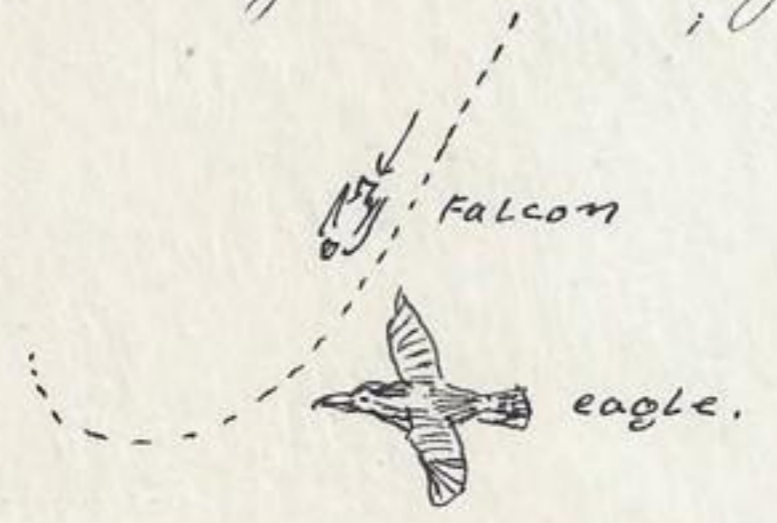
nest is approx 5,845 feet in elevation. The highest point approx 6,200 ft as indicated on the map. The eagle nest is situated on the face of a small set of limestone cliffs as follows:



The nest proper is on the north exposure and made of the usual jumper, Artemisia, Pinon, bark of jumper & Artemisia. Associated with this nesting material was Lepus californicus bones, Pheasant feathers, one pinna of an eagle. The mammals and birds associated with the eagle sitting were

2 sparrow hawks, 1 cooper hawk, one Great-horned Owl in the draw 90 feet west of nest, 5 Lepus californicus, 12 Sylvilagus, 3 Eutamias dorsalis utahensis, 8 Sceloporus, 7 Odocoileus hemionus, 2 raven, 3 ^{Prairie} Falcon, and several small birds.

When nest approached the eagle was facing west. It awkwardly stood up and then turned toward the north where it walked to edge of nest and sailed directly east down out of the canyon into the Cedar Valley area. It returned 2 times to the general vicinity of the nesting area. The falcon from the nest to the west attacked the eagle continuously when in area. The falcon would always dive at the eagle's head regardless of the direction of the circling eagle.



This instance is one of the few examples of the eagle showing concern over the presence of man in the area. However, the first return may have been the ♀ and the second return the ♂. The nest held 2 eggs. Photo (1-4-14-47) shows the eagle cliffs and nest. These cliffs are just above the floor level of the canyon

(see page 470412-25 for continuation this date)



1-4-14-47



2-4-14-47



7-4-15-47

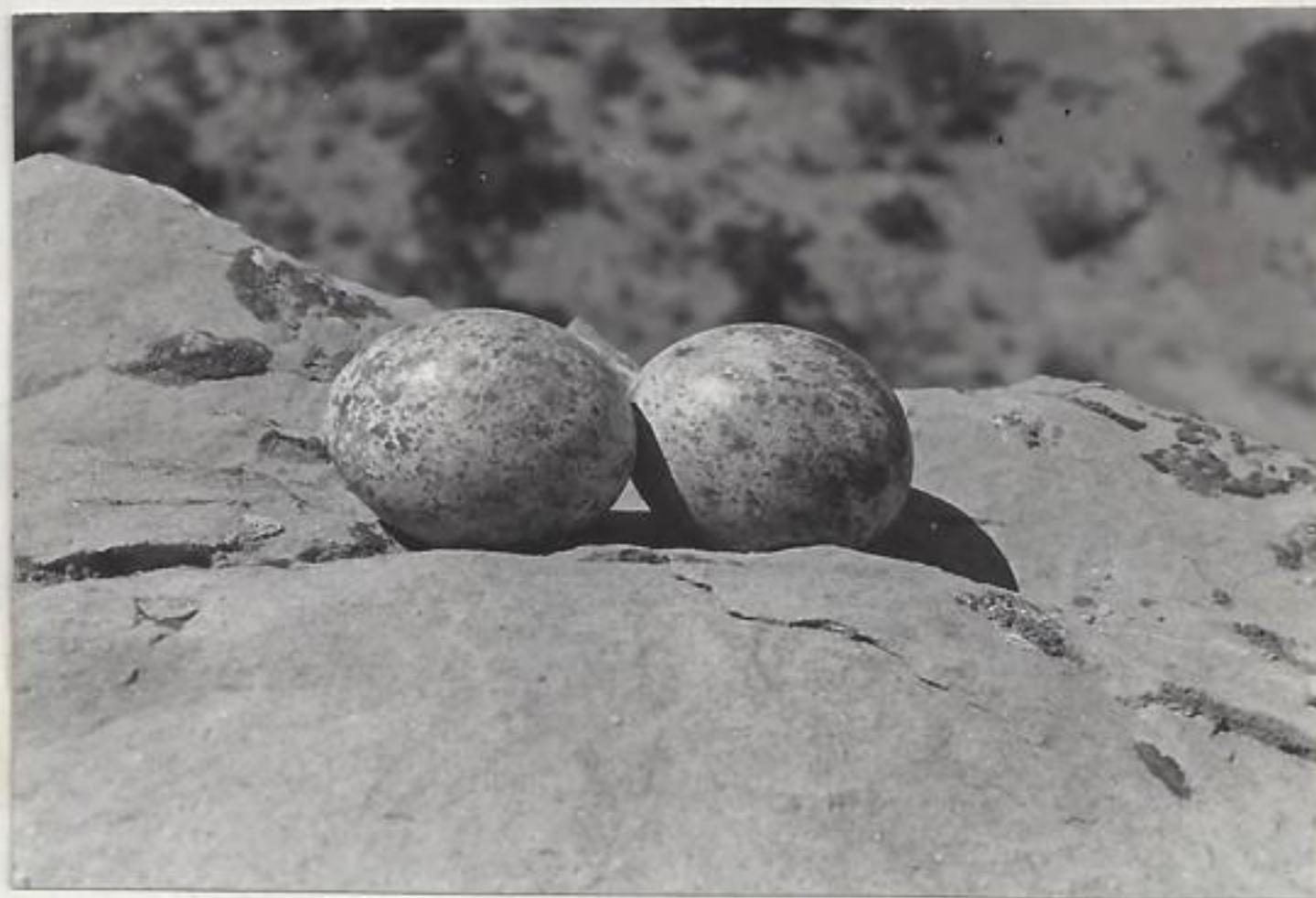




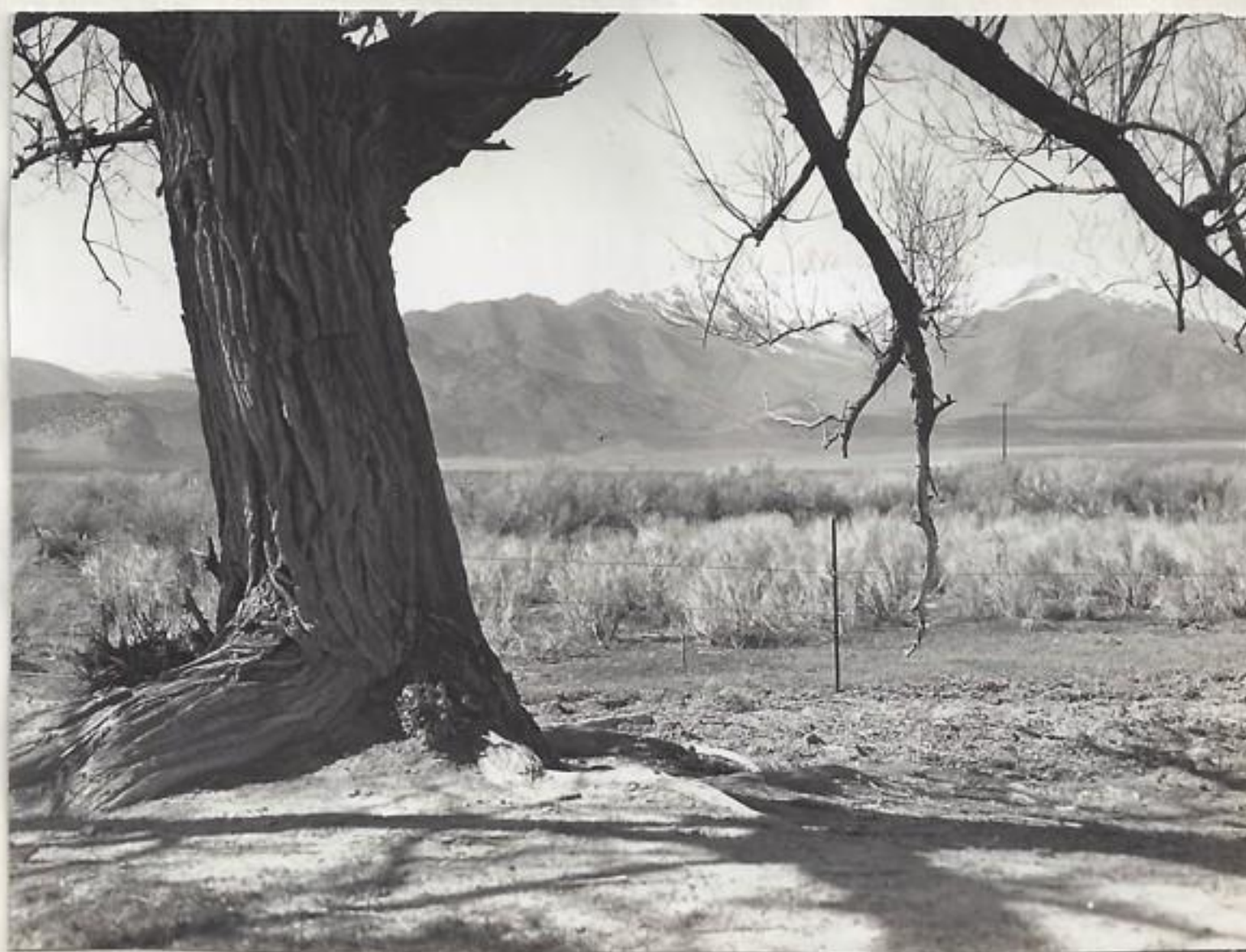




4-4-15-47



5-4-15-47

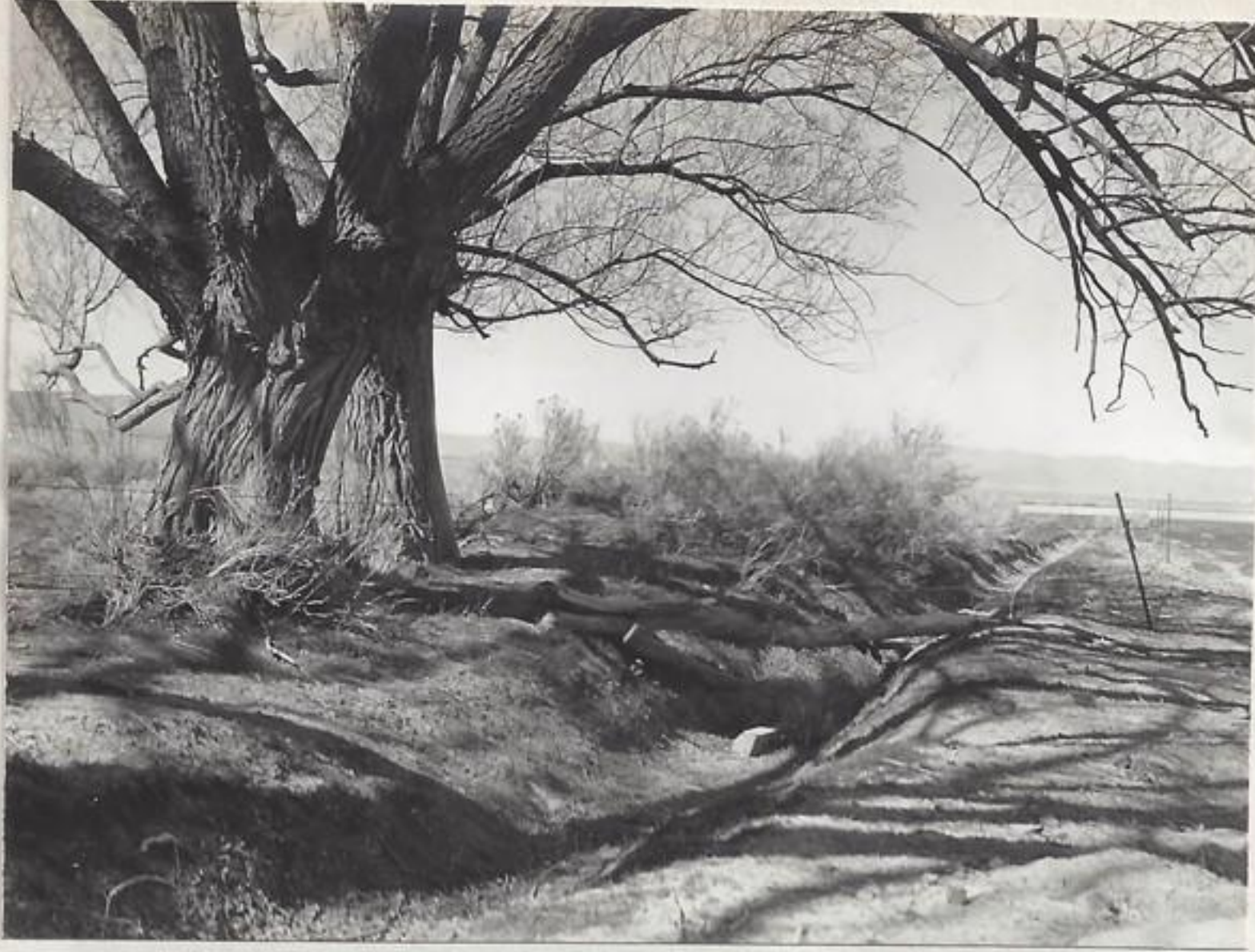


6-4-15-47









1-4-15-47



2-4-15-47



3-4-15-47







(insert from page 470412-21)

470915-25

Photo (2-4-14-47) of Dad. Cedar Valley in the distance with Fairfield just indicated at the end of Dad's elbow as a group of trees in the valley. The sinks are just south and east of Fairfield. It would be an interesting experiment to set up an observation point and with a high power binocular check the range of the eagle as it feeds out into the valley proper. Also other hawks and eagles could be observed. Returned to Provo.

Mesa Top Mountain, south of 5 mile Pass, Cedar Valley, Utah Co., Utah

April 15, 1947

Returned to the eagle nest of yesterday's account. Left Provo at 10:30 AM and arrived at base of above mt. at 12:15 P.M. Altitude at mouth of canyon by knoll on N.W. side 5,200 ft. Between base of mt and the eagle nest observed the following: 2 Horned Lark, 1 meadow-lark, 5 Sceloporus, fresh deer tracks, raven near top, 1 Cutamia dorsalis utahensis. One flock of sea gulls fly 80' above ground at 5 mi. pass. at top and down toward eagle nest observed grass to be growing under the juniper trees where seldom vegetation of any kind is able of growing. Several Lepus californicus in this area. Arrived at nest 1:15 P.M. Bird left nest as usual and Dad recorded in movie color as it flew down the canyon. did not return. Collected set of eggs by can tied on to end of fishing pole. Photo (2-4-15-47) shows Dad in the act of getting the eggs. The general feeding area and ^{Cedar} valley beyond is defined from the photograph. Photo (3-4-15-47) of the set up. The handle is set off center so that the can will turn down when placed upon the nest. Photo (5-4-15-47) of eggs after taken from the nest and placed on ledge above the eagle cliffs. Photo (1-4-15-47) of black willows at Fairfield. Photos (4-4-15-47) and (6-4-15-47) also of Fairfield area. The latter shows the Ogumuk Range where another eagle is reported as nesting. The distribution of junipers on the mountain can be observed. Returned to car at canyon on the N.W. side of the mountain near 5 mi pass and hence to Fairfield where above black willow shots were taken. Elevation at Fairfield approx 4,900 ft. Arrived Provo 2:45 P.M. The rock wren was also observed on top of the eagle nesting mountain.

Provo, Utah Co., Utah.

April 15, 1947

Photographed the bus as it was being lowered from the crane Mr. Roberts hauled this bus down from Murry for \$45.00. Photo (1-4-15-47) shows this operation. This afternoon photographed the Utah Co. relief map in the Geology Dept. at Brigham Young University. This map (2-4-15-47) is to be used in the thesis for Utah County mammals. Photo (3-4-15-47) gives a relief effect across Cedar Valley, Utah Lake and plateau beyond.

470415-27



coll. no. 1-4-15-47

Geneva Steel Plant, west of Orem, Utah 470417-28

April 17, 1947

county, Utah

Dr. D. Eldon Beck and myself visited the gull (*Larus californicus*) colony on the dike of the steel plant cooling reservoir. The first egg was found today. Five pairs were observed copulating at one time. Many nests excavated and lined. The waters of the reservoir were being contaminated with a ^{copper} sulphur compound which made the water a brilliant green. The fish were dying immediately which supplied the gulls with some feverish activity. The green reflection upon the ~~underside~~ ^{underside} center of the gulls made an unusual site. Almost mystical. This operation is repeated periodically to eliminate the fish and algae. Observed 1 Red breasted merganser, 6 ruddy ducks and 1 pair of mallard ducks.

Arches National Monument, Grand Co., Utah

April 24, 1947

Five days at the Arches National Monument doing biological and geological investigations. Dr. C. Lynn Hayward, Dr. Bertrand Harrison, Dr. George Hansen, Dr. D. Eldon Beck, Oliver ^{Red Keddulph} Smith, and myself made up the party. (see field report to follow) Additional notes are as follows: Departed Panguitch in Smith's 12 passenger car at 2:00 P.M. The profile of eroded cliffs south of Panguitch and to the east suggest old canyon having been formed on plateau and now exposed in cross section as:

are left high above the bald cliff face as a result of the cliff erosion. Two erosional levels are present from the plateau to the present valley floor and might suggest two periods of pronounced erosion.

The could possibly be correlated with the Pleistocene glacial periods. Evidence of more recent bench building on valley floor where outwash accumulations have formed long even terraces and benches across the valley.

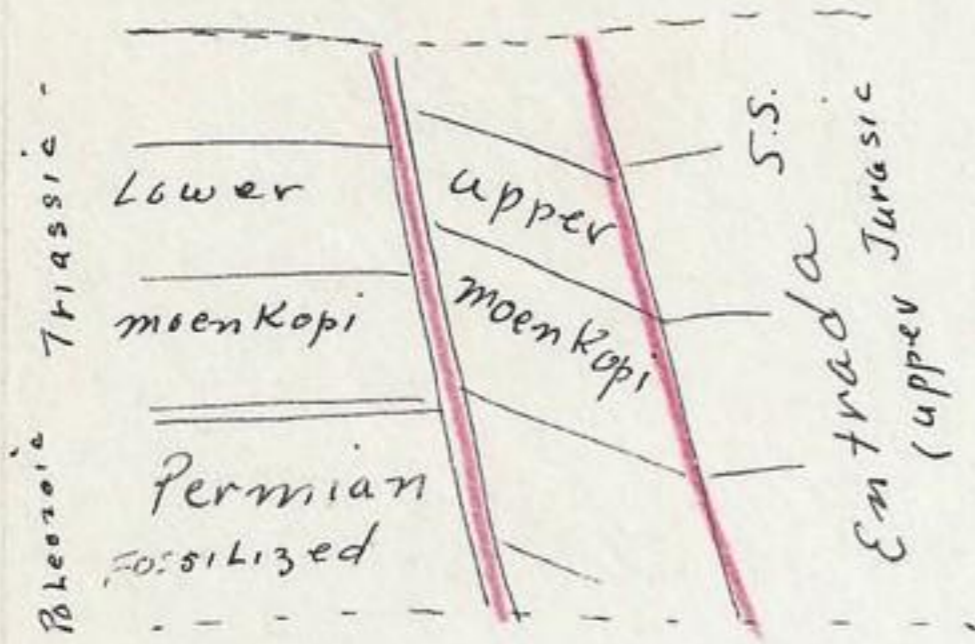
The only birds observed in this area are the Raven and horned lark. Arrived Greenriver at 5:00 P.M. at the north end of the monument observed 1 raven, several horned larks and a hawk sp? but probably red tailed. Arrived monument Headquarters at 6:20 P.M. Elevation 4,500 ft. Camped on the lawn of headquarters after visiting with the caretaker.

Arches National Monument, Grand Co., Utah. (continued)

April 25, 1947

From Headquarters drove to moab for breakfast. On return and at a point a mile before crossing the Green River, photographed a typical scene of the country side in no. 10-4-25-49. Arrived at headquarters and horse ready for departure. Destination, Clear Spring, where

a permanent base camp was to be established ⁴⁷⁰⁴²⁵⁻²⁹ recorded (1-4-25-47) a fault contact in canyon ^{ed before leaving} at the headquarters. This displacement is traceable down canyon and to the main



1-4-25-47

west, a displacement of a thousand feet and more. Followed trail up slope behind headquarters at 11:00 A.M. on bench land beyond rocky trail found ♀ ♂ Ephedra, Old man sage, 98% black bush, rice grass, few small sand potatoes, yucca, squaw bush and other typical desert plants. Numerous Dipodomys holes. At Courthouse Canyon look several color photos for dad and also (see page 32) (1-b-4-25-47) in black and white. (see (A-4-26-47) and (1B-4-26-47)). Cottontail and Onychomys common in this canyon. Arrived at river in open stretch beyond Courthouse Towers at 1:00 P.M. Damp river bed. Active gophers near river. This valley is supporting more Dipodomys than other areas. Dinner beyond at 1:30 P.M. elevation here 4120 feet. Left 2:30 P.M. 4 Antelope squirrels between dinner stop and balanced rock. These mammals are wary and difficult to approach. From balanced rock continued down slope to the north. This valley beyond is in excellent grass and vegetation growth. Several newly dug badger holes. Dipodomys holes numerous. Continued down to dry river gulch, hence east, then up over hills to Freshwater Spring. Arrived 6:00 P.M. Set 68 traps in canyon floor proper among the vegetation and shrubs. Inspection at 10:00 P.M. (1-4-25-47) 1 Peromyscus truei truei and 2 Peromyscus boylii raylii and (4-4-25-47) 1 Peromyscus maniculatus osgoodi. This sunken canyon is a paradise of vegetation compared to the bare rock slopes beyond. It supports a spring that permits a small flow of water. The horses have already changed the appearance of the area since our arrival this evening. Several bats were flying around the canyon.

Clearwater Springs, Arches National Monument, Grand County, Utah.

April 26, 1947

Collected mammals from trap line. The results are as follows: (Combining last night's collection)

Trap 1	unaffected
2	"
3	"
4	"
5	Peromyscus maniculatus osgoodi (4-4-25-47)

6. unaffected
 7. unaffected.
 8. "
 9. "
 10. "
 11. "
 12. "
 13. Peromyscus m. azgodi (2a-4-26-47)
 14. Peromyscus t. truei (1-4-25-47)
 15. unaffected
 16. "
 17. "
 18. Peromyscus boylii raylii (2-4-25-47)
 19^{to} 25. unaffected
 26. Peromyscus boylii raylii (3-4-25-47)
 27. unaffected
 28. sprung (Raven passed over at this point.)
 29^{to} 63. unaffected (Humming bird in the glacial area)
 64. Depodomys o. nepilis (1-4-26-47) three feet from water
 65. unaffected
 66. sprung
 67. unaffected
 68. Depodomys o. nepilis (2-4-26-47) 2 feet from water on solid rock.

During the day left this line in tact and collected three Eutamias quadrivittatus hopeensis in traps no. 58, 63, and 66. (1-4-26-47) (3-4-26-47) (9-4-26-47)

Twelve neotoma traps set in cliffs on the south side of canyon did not produce, even in face of excellent signs and rat dens. Photo (10-4-26-47) of the canyon where the line was set and where we set up our collecting station. This evening pulled traps and set in valley about 2 miles S.E. of Clearwater Springs. One series in sandy (moung sands) area of valley and another set along the base of a set of cliffs to the north, directly east of the cabin. Three neotoma traps set in cabin and cellar in good situations by nests. Returned to camp after dark. Bats observed at camp this evening. Coyotes called. Other members of the party visited various badgers and collected plants and insects of the area. 10-4-26-47

4,500ft.,
 Clearwater Springs, Arches National Monument, Grand Co., Utah.
 April 27, 1947

Inspection of trap line of last night setting as follows:

On 45 traps placed 20' apart in the moung sands area and mainly in holes collected

- (1-4-27-47) Onychomys leucogaster
 (2-4-27-47) Leithrodontomys megalotis megalotis
 (3-4-27-47) Onychomys l. pallidus
 (4-4-27-47) Neotoma lepida murriabilis (from cabin, immature)

(6-4-27-47) *Dipodomys o. nebulis*

(7-4-27-47) " " "

(8-4-27-47) *Reithrodontomys megalotis megalotis*(9-4-27-47) *Peromyscus maniculatus osgoodi*

The line of 40 traps along base of ledges did not produce. It is unusual not to have the traps filled with *Peromyscus* under such a setting. Every thing appeared to look favorable.

This evening set 100 traps, over 10 feet apart on the first bench above the Clearwater Springs to the south and about 200 feet from the canyon proper. Vegetation mainly low shrubs of black sage. Surface sandy to hard gravel.

Clearwater Springs, Arches National Monument, Grand Co., Utah

April 28, 1947

From set of 100 traps of last note collected only 1 *Peromyscus maniculatus osgoodi*. Returned to camp and after breakfast prepared to leave camp for the Headquarters. While at Clearwater station Mr. Holyoke, our guide informs me as follows: (monument area)

Antelope common in valley south & west of Clearwater Springs about 26 years ago but moved out to the west by themselves. mainly in Salt Valley down to the rock

Badger in entire monument where soils permit. Several fresh digging at Firey Furnace today. They are about 1/10 as numerous today as compared to first visit into the area years ago.

Stripped skunk mainly along seeps and wet canyon. Generally associated with squawbush.

Mt. Lion one time common, now rare.

Coyotes occasionally observed. Fresh tracks at Landscape bridge today.

Black fox in area but mainly in red rocks along the rim.

Last wolf killed 1932 near Moab. Were in monument at one time. Use to travel in a circuit and visit some places each time but never returned to old kills. They killed mainly cattle, no buffalo.

Porcupine numerous lately in monument.

Departed Clearwater Springs, and visited the Delicate Arch on way out of the country. At a point east of Clearwater Sp. took color shot of a canyon to the north in color. From cabin trekked up bare rock slope to the east to Delicate Arch ^{el. 4800ft.} Photo (21-4-28-47) and (22-4-28-47) of delicate arch in aniseo color. no (26-4-28-47) and

(27-4-28-47) in black & white of arch and vicinity. From base of Delicate Arch trail trekked S.W. and arrived at balanced rock. Intervening country highly colored and knoll like in vision. at balanced rock took color photo for dad. Also collected a skull of *Conis latrans lesteri*. Antelope squirrel at base of balanced rock. From here trekked south and at entrance to Courthouse Tower Canyon took a black & white of Aliver Smith (28-4-28-47). Continued hence to Headquarters of the monument, hence to Provo. The measurement of the mammals collected are as follows:



27a-4-28-47



27-4-28-47



16-4-25-47

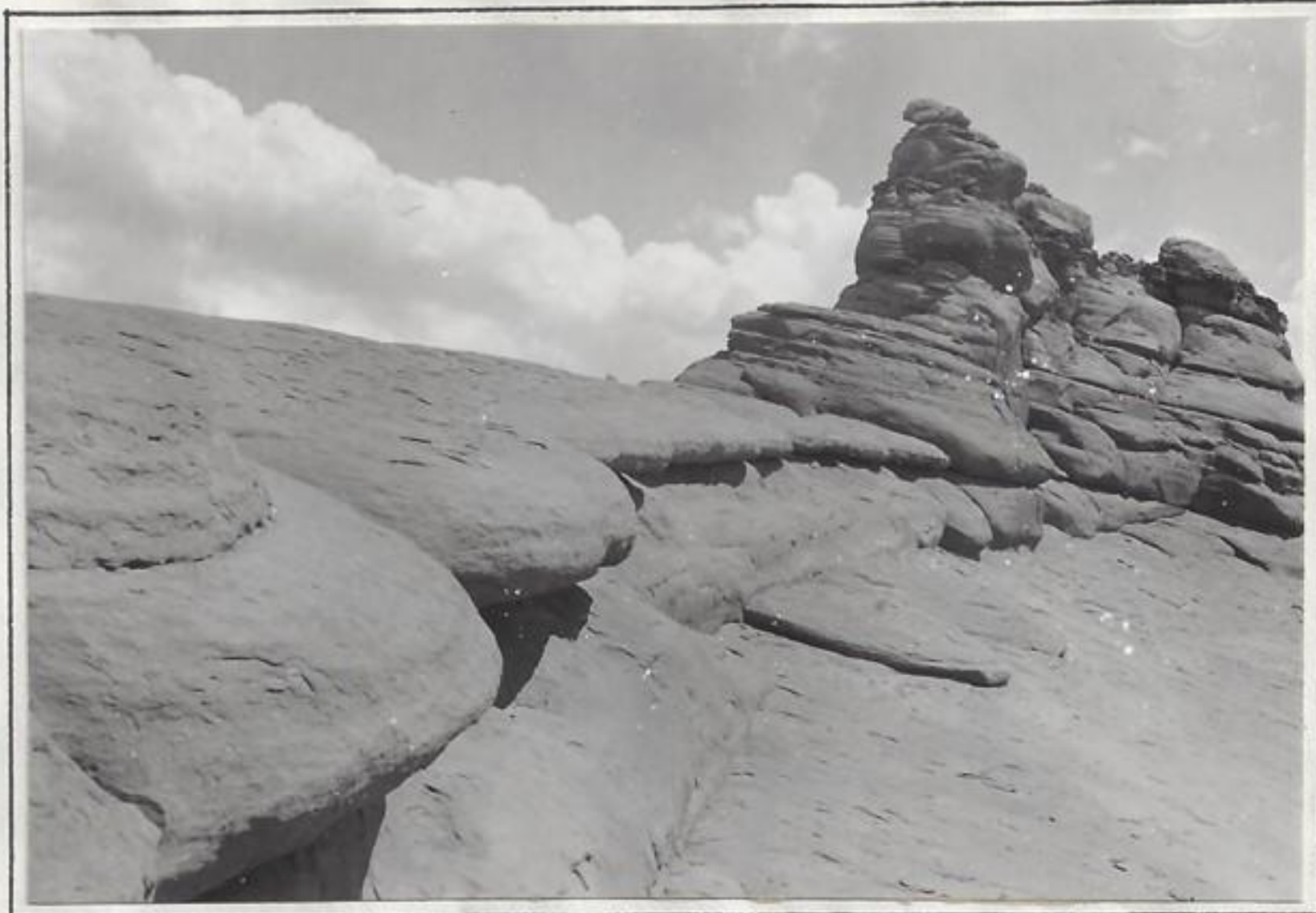








1a-4-25-47

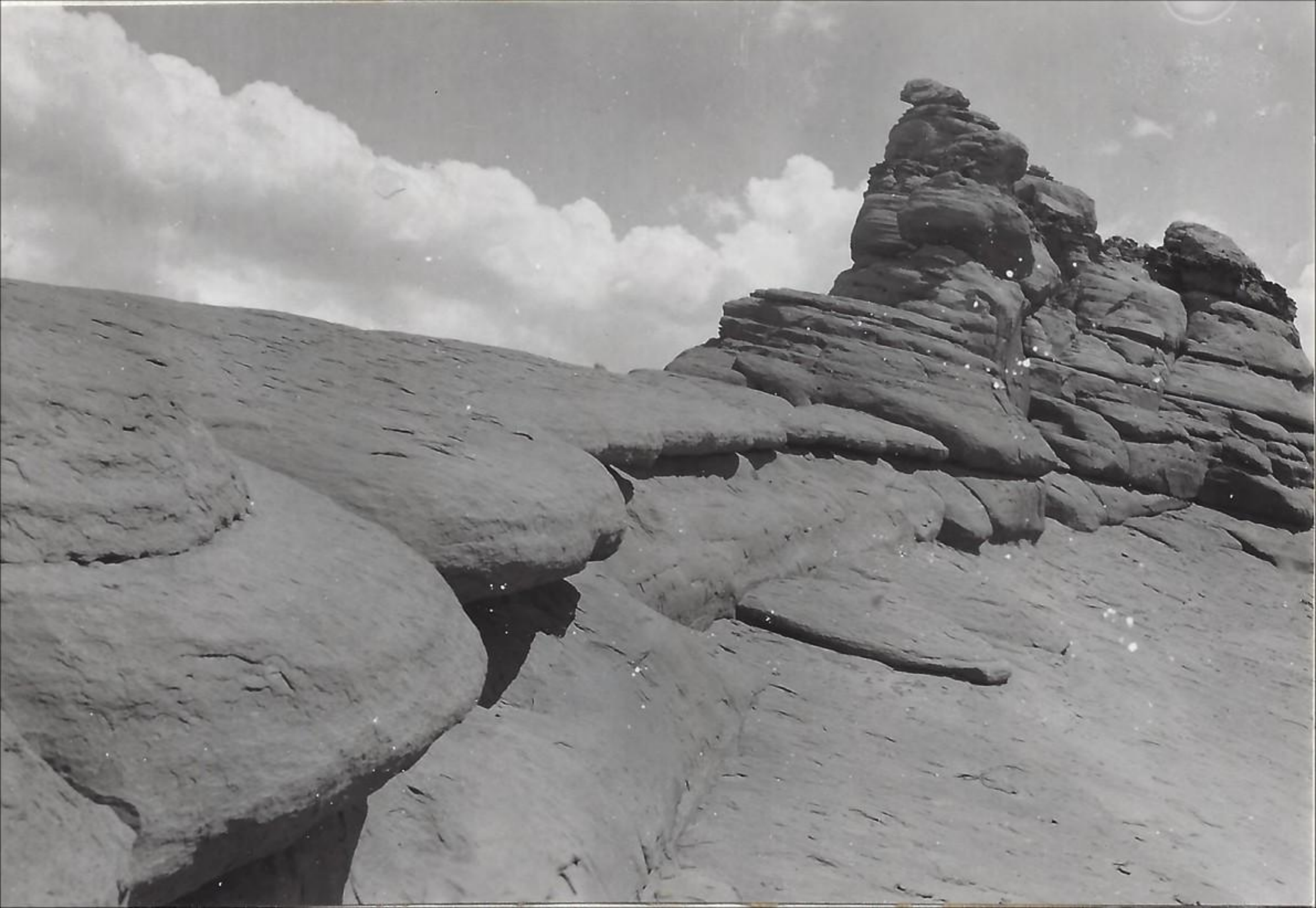


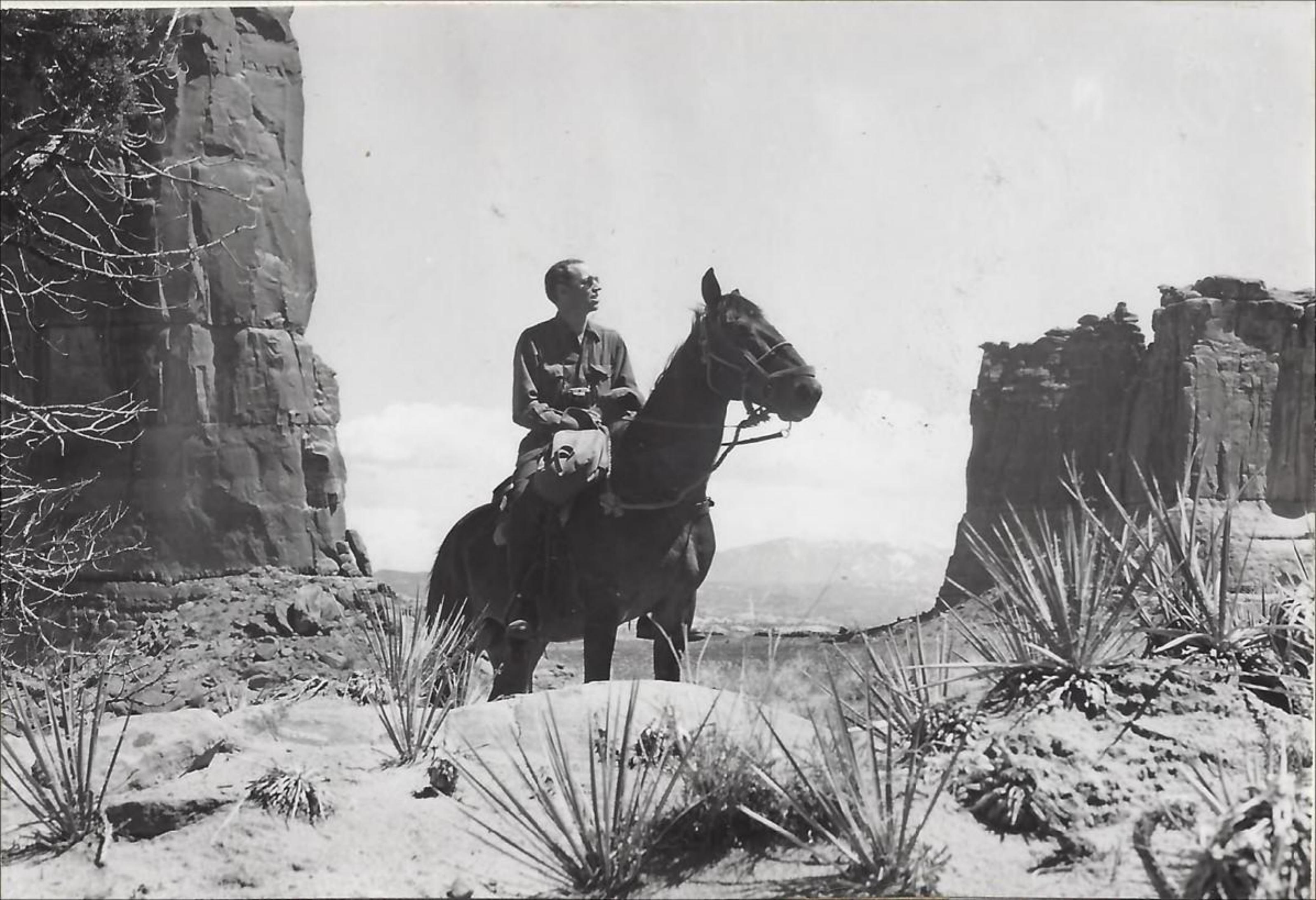
26-4-28-47



28-4-28-47







Species	Sex and wt.	Total Length	Tail	Hind foot	Basal Length	Basilar Length	Length upper tooth row Alveolar	Least interorbital breadth	Orbital-nasal Length	mastoid breadth	Zygomatic breadth	Cranial breadth	Length of nasals	Greatest width bullae	Width of bullae	Depth of bullae	Condylbasal Length	Occipito nasal Length	Diastema	shelf bony plate	Length incisive foramen	Postpalatal Length	Museum no.	Collection Field no.
<i>Canis latrans lestes</i>	♂ 54	345	137	41	169.4	165.4	97	35.2	91.5	58.6	98.0	55.8	13.4	16.1	10.7	13.0	29.6	30.7	8.3	6.8	11.6	78.0	2208	20-V-28-V7
<i>Dipodomys ordii nevadensis</i>	♀ 58	257	146	43	25.9	23.6	5.5	13.3				24.1	13.4	16.1	10.7	13.0	29.6	30.7	8.3	2.4	10.4	10.4	2197	1-V-26-V7
" "	♂ 40	165	46	21	27.3	24.6	5.5	12.7				25.2	14.6	16.7	11.1	13.5	30.4	33.5	8.4		2.5	11.6	2196	2-V-26-V7
<i>Onychomys leucogaster pallens</i>	♂ 56	152	48	21.8		23.2	4.9	5.0				12.5	12.5	11.5			26.6	24.0	7.5	5.9	5.3	10.5	2204	3-V-27-V7
" "	♀ 13	137	70	17	17.2	15.6	3.5	3.3				15.8	12.5	10.8			19	21.1	5.2	3.7	4.7	7.0	2207	2-V-27-V7
<i>Reithrodontomys megalotis megalotis</i>	♂ 56	204	91	31.5	29.0	26.6	5.9	7.6	20.5	14.3	18.7	16.0	10.8	8.7	7.9		31.1	34.0	8.0		2.8	12.8	2200	8-V-26-V7
<i>Eutamias quadrivittatus hepersensis</i>	♂ 50	211	96	31.8	30.0	27.8	5.9	8.1	21.3	15.0	19.5	16.4	10.8	8.8	7.9		33.2	34.9	8.9		2.9	13.4	2198	9-V-26-V7
" "	♀ 55	202	89	32.2	28.8	26.7	5.9	7.5	20.7	14.8	19.0	16.0	10.8	9.0	7.8		31.1	34.2	8.6		2.6	12.4	2199	7-V-26-V7
<i>Peromyscus maniculatus osgoodi</i>	♂ 36	168	82	21.3	21.3	19.7	4.0	4.1		11.0	13.7	11.5	11.5	5.2	4.0		23.4	25.7	7.0	4.0	5.6	9.2	2201	2-V-26-V7
<i>Neotoma lepida monstrialis</i>	♂ 53	204	84	18			7.8	5.0			12.0	15.5	11.7		5.2				7.8	6.4	6.8		2206	4-V-27-V7
<i>Peromyscus truei truei</i>	♀ 26	203	102	23.9	23.6	21.6	4.6	4.6			13.4	12.8	11.4	6.5	5.2		25.8	28.8	7.8	4.1	5.7	10.7	2203	1-V-25-V7
<i>Peromyscus boylii rowleyi</i>	♂ 26	194	108	20	22.5	20.7	4.2	4.5			13.3	13.0	12.0	5.2	4.4		24.4	27.8	7.2	4.1	5.2	10.7	2202	2-V-25-V7

The following recorded with measurements only:

- 6-4-28-V7 ♂ *Dipodomys ordii nevadensis*
- 7-4-28-V7 ♂ "
- 8-4-29-V7 ♀ *Reithrodontomys megalotis megalotis*
- 5-4-27-V7 ♂ *Onychomys leucogaster pallens*
- 3-4-25-V7 ♂ *Peromyscus boylii boylii*
- 9-4-27-V7 ♀ *Peromyscus maniculatus osgoodi*
- 4-4-25-V7 ♀ *Peromyscus* "

Check list of birds and mammals observed
monument limits

470428-35

or recorded from the

Magpie
Bush-tit
W.T. Swift
Brewers Blackbird
House Finch
Rock wren
Canyon wren
D. B. Heron
Raven
Turkey Vulture
Brewers Sparrow
Jay Phoebe
Humming bird (sp)
Trayon Jay
Hawk (?)
Sparrow Hawk
Veep Sparrow
R. Cr. Kinglet

n. Poorwill
Killedeer
R. Cr. Kinglet
Aud. Warbler
Junco (sp)
Mt Blue-bird
Sp Towhee
Desert Sparrow
Lark Sparrow
Mourning Dove
Green-tailed Towhee
D. H. Owl
Antelope
Hopi Chipmunk
Striped Skunk
Badger
Coypole
Gnalcatcher

mt. Lion
Bob cat
Onychomys l. pallidus
Reithrodontomys m. m
Peromyscus truei truei
Peromyscus boylii rowleyi
Peromyscus m. oregoni
Neotoma l. musteloides
Dipodomys ordii refuli
Citellus leucurus. cinnamon
Peromyscus (E. d. epizanthum)
Lepus californicus
Siphilagus
Odocoileus hemionus
Bats
Crematophorus + others.
Horned Lark
Thomomys (?) batlae howelli

Bingham Young University, Utah Co., Utah
April 29, 1947

Records at museum show over 800 specimens to Bingham Young.
Started with collection number 420 and ended with their museum
number 2208.

Wallburg Valley, Wasatch Co., Utah
May 4, 1947

Natives report grass on hillside when first arrivals come into
the valley. Now Artemisia. This applies mainly to east side of
valley and valley floor proper.

Wanroad, Leonard Fork Canyon, Utah Co., Utah
May 4, 1947

Vernon Tipton, student at B.Y.U. in zool. reports a badger at locality
stated.

Provo, Utah County, Utah
June 4, 1947

Photo (1-6-28-47) Annes color of jubee at Graduation (M.A. Degree)
" (2-6-28-47) of Annette, Jay + ju.

Provo, Utah County, Utah
June 28, 1947

Took several black and white of Jay today.

Provo, Utah County, Utah 255 E. 1st So.
July 5, 1947

Photographed progress (retrogression) of work on the bus trailer
no (1-7-5-47) and (2-7-5-47) shows replacement of siding and
other exposed structural features.

Aspen Grove, mt. Timpanogas, Utah Co., Utah

July 18, 1947

Annette and I ascended mt. Timpanogas, leaving Aspen Grove at 7:00 P.M. with full pack for 3 days. Followed main trail. At 2/10 miles up trail from Stewart's cabin at Aspen Grove, collected a rubber boa (1-7-18-47). Another one noted in same general area. Continued up trail, mainly in darkness, arriving at divide into Hidden Valley at head of slope terraces at 7:00 A.M. July 19. Along trail noted 2 porcupines, white crowned sparrows and junco sang at 12:00 and 1:00 A.M. respectively. While setting up tent in Hidden Valley flushed a robin from a spruce tree. Annette's first mt. trip.

Hidden Valley, mt. Timpanogas, Utah Co., Utah

July 19, 1947

Awakened early this A.M. although exhausted from last night hike. 4 Clark Crows at camp. Today we remained in Hidden Valley and investigated the cirques of this valley and the area around Emerald Lake and divide between this lake and American Fork Cirque. Birds in these areas are: 4 crossbills, muskies, white-crowned sparrow, salitavis, bluebirds, leucosticte (divide between Emerald Lake and Am. Fork Cirque), pipits, marmots, thrasher, Citellus armatus, pika, junco, ruby crowned kinglet, broad-tailed hummingbird, robin, swallow (sp), Chipping sparrow, flycatcher (sp?), red-shafted flicker, mt. chickadee, cliff swallow. In the lower Hidden Valley noted a gopher (Thomomys) killed by snow slide. Other gophers and badgers active in area. The flycatcher noted above sang only in the evening. In the evening, ^{at sundown} 305 butterflies (Aglaia Californiae (Boroduvai) California Tortoise-shell) aggregated on one tree at camp. This afternoon took the following color photographs

470719-3 Divide between Emerald Lake and American Fork Cirque. Annette in foreground. It was in the cliffs just beyond where Annette is standing that leucosticte were noted.
470719-4 of Timpanogas glacier with Annette in left foreground. The divide at upper limits of glacial valley will be objective for tomorrow. We will ascend via snow slope to left of divide. Leucosticte + pipits are frequently seen feeding on dead insects on this permanent ice mass.

Photo 470719-5 of Annette at Emerald Lake. There has been some ice movement into lake. Elk Peak in distance.
 Photo 470719-6 of Annette and Hidden Valley Lake with marsh marigolds growing from under the snow.
 Returned to base camp.

Hidden Valley, mt. Timpunogas, Utah Co., Utah
 July 20, 1947

Up at sun up (5:30) and left for divide above glacier at 6:20 A.M. arriving at 9:30 A.M. Photo 470720-1 of Annette at divide. Returned to camp at 10:20 A.M., broke camp and left for Aspen Grove at 12:45, arriving at Aspen Grove at 4:00 P.M. On terraces below Hidden Valley saw way down noted pika, marmots, pepsits & leucosticte.
 Photo 470720-2 of Terrace Falls

mt. Timpunogas, Utah Co., Utah
 Aug. 31, 1947

Trip to top of mt. Timpunogas via American Fork cirque. Mary, Don, Edith, Dove, Annette and myself made trip. Left Ranger Station at Altamont at 4:50 A.M. at 7150 feet elevation (Top Timp approx. 12,000 ft). Daybreak just starting. Along way noted the green-tailed towhee, pine siskin, and crested or Steller jay. Arrived brink of basal cirque at 6:15 A.M. at 8100 ft. Continued across cirque and traversed terraces to brink of upper American Fork Cirque at 9:30 A.M., thence across cirque to W and up ridge to lowest pass. where Ann + I remained while the rest of the party continued ^{via glacier.} From ridge we descend east slope to benchland, thence around up end of cirque into Emerald Lake, thence back to Altamont via American Fork Cirque arriving at 6:00 P.M. Three color photos were taken. nos 470831-1 of group on west ridge. No 470831-5 at Emerald Lake and 470831-7 of Am. Fork Cirque. made the following general observations.

Pika. In usual place but what appeared to be greater numbers than usual. more active in morning than afternoon. All gathering fresh green vegetation. would estimate that there were 2 nests in Badger Flats (first valley beyond Ranger Station); 18 in basal cirque; 9 at base of slide guttering

from the W; 5 along trail across this slide; 4 in rock slide just below upper terrace of main American Fork cirque. No pika across slides on east slope of west ridge but 3 nests placed in trail. One pika worked at 8 feet as we passed by, others worked out beyond rock slide proper. One pika made 4 trips from grazing area to nest in 3 minutes.

Prairie falcon. One flew across Emerald Lake.

Clark's Crow. Two flocks of 21 and 18 flew along ledges E of Emerald Lake. Another flock of approx. 18 fed just north of glass house on top of mt. These birds were widely distributed and probably feeding on insects that collect near tops of peaks. A single bird in floor of American Fork Cirque fed on ground on insects and then would fly to top of a conifer tree until other insects were spotted. There seemed to be a general migration of these birds.

Pipits. At least 20 in singles or small groups in upper part of American Fork Cirque.

Cooper hawk. One flew W across rock slides directly below pyramid peak at head of American Fork Cirque.

Swanson hawk? 2 at upper brink of Am. Fork Cirque and probably nest at rock slide area.

green-tailed towhee. On lower terraces

pine-siskin. several small flocks noted.

white-crown sparrow. mainly on terraces

rock wren. only one noted

porcupine tracks in trail just below brink of Am. Fork Cirque.

Large ground squirrel. 2 noted

Eutamias minimus Causabrunus 3

Eutamias umbrinus 1

Tamiasciurus hudsonicus ventorum 2

Marmota flaviventris. one in upper rock slides in upper rock slide below brink of Am. Fork Cirque; 1 in slide on W side of first cirque.

mule deer 5, one a monstrous buck.

Steller jay. several noted in lower terraces

Nuthatches 2

red-shafted flicker 2

gray-ruffed grouse 1 at brink of basal cirque.

dusky grouse 3 on terraces below main cirque.

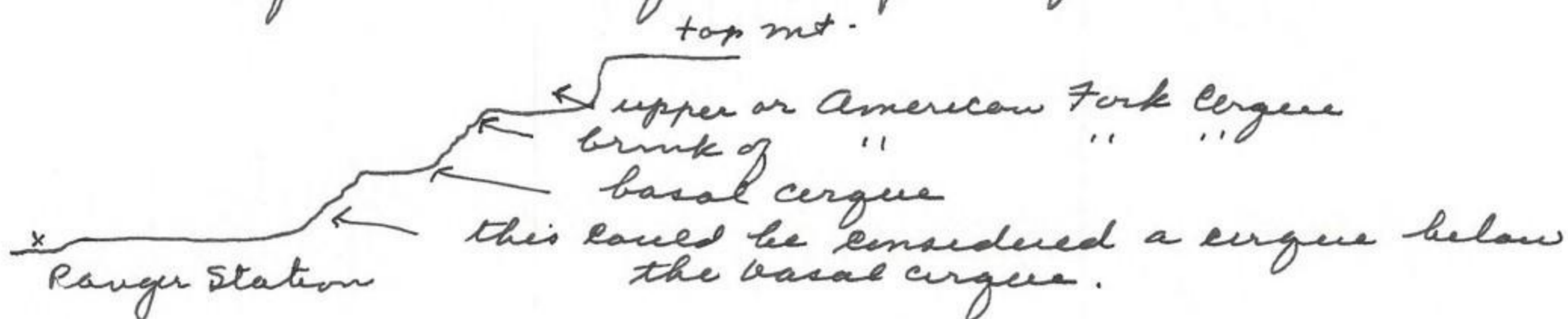
Thomomys . active

Canis latrans . a sheep herder reported on in upper basal cirque .

Flowers . still out and colorful . Vegetation greener and heavier than ever before . Many grasses, especially in the basal cirque .

Badger . Two diggings for Atellus armatus (mainly in lower limits . 5 diggings (fresh) in entire deep observation .

In reference to cirques, they are referred to as follows:



American Fork Cirque, mt. Timpanogas, Utah Co., Utah
Sept 6, 1947

Tropped in rock slide of west part of basal cirque and captured 3 which were sent to Kenneth Duke at Duke Univ.

Provo Canyon, Utah Co., Utah
Sept 14, 1947

A golden eagle flew across the canyon from N to S at Hoover Ranch.

Timpooneke Cirque, mt. Timpanogas, Utah Co., Utah
Sept 28, 1947

Annette and I hiked into Timpooneke Cirque to check on pika. A golden eagle rested in a tree at brink of cirque (lower cirque). One follows up glocated canyon to ^{of steep} head which is the entrance into the cirque. This cirque is isolated and one of the most interesting ones on the mountain. Took several photographs (color):

470928-1 of Annette from Timpooneke cirque looking up the left hand fork of American Fork Canyon.

470928-2 Pinus flexilis. Timpooneke Cirque with granite mt to N.

470928-3 From Timpooneke Cirque toward ~~the~~ thermometer mt on granite range

Photo 470928-4 Annette from Timpooneke Cirque with granite range in background.

Photo 470928-5 Bear Canyon with Timpooneke Cirque in background. This canyon originally carried glaciers from the cirque, now perched to east to Altamont.

Photo 470928-6 Right hand fork of American Fork Canyon. Timpooneke Cirque with Annette in foreground.

Timpanogas, Utah Co., Utah

Oct 1, 1947

Took two several photographs (color) of the east side of Timpe. in fall color

471001-1 -

471001-2 Right hand fork of Am. Fork Canyon from near Altamont.

471001-3 Timpooneke Cirque with Annette in foreground. This is the site of the late fall snowstorm experience.

471001-4 Aspen Grove

471001-5 Stewart's Flat

471001-6 Stewart's Flat and cirques beyond.

471001-7 -

471001-8 Provo Canyon

noted a gray-ruffed grouse at Stewart's Flat, near creek.

White Canyon, N Saedier Summit, Wasatch Co., Utah

Oct 18, 1947

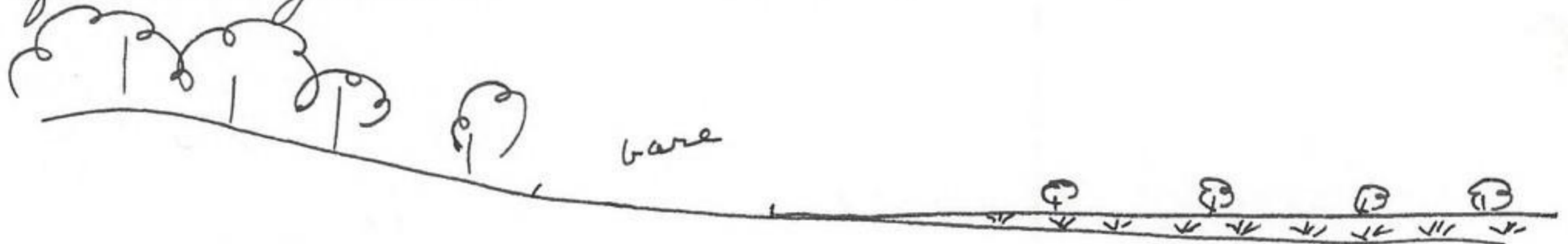
Observation on deer hunt. Camped near Indian Springs. On the first day of deer hunting noted 2 single does and 1 group of four, one buck. On second day noted 5 does, 2 does, 4 does, 2 does. Badger very active and one sidehill almost completely excavated (300 diggings and approx 5 feet apart, mainly superficial). Clark's Crows more numerous than usual, always a few in evidence throughout the day. One golden eagle on top of the high conspicuous knoll. *Eutamias umbrinus* mainly in dense forest. *Eutamias amoenus* in open situations. 3 ruffed grouse, several Steller's jays, many juncos, nuthatches, robins, several flocks of western evening grosbeaks, pine siskins, Cooper's hawk, finches, chickadees, no rocky mt jays, beaver with several trees down + upper-branches taken only and in rafts in ponds.

Photo 47-1019-1 4 mi. N Saedier Summit in hunting area (taken on October 19, 1947).

1 mi. SE Haskell Institute, ^{Lawrence} Douglas Co., Kansas

Dec. 12, 1947

Set series of museum special traps in damp meadow on property of Mr Clapp. The terrain is a broad river valley of the Wakarusa, bordering low rolling hills. The river valley is periodically inundated by heavy rains. In this area of approx 70% cultivation established research area A-12-12-47. Used 136 traps. nos 1 to 95 in swamp grasses, seldom grazed or never plowed. nos 96 to 120 along a fence across the marshy area and influenced by supersaturated water on all sides. Nos 121-123 at base of cottonwood tree by the marsh. nos 124, 125 in rose patch; nos 126-130 along vegetation of a permanent spring; and finally nos 131-136 along base of osage-orange fence line. Traps 10 feet apart. The general area is 5 acres of the low grasses with occasional bush.



Area bordered by corn field on two sides, a canal and hill slope on the other side. To my knowledge this marsh has never been used for cultivation but is influenced by floods.

Completed trap line at 4:10 P.M. and at 4:20 returned to first trap and rechecked the line.

Trap 10 *Scymnodon hispidus* *Tepanus* 1-12-12-47

" " " " 2-12-12-47

78 trap sprung

near trap 104 collected a *Peromyscus* nest 3-11-12-47 beneath a 2x2 plank along the side of a fence. One *Sceloporus* v. no 4-11-12-47 from a tree nest of sticks in an isolated osage orange tree. Nest of dry grass superimposed on a structure of dry sticks. Upon being provoked with a long stick left the nest and climbed out onto a limb.

Inspected research A-12-12-47 again at 4:55 P.M. as follows:

Trap 7, 8, sprung

Trap 11 *Scymnodon hispidus* - released

12 sprung

59 *Scymnodon hispidus* 5-12-12-47. The trap that held this

animal was placed on ice between bunches of grasses.

Trap 77, 78 sprung

" 79 bait gone

" 83 *Sigmodon hispidus* 5a-12-12-47.

Inspected research area A-12-12-47 again at 8:30 P.M.

Trap 10 *Sigmodon hispidus* 6-12-12-47

" 12 " " 7-12-12-47

" 59, 61 sprung

" 78 *Sigmodon hispidus* 8-12-12-47

" 79 " " 9-12-12-47

" 81 sprung, bait gone

" 83 *Sigmodon hispidus* 10-12-12-47

" 91 sprung

" 104 *Peromyscus* 11-12-12-47

" 121 " 12-12-12-47

Temperature at 8:30 P.M. = 25°F

1 mi. SE Haskell Institution, Lawrence, Douglas Co., Kansas

Dec 13, 1947

Enroute to Haskell bottoms of the previous day trap setting inspected research area A-12-12-47:

Trap 2 *Peromyscus* 1-12-13-47

" 36 " 2-12-13-47

" 40, 58 sprung

" 59 sprung, tail of *Sigmodon* in trap.

" 78 " " " " " "

" 79 " " " " " "

" 108 sprung

" 121 *Peromyscus* 3-12-13-47

" 122 sprung, bait gone

" 125 bird feathers

" 134 sprung, bait gone

according to Mr. Clap, he has never seen so many meadow mice (probably *Sigmodon*) as during this fall's wheat cutting. The remaining day was spent on property adjacent to The University Farm N + E of municipal airport. At this place collected a *Neotoma floridana osogensis* 4-12-13-47 and its nest from a brush pile created by trimming from recently cut trees. A second nest and *Neotoma* 5-12-13-47 from 150 feet of the above nest. The animal left the nest and ran to a knot hole in an elm tree where it remained until dislodged. There were

and Sigmodon from 1 mi SE Haswell Institute (includes yesterday's collection)

- well beaten pathway. These neotoma measured:
- 1-12-¹²~~12~~-47 Sigmodon lepidus tepanus 260-114-32-19 ♂ skull only
 - 2-12-¹²~~12~~-47 " " " 223-90-30-18 ♂ " "
 - 3-12-12-47 Peromyscus # #
 - 4-12-12-47 Didelphis virginianus.
 - 5-12-12-47 Sigmodon lepidus tepanus 213-91-29-15 ♀ skull only
 - 6-12-17-47 " " " 218-96-30-15 ♂ " "
 - 7-12-12-47 " " " foot gone 28-15, tail gone ♀ sk. only
 - 8-12-12-47 " " " 200-82-28-16 ♀ skull only
 - 9-12-12-47 " " " 208-86-30-16 ♀ " "
 - 10-12-12-47 " " " 220-91-30-16 ♂ " "
 - 11-12-12-47 Peromyscus (immature) 119-50-18-13 ♂ " "
 - 12-12-12-47 " " 165-76-22.5-16 ♂ " "
 - 1-12-13-47 Peromyscus 118-50-18-12-♀ skull only
 - 2-12-13-47 " " 141-54-19-18-♂ " "
 - 3-12-13-47 " (immature) 132-60-20-13 ♂ " "
 - 4-12-13-47 Neotoma floridanus osageus 372-172-40.5-26 ♂ skull only, testis 16mm
 - 5-12-13-47 " " " 373-175-40.5-25 ♂ sk. only
 - 6-12-13-47 Sigmodon lepidus tepanus 242-106-30.5-17 ♂ skull only.

Birds observed in the Haswell Bottoms S of Haswell Institute,

- Buteo calurus
- Sturnella magna
- Junco hyemalis
- Melospiza melodia
- Cercus hudsonius
- Richmondia cardinalis
- Turdus migratorius
- Passer domesticus.

Lawrence, Douglas Co., Kansas

Dec. 18, 1947

Trip to mena, Arkansas. Left 6:00 P.M. and drove to Carthage via highway 71. Enroute noted 4 Sylvilagus floridanus cross road. These 4 rabbits were evenly distributed between the two above points.

Carthage, Missouri

Dec. 19, 1947

Left Carthage 7:00 A.M., mileage 16207. Extensive oak beginning at diamond and continuing to the south. 4 Corvus b. between diamond and necho.

Sylvilagus floridanus road kill at 16230 mileage. Four *Corvus* eating these mammals. no evidence of *Geomys*.
 3 *Corvus* at Camp Chauder. *Sylvilagus* at 16237 mileage.
 Dead leaves on most of the oak trees. Mileage at Anderson
 16247. Passed by overhanging ledge at 16255. Elk River 16256
 miles. Best overhanging ledge at this point. Coniferous element
 present but sparse. Considerable bird life along river.
 This is the best area for collecting of mammals and birds that
 I have seen so far. Gosette 16267 mileage. at 16268 noted
 a *Falco sparverius*, *Copetes*, *Turdus migratorius*, *Oryzopsis vociferans*,
Passer domesticus and *Sturnella magna*. Interesting
 mound topography 1/2 miles south Bentonville, giving the
 impression of a glaciated region. One *Cyanocitta cresta*
 at Bentonville. at 16298 mileage collected one *Lepus*
californicus melanotis 1-12-19-47 in road and associated
 with 50% farmland and oak patches. Undulating topography,
 soils shallow. This area is 2 miles north of Washington Co
 line on route 71. at 16307 collected a *Sylvilagus floridanus*
 2-12-19-47 from highway and associated with 95% cultivated
 fields and farm houses. Approx 4 mi north of Fayetteville.
 Fayetteville 16311 mileage. 2 *Zenaidura macroura* on
 outskirts of town. mistletoe beginning at 16320 mileage
 at 16332 collected an opossum (3-12-19-47) from highway
 associated with hills and valleys with hills covered with
 oak and other deciduous trees. Snow covering ground in
 protected spots. Area generally populated with houses. at
 mileage 16347 noted a *Sylvilagus floridanus* at edge of valley
 bordered by high plateau. 16348 mileage at mountainburg.
 16355 junipers 50% of vegetation. 16364 *Corvus brachyrhynchus*.
 16368 Van Buren with magnolia trees as an ^{ornamental} tree.
 16406 *Sylvilagus* in road. 16410 mileage extensive *Pinus*
 for first time. *Sialia sialia* associated with these pines.
 at 16418 mileage, six *Corvus* b. Arrived Mena, Arkansas
 at 12:30 P.M, mileage 16458. The rest of the day was spent on
 location at Rocky, Arkansas 11 miles west of Mena, characterized
 by a predominance of yellow pine in a hilly setting. Several
 mountain ranges are one or two thousand feet above the
 lower valley zones and while there may not be any
 similarities, the topography suggests an aggraded valley
 between mountain ranges and valleys. According to Frank
 Colvert, of Rocky, the following trees are in this region.

Red oak, white oak, post oak, black oak, pin, sweet and black gum, birch, ash, beech oak, spotted oak, Chinquapin oak, burr oak, bamboo briar, red nose briar, hackberry, black hickory, big bud hickory, white hickory, persimmon, sassafras, holly, red bud, sycamore, red elm, cedar elm, cedar, pine. The sage or broom grass is native and covers most of the unused ground. It is a striking feature of the landscape and is an important dominant because of its uncompatibility as a food for stock. The area suggests a chaparral biome of the western states, being dry and coarse, regardless of the luxurious appearance. I would not at all be surprised to find it as a chaparral equivalent. Cultivated areas have been created at the expense of the stands of pine, oak and hickory and when left or abandoned revert to impenetrable briars and shrubs, but gradually changing into pine forests. Spanish moss and ground cover suggests a more southern or tropical climate. It would appear that tularemia is associated with yellow pine-oak association. At 3:30 P.M. set 157 museum traps in research area 4-12-19-47. These traps were set in the following communities.

Traps 1-25 in permanent damp grass meadows supported with spruce. Surrounding areas of pine, oak and cultivated fields.

Traps 26-30 in a barn full of hay.

Traps 31-42 similar to first group except tall willow and shrubs present.

Traps 43-47 around field haystack.

Traps 48-75 Deciduous forest of oak, hickory and yellow pine. Soils supersaturated and many fallen logs.

Traps 48-110 Damp native grass meadow with few orange trees.

Trap 111. At base of apple tree.

Trap 112-130 Damp position with dense undershrubs adjoining.

Traps 130-150 Native grass meadow, temporarily saturated with winter drainage.

Traps 150-157 Similar to above but with tall dead trees interspersed, all traps 20 feet apart. At setting of traps noted 200 robins (between traps 112-130) settling for the night at twilight. While watching these robins, a Cooper hawk struck a robin in the top of a tree but lost control after about 20 feet. The hawk

then dropped down thru the osage orange trees and flushed the entire 200 robins. One robin was struck on the ground. The robins, however, remained in the area. One *Sylvilagus floridanus* was 50 feet from the trapping area. After setting traps returned to mena and measured the following mammals:

- 1-12-19-47 *Lepus californicus melanotis* 523-70-121-111-♀
 2-12-19-47 *Sylvilagus floridanus* 462-45-95-6-♀ Heavily infected with several species of fleas, 12 in number.
 3-12-19-47 *Didelphis virginianus* 705-321-60-50 ♂. no ectoparasites present.

mena, Polk Co., Arkansas

Dec. 20, 1947

11 miles west of mena near Rocky. This A.M. inspected research area 4-12-19-47. Enroute from mena observed 5 *Lanius borealis* (sp.?) overaging 1 per 2 miles. Grasshoppers active. Results of trapline as follows:

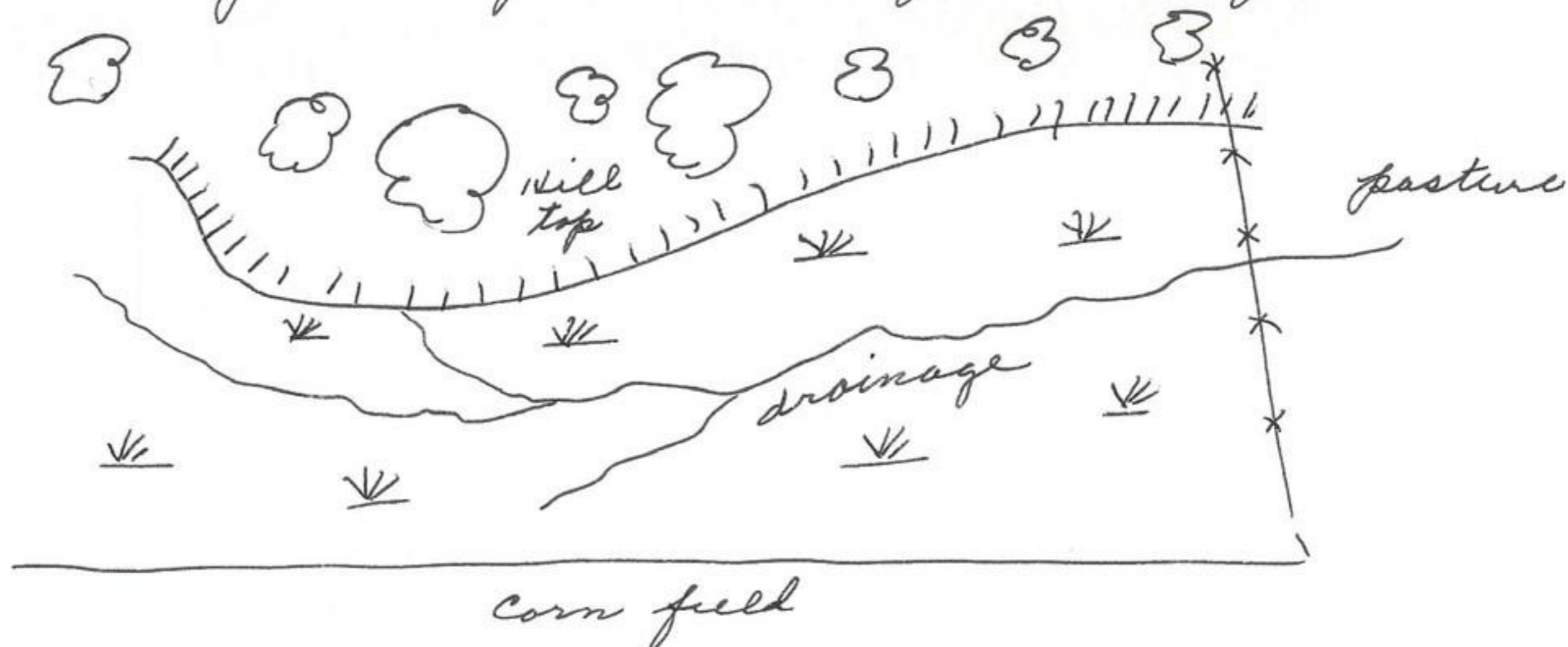
- Trap 2 *Spizella arborea* no. 40-12-20-47
 " 3 *Oryzomys palustris* 3-12-20-47
 " 4 *Reithrodontomys* 4-12-20-47
 " 5 " " 5-12-20-47
 " 12 bait gone, trap sprung.
 " 15 " " " "
 " 18 foot of *Signodon hispidus*
 " 152 sprung, bait gone
 " 156 " " "

Traps set 20 feet apart and those not indicated above were not touched or (unaffected)

During the morning collected one *Scotia scotia* no 1-12-20-47 and one *Thyrothorus ludovicianus* 2-12-20-47. In the afternoon concluded above trapline and established research area no. 6-12-20-47 in swamp at the residence of Mr. Frank Colvert at Rocky, Arkansas some 2 miles from the previous days operation. This area is approx 1 acre in extent and is governed by a small spring that keeps the field under perpetual dampness. It is influenced by flood waters. Cultivation completely surrounds this field. Native broom grass is dominant. Set traps 20 feet apart.

- 1-45 native grass approx 2 feet high, soils damp but not wet.
 46-70 supersaturated soils with grasses 1 foot high.

Practically all the field is with grasses with green bases.



Reset traps in research area 5-12-19-47 in a different alignment consisting of traps 71-153 and mainly in runways. In the evening returned to base station. Enroute collected one ♂ *Sylvilagus floridanus* 7-12-20-47 along side of road some 5 miles south of Mena. Observed one *Mephitis mesomelas* near an abandoned barn 4 miles S.W. of Mena on highway to Rocky from Mena. After supper returned to trap line and rechecked at 8:45 P.M. concluding at 10:00 P.M. Full moon, sky clear & cold.

Trap 4 *Signadon hispidus* 8-12-20-47
 " 5 *Reithrodontomys* 9-12-20-47
 " 9 Sprung
 " 18 *Reithrodontomys* 20-12-20-47
 Returned to base camp at Mena.

Mena, Polk Co., Arkansas

Dec. 21, 1947

This A.M. checked traps at Rocky. From research area 6-12-20-47:

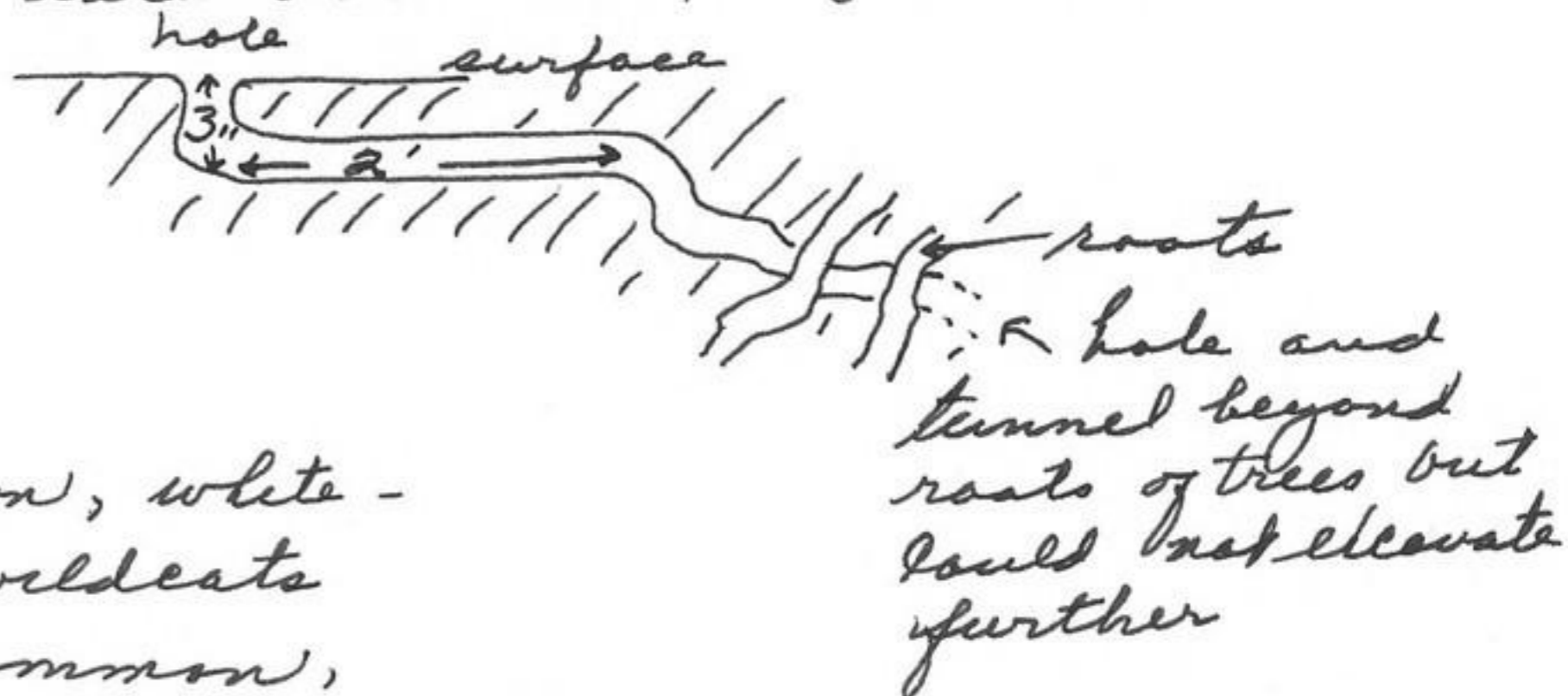
Trap 12 *Reithrodontomys* 1-12-21-47
 " 18 " tail only
 " 20 *Signadon* 2-12-21-47
 " 26 *Reithrodontomys* 3-12-21-47
 " 30 " 4-12-21-47
 " 59 *Melospiza melodia* 5-12-21-47
 " 60 *Signadon hispidus* 6-12-21-47
 " 61 " " 7-12-21-47

Photo 8-12-21-47 of research area 6-12-20-47 at Frank Calbert's Ranch.

Inspected research area 5-12-19-47 as follows:

- Trap 77 *Melospiza melodia* 5-12-21-47
 " 84 " *georgiana* 9-12-21-47
 " 104 *Reithrodontomys* 10-12-21-47
 " 122 few hairs
 " 126 *Reithrodontomys*, tail only.
 " 127 *Zonotrichia albicollis* 11-12-21-47
 " 138 *Pitymys nemoralis* 12-12-21-47

The *Pitymys* was from a well established runway of the size of the *Pitymys*. The top of the runway was at ground level with the top mostly protected by leaves. The trail led to a hole 12 feet away. The hole was 3 feet higher than the water saturated soils and was placed among briars and trees. The hole was as follows:



Mr. Frank Colbert of Rocky (10.3 miles from mesa) reports:

Black bear uncommon, white-tail deer common, wildcats fox (grey & red) are common, raccoon, opossum common. Foxes increased from 10 years ago. *Microtus* nests in fields rare last 2 years, greatest number 10 years ago, their nests then overabundant 2-5 per acre. moles occasionally come into gardens. One hunter at Rocky killed 105 black bears in the last 50 years. *Pitymys* have nests in trees up to 5 feet from the ground and are made of dry grasses.

In the afternoon went to Hatfield to set traps. Picture 13-12-21-47 along river at Hatfield. One *Sylvilagus floridanus* 2 miles north of Hatfield and one 4 miles north of Hatfield. Established three research areas 3 miles west of Hatfield: consisting of no. 14-12-21-47 in an area of supersaturated and permanent springs. The largest field of native grasses and the smaller field of dense undergrowth and heterogeneous assemblages of grasses.

Traps 1-100

Research area 15-12-21-47 along railroad rightofway 2 miles north of Hatfield. Typical rank growth of native grass on supersaturated soils. Traps 101-150

Research area 16-12-21-47 along an abandoned trail paralleling growth along a fence. Sails wet and saturated. Traps 131-150. Inspection of the above at 9:00 P.M. 00;
 Research area 14-12-21-48 one *Melospiza melodia* 17-12-21-48 and one *Peromyscus* 20-12-21-47. All other traps unaffected and in an area I had judged to be the most favorable.
 From research area 15-12-21-47 negative except for;
 Trap 103 *Reithrodontomys* 18-12-21-47.

" 106 " 19-12-21-47

" 130 " 21-12-21-47

While checking first trapline noted a *Euphagus carolinus* running thru the grass like a mouse. Placed the flashlight beam on the bird at 2 feet but it did not move. Nor did it attempt to fly, except when captured by hand and placed in a cloth bag. When finally released it flew directly upward for 20 feet and then angled off to the horizontal. Several other birds of the size of sparrows left the same area. This will conclude trapping for this area in Arkansas. Returned to mena and made the following preparations and measurements of the specimens collected the last 2 days:

32-12-21-47	<i>Euphagus carolinus</i> ♂	examined for ectoparasites
11-12-21-47	<i>Scalia scalia</i> ♂	examined for parasites only.
2-12-21-47	<i>Thryothorus ludovicianus</i> ♂	parasites only.
31-12-21-47	<i>Troglodytes aedon</i> ♂	" "
11-12-21-47	<i>Zonotrichia albicollis</i> ♂	" "
1-12-19-47	<i>Melospiza melodia</i> ♂	" "
17-12-21-47	" " ♂	" "
9-12-21-47	" <i>georgiana</i> ♀	" "
5-12-21-47	" " ♂	" "
1-12-22-47	<i>Sylvilagus floridanus</i> ♀	398-35-95-60 meas. only
6-12-21-47	<i>Segmodon hispidus</i> ♂	178-85-28-15 ♂ skull only
12-12-20-47	" "	191-80-26.5-16 ♀ 32 gms. sk on.
3-12-21-47	<i>Reithrodontomys</i> ♂	142-70-19.5-11.5-9 gms sk. only
20-12-20-47	" ♂	174-99-21.3-15-13 gms " "
16-12-20-47	" ♀	128-65-18-12-6 gms " "
1-12-21-47	" ♂	146-76-21-14-9 gms " "
18-12-21-47	" ♂	156-89-21-10 gms " "
19-12-21-47	" ♂	150-81-20-13-11 gms " "
21-12-21-47	" ♂	146-80-19.5-10 gms " "
10-12-21-47	" ♂	149-77-20-14-11 gms meas. only

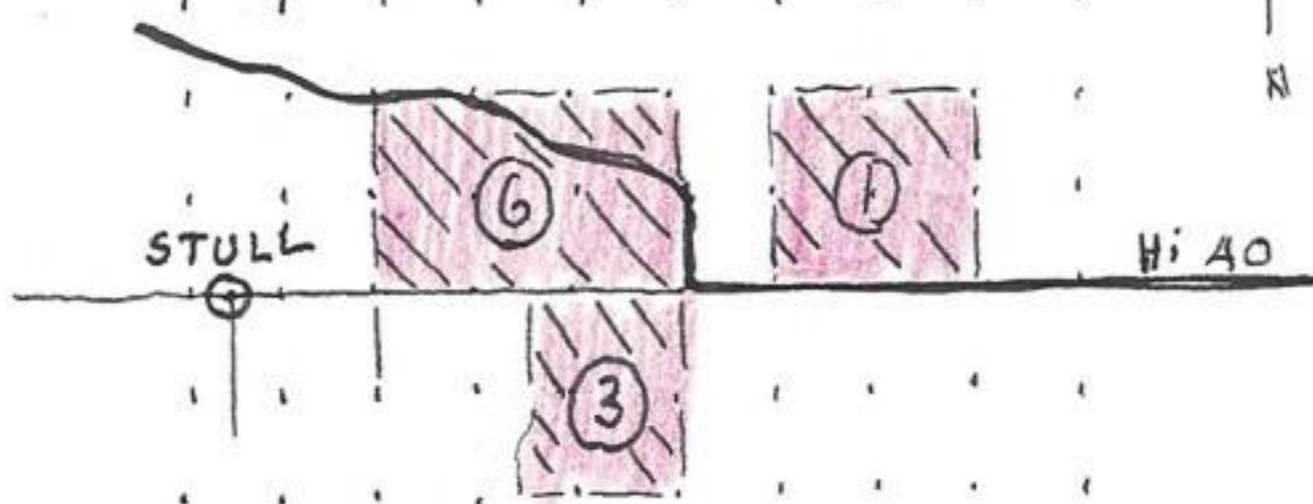
7-12-21-47	<i>Geomys hispidus</i>	♀	231-96-29.5-17-71	skull only
11-12-20-47	"	♂	208-90-28-16-49gms	" "
4-12-20-47	<i>Reithrodontomys</i>	♂	150-80-20-14-10gms	" "
9-12-20-47	"	♂	165-85-19.5-14-14gms	" "
19-12-20-47	<i>Geomys hispidus</i>	♂	193-84-27-15-42gms	" "
5-12-20-47	<i>Reithrodontomys</i>	♂	150-80-20-14-10gms	" "
10-12-20-47	<i>Geomys hispidus</i>	♂	200-86-28-16-46gms	" "
8-12-20-47	"	♀	190-80-27-15-41gms	" "
7-12-20-47	<i>Sylvilagus floridanus</i>	♂	345-40-88-60-	skull only.

Departed mena for Lawrence at 7:45 P.M. mileage 16653.
 Collected *Sylvilagus floridanus* 1-12-22-47 at mileage 16699
 associated with yellow pine and hilly country. at 16721
 miles a *Sylvilagus floridanus* road kill. at 16853 miles
 crossed Elk River. *Podilymbus podiceps* here. Arrived
 Lawrence 5:00 P.M., mileage 17085.

Stull, Douglas Co., Kansas

Dec. 23, 1947

Local farmers conducted a coyote drive this A.M. in the
 area indicated in red. area between dots are square mile.
 6 sq miles = 6 coyotes; 4 sq miles = 1; 3 sq. mile = 3. or 10 coyotes
 per 13 square miles
 or .77 coyote per
 sq. mile.

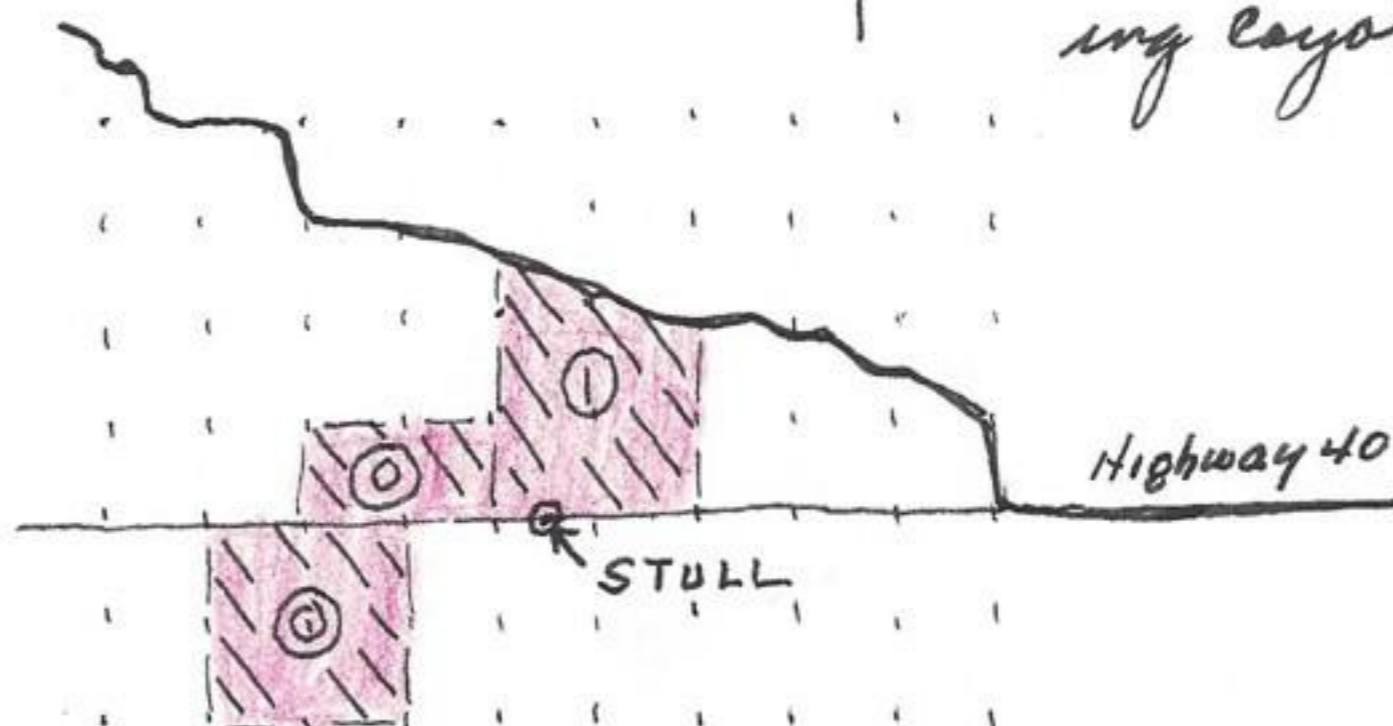


(see next page of measure-
 ments of the above 10
 coyotes).

Stull, Douglas Co., Kansas

Dec 27, 1947

Local farmers
 conducted the follow-
 ing coyote drive.



5 sq miles = 1 coyote; 2 sq miles = 0; 4 sq miles = 0. or 1 coyote
 in 11 square miles or .09 coyote per square mile.

Stull, Douglas Co., Kansas

Dec 23, 1947 (continued from previous page)

The following coyotes were from the drive this date and are listed as 8 miles W of Lawrence.

1-12-23-47 ♀	<i>Canis latrans latrans</i>	1140-340-191-108	skull only
2-12-23-47 ♂	" " "	1192-320-198-106	" "
3-12-23-47 ♀	" " "	1190-350-200-105	" "
4-12-23-47 ♂	" " "	1223-360-209-104	" "
5-12-23-47 ♀	" " "	1140-335-191-116	" "
6-12-23-47 ♀	" " "	1190-350-196-102	" "
7-12-23-47 ♂	" " "	1230-340-205-111	" "
8-12-23-47 ♂	" " "	1230-350-193-112	" "
9-12-23-47 ♂	" " "	1260-370-212-120	" "
10-12-23-47 ♂	" " "	1240-368-210-113	" "

10 miles E Topeka, Jefferson Co., Kansas

Dec. 28, 1947

Trapped the following *Geomys* -

1-12-28-47 ♂	<i>Geomys</i> ^b <i>mayusculus</i>	measurements only
1a-12-28-48 ♂	" " "	"
2-12-28-48 ♀	" " "	"
3-12-28-48 ♂	" " "	"
4-12-28-47 ♂	" " "	"
5-12-28-47 ♂	" " "	"
6-12-28-47 ♀	" " "	"
7-12-28-47 ♀	" " "	"
8-12-28-47 ♂	" " "	"
9-12-28-47 ♀	" " "	"

The mammals were used only for ectoparasites and tissue samples. One series of mounds of the field from which the above mammals were taken, extended 230 linear feet. One individual mound measured 1 3/4 feet x 5 feet, flat on top with sides at gravitational repose. Two gophers digging and thrusting dirt at sundown. Estimated 40 gophers in a field 1800 feet x 400 ft. All other fields between Lawrence & Topeka on highway 40 and 10, contained only 8 other *Geomys*. Set traps in 2 mole runways but without success.

10 miles W Topeka, Shawnee Co., Kansas

Dec 28, 1947

Collected 5 *nestoma* from hedge rows as follows:

- 9a-12-28-47 ♂ *Neotoma floridana osagensis* For ectoparasite & tissue sample.
- 10-12-28-47 ♀ " " " " "
- 11-12-28-47 ♀ " " " " "
- 12-12-28-47 ♂ " " " " "
- 13-12-28-47 ♂ " " " " "

The nests from which these neotoma were taken, were in an osage-orange hedge row and placed from 5 to 6 feet high. Pairs of nests from 30-150 feet apart. Generally the mammal leaves without much disturbance of the nest but one ^{particular animal} would no leave until nest was almost completely dismantled. Collected a *Sylvilagus floridanus* ^{mearnsi} ♀ in this area and was given no. 14-12-28-47. *Spizella arborea* dominant bird in field.

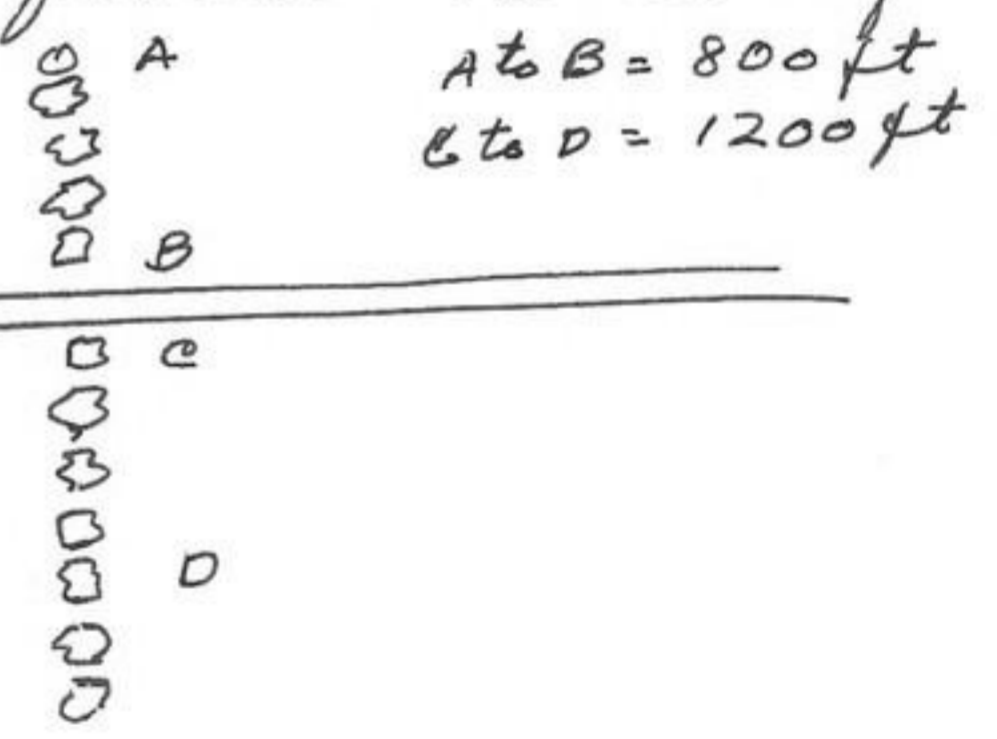
Eskridge, Waubesa Co., Kansas

Dec 26, 1947

- Collected 3 neotoma from osage orange fence hedge.
- 15-12-28-47 ♂ *neotoma floridana* ^{osagensis} ~~mallard~~ For ecto & tissue sample.
 - 16-12-28-47 ♂ " " " " "
 - 17-12-28-47 ♀ " " " " "

18-12-28-47 nest material of *Neotoma floridana* (no. 17-12-28-47)

One third of the nests of *Neotoma* were occupied and the nests ranged from ground nests to tree nests 10 feet above the level of the ground. Nests in line A-B of 800 feet were 10 in number. nest in C-D line of 1200 feet were 18 in number. all were in osage orange trees.



At one mile of Eskridge noted a *Buteo borealis*.

10 miles W Topeka, Shawnee Co., Kansas

Dec. 29, 1947

Collected 5 neotoma from osage orange hedge rows bordering the Kaw River. These hedge rows are confluent with the deciduous elements of the river valley. One neotoma no. 1-12-29-47 from osage orange hedge paralleling and immediately adjacent to secondary county road. General area of cultivated fields. The nests ^{of the above neotoma} were composed of various sized dry sticks and other miscellaneous material commonly available in the immediate surroundings and placed upon the ground at the

base of one of the individual tree trunks. There was no ground escape. Upon being provoked by shaking the nest (sticks) it left and climbed to the upper branches of the tree where it remained motionless until shot. Thirty feet beyond on some fence row another ground nest was built upon the foundation of an osage orange refuge pile of dry tree trunks and cut branches. Subterranean burrows provided an easy escape when the superstructure was agitated. This neotoma, however, came to the edge of the pile of sticks before escaping. This nest was characterized by a bushel of old corn cobs and were generally distributed throughout the mass of sticks. In addition to the nearness of the County road to the nest, there was a rock-crusher in full operation only 200 feet away. Examined another hedge row in this same area extending $\frac{1}{3}$ of a mile in length and it produced 5 recently used ground nests (a nest of neotoma refers to the entire structure including the nest proper). These nests held from $\frac{1}{2}$ to ~~3~~ bushels of construction material to one nest $3\frac{1}{2}$ feet high and 5 feet in diameter at base. These nests were in trees and on the ground in an active erosional gully where recent rains produced debris 1 foot high above the base of the osage orange trees in the gully. These gullies supplied rocks in the channel which provided space for escape from the ground nests, but obviously not useable in time of running water in the gully. In other words these animals did not have instinctive knowledge of what was ahead of them in periods of rains. Collected one of the inner fiber nest cup of Neotoma 2-12-29-47 for ectoparasites. This inner nest was directly on the ground which was damp to the touch (the ground) and centrally placed in the ^{super} house structure. Along this same hedge row dislodged a family of Peromyscus leucopus from a hollow log 20 feet beyond trees. The family of mice ran across this intervening space, one at a time, and all climbed up into the osage orange trees to a height of an average of 4 feet. They remained motionless ^{in the trees} until disturbed. One crossed from one tree to another along a barb wire fence that joined the two trees. As far as I could tell, the group consisted of 3 adults and three subadults. Collected the nest of the Peromyscus 3-12-29-47 and one of the Peromyscus 4-12-29-47. This nest was unusually colored with the red feathers of *Pipilo maculosa*

cardinalis. The last orange-fence row contained seven occupied nests in 250 linear feet; 2 ground, one unused (ground) and 4 large tree nests.

One nest was 2 feet elevation above the ground to 8 feet above the ground (top of nest) and contained 8 bushels of dry sticks and trash (common material in the area). Throughout this assemblage of sticks were 6 platforms situated on the periphery of the nest. One platform was nearly always about 1 foot from the base of the nest. These platforms are probably used as feeding stations as orange fruit fragments and bark of limbs constituted the floor surface. One nest had the main tree trunk that supported the nest girdled of its bark at the level of one of these feeding platforms. Such a reaction could be important in the ecology of the woodrat. Every nest had a ball of dried leaves (not the nest proper) as a possible food storage. Four specimens of *Neotoma* were taken in 20 minutes from this area of high population of *Neotoma*. They are:

5-12-29-47	♂	<i>Neotoma floridana osageensis</i>	For parasites & tissue only
6-12-29-47	♀	"	"
7-12-29-47	♀	"	"
9-12-29-47	♂	"	"

Nest no 8-12-29-47 from house occupied by *Neotoma* number 7-12-9-47, a ♀.

Lake Shawnee, Shawnee Co., Topeka

Dec. 30, 1947

This morning, observed the following birds, ^{and mammals} on Lake Shawnee and adjoining parkland.

64	<i>Mergus merganser americanus</i>
4	<i>Tulcea americana</i>
32	<i>Anas platyrhynchos platyrhynchos</i>
12	<i>Chaulelasmus streperus</i>
1	<i>Sciurus niger rufiventris</i>
32	<i>Sturnus v. vulgaris</i>
2	<i>Corvus brachyrhynchos</i>
16	<i>Junco hyemalis</i>
310	<i>Anas p. platyrhynchos</i> (another group besides the 32 above)
6	<i>Sialia sialia</i>
3	<i>Richmondia cardinalis</i>
1	<i>Cereus hudsonicus</i>

Enroute to Lawrence, via highway on S side of Kaw River (main paved highway) noted groups of small birds of *Richmondia*, *Sporzella arborea*, juncos and other unidentifiable species, sparrowlike in size. Farm house and barnyards seem to be associated with these groupings. One *Buteo borealis* 1/2 way (Big Springs) to Lawrence.

Lawrence, Douglas Co., Kansas
Dec. 30, 1947

Acquired two *Sylvilagus floridana* from Wilder, Kansas collected by Henry Setzer, Avey & young on Dec 29. As these rabbits were covered with boil-like spots, saved for *Tularemia* examination. Measurements are:

1-12-30-47	♂	<i>Sylvilagus floridana</i>	356-()-100-55	skull only
2-12-30-47	♀	" "	450-78-103-56	" "

One mile W Lawrence, Douglas Co., Kansas
Dec. 30, 1947

Noted a *Bubo virginianus* fly across main highway at late twilight.

Shawnee Lake, Shawnee Co., Kansas
Dec. 31, 1947

Observed the following mammals and birds on the lake and immediate shoreline. Day cold, wind causing ice caps; lee side of lake with mushy ice and ice windrows. Visibility approx. 600 feet, hail continuous. Recorded as groups as I circumnavigated the lake by car.

23	<i>Anas platyrhynchos</i>
4	<i>Juncos hyemalis</i>
4	<i>Fulica americana</i>
40	<i>Anas platyrhynchos</i>
8	<i>Mergus merganser americana</i>
5	" " "
2	<i>Anas platyrhynchos</i>

1 *Buteo borealis* (resting in tree on lee side of promontory)

The mergansers were resting on water with mallards and were the first to leave ^{by swimming} when approached. They remain on the lake, feeding continuously.

Enroute to Lawrence collected one *Otocoris alpestris* 1-12-31-47 and observed 2 *Sciurus niger rufiventris* near Big Springs.