Field Notes

W.B.Davis

1933

All specimens listed herein, unless otherwise stated, are in the collection Of the Museum of Vertebrate Zoology, Berkeley, California.

1.

W. B. Davis, Ash Meadows, 2.5 mi. W Devils Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.

Ward Russell and I left

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Field Notes
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(3)

W. B. Davis

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the polting of the truck, I rested.
12:00 Left Santa Cruz.
1:00 Saw a colony of Bank Swallows and their burrows in a sand bank along the

W. B. Davis, Ash Meadows, 2.5 mi. W Devils Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.

Ward Russell and I left Berkeley, Calif. May 15, 1933 at 8:15 A.M.

9:05 Red-shafted Flicker dead in the road. Passed through Centerville at 9:10, 29 mi. S of Berkeley.

House Finch common	30+
Brewer Blackbird	8
9:20 Bicolored Redwing	2

10:25 In the Redwoods now and headed for Santa Cruz. Have travelled 81 miles. Saw in the Redwoods Pt. Pinos Junco, Cliff Swallow, Western Bluebird, one each. Heard warblers, but could not determine species.

11:00 Arrived at Ward's folk's place. Ward ate dinner here, but since I had developed abdominal pains due to the jolting of the truck, I rested.

12:00 Left Santa Cruz.

1:00 Saw a colony of Bank Swallows and their burrows in a sand bank along the

W. B. Davis Ash Meadows, 2.5 mi. W of Devil's Hole, 2173 ft., Nye Co., Nevada.
May 16, 1933.

1:35 Arrived at Hollister, 128 mi. from Berkeley. Took on 15 gals. of gasoline.
13 mi. N of Hollister on Pacheco Pass Highway saw six Yellow Billed Magpies
Ground Squirrel (beecheyi) 10+
Arkansas Kingbird 2
17 mi. N Hollister - Buzzard 1.
Western Crow 1.
Western Meadowlark 1.
Had opportunity to check the speed of Meadowlark in flight. One kept abreast of car for about 200 yds. at 45 m.p.h. There was a moderate tail wind.
Some of the Meadowlarks were carrying food in their beaks; probably for young.
2:40 California Shrike 10+
These were common on the fences and telephone wires. Saw a flock of 8 Brewer Blackbirds following a plow and picking up food.
Barn Swallow 1.

W.B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.
2:45 Arrived at Los Baños.
Have travelled 173 miles.
Between Los Baños and the main highway to Fresno I saw the following:

Cliff Swallow	30+
California Shrike	5
Killdeer	6
Avocet	1
Coot	11
Burrowing Owl	10
Tern sp?	1
Redwing Blackbird	30+
Mourning Dove	3
Brewer Blackbird	5
Arkansas Kingbird	21

Several of these kingbirds were in pairs and frequently were seen on the fence and telephone wires.

Western Meadowlark	12.

One meadowlark had been killed by a car on the road.

Horned Lark subsp?	5

These were first noted 20 mi. E of Los Banos.

Lark Sparrow	1.

W. B. Davis. Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.

Jack Rabbit (L. californicus) 2
Citellus beecheyi sub? 30+

Ground squirrels were very common about 20 mi. E of Los Banos. Counted 10 that had been killed by automobiles. 3:30 Ground Squirrels were feeding on green vegetation. This is done ~~to~~ in most cases by the animal when sitting in an upright position on the hind legs; the front paws holding the food. In many instances the squirrels were noted on all fours, the tail arched over the back, in search of food. Several were seen sitting on the tops of fence posts and paid no heed to passing cars. They appear to be ranging quite a distance from their burrows in their feeding activities. Many young of the year were noted. 3:40 Met the main highway 33 miles north of Fresno. Have travelled 211 miles.

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Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.
3:55. Arrived at Madera, 222 mi. from Berkeley. Bought our groceries here. Left at 5:45.
6:45 Left Fresno after having eaten supper. Sun was down, but still light; few coveds in the sky; west wind.
7:00 1 Mourning Dove
7:22. 2 Nighthawks just south of Selma.
9:45 Stopped for the night at an auto camp two miles N. of Bakersfield. Travelled 354 mi. today.

Tuesday, May 16. Left camp at 6:10 A.M. 6:20 Bakersfield. Took on 17 gals. of gas in main tank, 5 gals in a can, 1 gal of oil and 20 gals of water. Averaged 13⅓ m.p.gal. on the last tank of gas.
7:00 A.M. Left Bakersfield after having eaten breakfast. In the next 20 minutes I saw the following;

Brewer Blackbird 1.
Western Meadowlark 3.

W. B. Davis

Ash Meadows, 2.5 mi. W. Devil's Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.

Valley Quail	2
Mourning Dove	17
House Finch	7
Mockingbird	2
California Shrike	10
Bullock Oriole	2
Horned Lark subsp?	30+
Citellus beecheyi	15+

7:20 16 mi. E Bakersfield. Dry desert country, lots of scattered greasewood, cactus, and desert flowers. During the next 35 minutes I saw the following;

Turkey Vulture	2
Thrasher sp?	1
Arkansas Kingbird	6
Western Crow	2
West. Lark Sparrow	2
Road Runner	1
Burrowing Owl	1
Western Red-tail	2

These two birds were playing on the upward air currents near the crest of the hills.

Rock Wren	1.
Sparrow Hawk	2.

W.B. Davis

Ash Meadows, 2.5 mi. W. Devils Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933. Reached an elevation where numerous oaks were growing at 7:55. Saw our first snow at close range, about 3 mi. to the south of the highway. In the next forty minutes I saw the following;

Western Crow	1.
Phainopepla	2.
Turkey Vulture	7.
Bullock Oriole	4.
Mountain Bluebird	3.
Western Tanager	1.
California Jay	1.
Western Gnatcatcher	1.
Rock Wren	1.
Brewer Blackbird	2.

8:35 Tehachapi. Ward got shells here for his 30 06. Between here and Mojave I saw;

Western Tanager	1.
Raven	9.
Bullock Orioles	1.

9:35. Mojave. Saw a collection of mounted birds and mammals in a confectionery store here. Several good specimens.

Between here and Barstow I saw;

W. B. Davis

Ash Meadows, 2.5 mi. W Devils Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.

Horned Lark subsp?	30+
Turkey Vulture	2
Arkansas Kingbird	2
Mourning Dove	1
California Shrike	1
Ammospermophilus	1
Lepus sp:	11.

All of these rabbits had been killed by automobiles and were lying on the highway. A strong SW wind has been blowing all day. The sky was cloudless. 11:25. Arrived at Barstow, a division point on the Santa Fe R. R. lying on the S. bank of the Mojave River. Between here and Baker I saw;

Turkey Vulture	7.
Horned Lark sp:	3.
Raven	2.

37 mi. E. Barstow, San Bernardino County, California, May 16, 1933.

56. Grid-iron Lizard.

W.B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 16, 1933.
2:00 P.M. Left Baker and headed for Death Valley Junction. The area through which we are travelling is still desert, much lava and sand being prominent. The only vegetation is dried greasewood. Bird life is scarce, the following being noted between these two places;

Horned Lark	2.
Mourning Dove	3.
Western Tanager	1.
Arkansas Kingbird	1.

We found an old Raven's nest in a clay bank, 2 ft. from the top and 20 ft. above the road, near Tecopa, Inyo Co., Calif.
6:15 Reached the old "Watkins Ranch", now owned by a Los Angeles concern and managed by "Tex" McCall, and have placed this locality as above. Ash Meadows is an alluvial plain containing numerous springs that arise from the valley floor and flow westward. Some of these are warm and Big Springs is the swimming hole for

Ash Meadows 2.5 mi. W Devil's 1.
W. B. Davis Hole, 2173 ft., Nye Co., Nevada

May 16, 1933.
the inhabitants of the valley. The soil is a sandy-clay loam with numerous beds of pure clay, some of which have been worked and marketed in the past. The vegetation is of two types; (1) aquatic and semi-aquatic, such as cat-tails, reeds, salt grass, willows and cottonwoods, and (2) xerophytic, such as mesquite, both "bean" and "screw" (native names), and greasewood, with occasionally spots of sage.

The ranches are located around these springs and streams, tho little seems to be done in the way of farming.

We made camp as guests of Mr. McCall, and decided to use this as our base camp while here.

Went out this P.M. and set 30 mouse traps in the tall grass along the stream E of the house. Found no runways nor "sign" of Microtus. Set two traps in likely looking places for Dipodomys in sand about 20 ft. from the creek.

W. B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 17, 1933.

Got up at 5:00 A.M. to look at my traps. No *Microtus*! Caught one *Dipodomys*. Took the following birds:

57♀	~~Hammond~~ Wright's Flycatcher		wt. 11.6 gr.
58♂	West. Wood Pewee	ore	13.3 "
59♂	Bullock Oriole	ore	30.7 "
60♀	Lincoln Sparrow	ore	15.1 "
61♂	Brewer Sparrow	ore	11.7 "
62♀	Yellow throat		10.5 "
63♀	Antrozous	110-39-10-34 Tr. 15.5	15.5 "
64♀	"	111-41-10-33 " 15.0	12.7 "
65♀	"	111-44-10-34 " 17.0	13.5 "

The above three bats were found roosting in a hole in a cottonwood tree about 15' from the ground. There were five in the cavity but two escaped.

Saw the following birds today:

1. Arkansas Kingbird 4
2. Bullock Oriole 8.
3. Yellow throat 6.
4. Pileolated Warbler 1.
5. Song Sparrow sub? 1.
6. Redwing Blackbird sub? 30+

W.B. Davis.

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 17, 1933.

7. Bittern 1.
8 Black-necked Stilt 1.
9. Cinnamon Teal 8.
10. Mudhen 6.
11. Rough-winged Swallow 30+
12. Tree Swallow 2.

Ward took the above two swallows.

13. Cliff Swallow 1.
14. Texas Nighthawk 4.
15. Mourning Dove 4.
16. Brewer Sparrow 1.

Found six nests today in Mesquite that were built on the plan of a Marsh Wren's nest, but out of mesquite twigs and lined with feathers. No birds were near any of them. I think they must be Verdin's.

Gene Nelson, brother-in-law of Mc Call's, told us today he saw a Vermillion Flycatcher.

The wind has been blowing hard all day. Set out 40 mouse traps for Microtus along the stream in likely looking places. Found no runs or "sign," though.

W. B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada,

May 18, 1933.

Looked at the traps this A.M. but caught nothing. Left about half the traps set.

Last night Ward and I tried catching Antrozous with my butterfly net. This was about 10:30. They were numerous and flying low under the cottonwood trees. The wind was blowing quite a breeze. Often the bats would alight and hang in small bunches on the bole of the trees. Ward killed 7 with two shots from his revolver, using #12 shot. I caught one with the net after it had come to rest on the trunk of a tree.

66♀	Antrozous	2 small embryos. 117-44-10-31 Tr. 14.0	wt. 12.4 gr.
67♂	Yellow throat (Skeleton)		
68♀	Rough winged Swallow	skel only	14.6"
69♀	" " "	"	16.4"
70♀	" " "	"	16.0"
71♂	Vermillion Flycatcher		12.2"
72♂	" "	ovaries 1mm.	13.2

These two flycatchers were in a large willow tree near the house.

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Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 18, 1933. (Continued).
They were quite tame. Ward saw one yesterday, but failed to get it.
At 4:00 P.M. we drove three miles north to Mc Call's other ranch and looked for Microtus

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nevada.
May 18, 1933.

73♀	Western Lark Sparrow	ovaries 1 mm.	wt. 23.7 gr.
74♀	~~Hammond~~ Wright Flycatcher		10.7 "
75♀	Yellow Warbler	∝	10.8 "
76♂	Pileolated Warbler		8.5 "
77♂	Gambel Quail	TK	188.0 "
78♂	Sylvilagus	380-60-84-70	781.5 "

Set out forty mouse traps along a ditch with steep banks and in whose bottom there was much rank aquatic growth. Saw no Microtus runs or "sign"; however, Ten traps were placed on a dry, flat, sparsely vegetated area west of the ditch "creek".

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Ash Meadows, 2.5 mi. W Devils Hole, 2173 ft., Nye Co., Nevada. May 19, 1933.

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nevada. May 19, 1933.

80 ♂	Onychomys	140-48-19-18	wt. 21.9 gr.
81 ♀	"	170-44-19-17	" 14.1 "
82 ♂	Peromyscus	176-87-19-19	" 22.4 "
83 ♂	"	184-92-19-18.5	" 26.3 "

Got up at 5:00 A.M. to visit the traps. No Microtus! Took the above; the first two on the dry ground, the two others along the bank of the creek.

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada. May 19, 1933.

84 ♀	Dipodomys	232-132-37-12.5	wt. 37.2
85	Sceloporus		
86	"		
87 ♂	Vermillion Flycatcher. Found dead and dried. Saved for skeleton.		

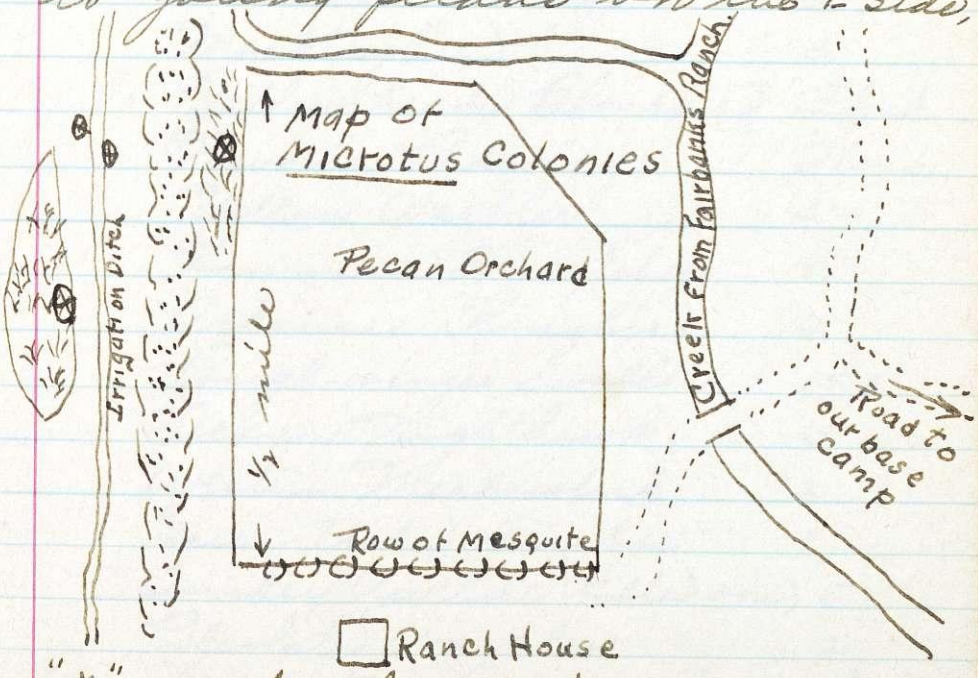
Ward took three Microtus today, two this morning and one again this afternoon. The land round here is either all desert or else swampy places too wet

W.B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 19, 1933.

for Microtus. There are very few intermediate spots, though we managed to locate three such, all on the Upper Mc Call Ranch, a point we believe to be 4.8 mi. NW Devil's Hole. The two colonies I located were along a small irrigation ditch about ½ mi. north of the ranch house and on the west side of a sand ridge on which many Dipodomys live, that separates this ditch from a field planted to young pecans on the E side,



"x" marks the spot.

W. B. Davis.

Ash Meadows, 2.5 mi. W Devils Hole, 2173 ft.; Nye Co.; Nevada.

May 19, 1933

This ranch was homesteaded by A. K. Ashwal; was later known as "The Jap Ranch" and is now often called the Mc Call Ranch.

Besides the mammals listed above as specimens, I found the following in my traps:

Reithrodontomys 3♂ 1♀
Peromyscus eremicus 1♂

I saw the following birds at this place:

Marsh Hawk	1.
Gambel Quail	1.
Audubon Warbler	5.
Mockingbird	3.
Yellow-headed Blackbird	Flock
Nevada Redwing	Flock
Yellow Warbler	3
Hammond Flycatcher	8.
Arkansas Kingbird	6.
Rough-winged Swallow	15+
Texas Nighthawk	5
Western Meadowlark	2
Green-tailed Towhee	1
Turkey Vulture (Killed one)	5
Pileolated Warbler	2

Ward saw a Road Runner yesterday but couldn't get it.

W. B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 19, 1933.

Went swimming this P.M. at Big Springs, a clear, warm spring about 3/4 miles ENE of here. At 6:00, (sun still up) two Pipistrellus were flying about the spring, dipping down so they touched the water, thus taking a drink on the wing. Ward shot five of them this evening here at the ranch. This is the first time we have seen them here.

Cottontails and Jack-rabbits are very common in the dense brush on the east side of Fairbanks Spring Creek (see p. 16 map). This is the only place near here where there is sufficient protection for them. This is part of the "Jap Ranch".

Set 30 traps for Microtus in the area along the ditch at "Jap Ranch". Also made three sets for Dipodomys on the sand ridge just east of the irrigation ditch. "Dipo" signs were numerous, as were their burrows.

W.B.Davis

Ash Meadows, 2.5 mi. w Devil's Hole, 2173 ft., Nye Co., Nevada.

May 20, 1933.

Got up at 5:00 A.M. and drove to the "Jap Ranch" to look at our traps.

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nevada. May 20, 1933.

88 ♂	Microtus nevadensis	184-41-24-14	wt.	68.6 gr.
89 ♂	" "	162-31-22-13	"	57.0 "
90 ♀	" "	140-29-22.5-13	"	37.3 "
91 ♂	Dipodomys	248-144-40-13		45.1 "
92 ♂	Onychomys	114-45-19-16		14.0 "

Besides these I found one Dipodomys ♂, badly eaten by something, perhaps beetles, and one Reithrodontomys ♂ in my traps.

In going from the east-west road to the Jap Ranch, north the ½ mile to where we had set our traps I counted ten Cotton-tails Sylvilagus audubonii

W.B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 21, 1933.

Got up at 5:00 A.M. and drove to the Jap Ranch to look at traps.

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nev. 5-21-1933.

93 ♂	*Microtus nevadensis*	177-44-24-13	wt. 65.0 gr.
Mine 94 ♀	" (" ♀♀.	129-30-19-12	" 24.0 "
95 ♀	*Peromyscus*	150-59-18-18	" 17.0 "

An old trapper, "Daddy" White, living ½ mi. E of the Jap Ranch told me he had seen mice, which he thought were like the *Microtus* I showed him, in his field. Another resident living ½ mi. E of "Daddy" White's said his cat brought in a mouse yesterday that looked like the *Microtus* I showed him.

"Monty" Montgomery, an old timer, who knew "Old Man" Watkins intimately, said Watkins died in 1894 being then 94 years old. Montgomery also told me of the presence of a mastodon fossil on the western end of Skull Mountain, about 22 miles NNE of here. He said he had never seen it personally, but

W. B. Davis.

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 21, 1933.

two of his miner friends had and that they had estimated some of the bones to weigh over 250 lbs.

Besides the specimens listed I caught the following:

Reithrodontomys 1♂ 1♀
Mus domesticus 1♀

Last night Ward, Gene Nelson and I went hunting Bull Frogs, a species introduced from Louisiana indirectly, but directly from Shoshone, Inyo Co., California. We caught 14, saved one for a specimen and ate the rest. I caught three more today in an old rusty water pipe.

From here to the Jay Ranch where we found and caught our only Microtus is 3.7 miles by road viz. the Rogers Ranch.

Ward killed another ♂ Vermillion Flycatcher today. This makes five individuals we have seen to date, and I believe indicates a scarcity of this species here.

W. B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 22, 1933.

Left camp at 7:30 AM. to look at our gopher sets we made yesterday afternoon at the Jop Ranch. Out of 16 sets we took 11 adults & 1 young.

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nevada May 22, 1933.

96 ♀	Thomomys	224-72-30-6	wt.	150.4 gr.
97 ♂	"	238-79-29-5	"	138.4 "
Mine 98 ♀	"	186-60-26-4	"	97.0 "
99 ♀	"	228-79-27-5	"	122.4 "
100	"	230-85-30-5.5	"	117.6 "

All the above were collected by W. C. Russell.

This P. M. we took a long walk along the salt marsh south of this, Old Watkins Ranch, ranch and found no sign of Microtus workings. The grass in this marsh is heavily encrusted with a deposit of soda and wherever the grass is green there are from two to six inches of water. Here on the ranch I found one old runway, containing old droppings, in a marshy pasture overrun by horses. A trap placed here had yielded nothing.

W.B. Davis. Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 22, 1933.

So far the only colony we have been able to find is on the Jap Ranch 4.8 mi. NW of Devil's Hole. We have inspected the Barne's Ranch, Longstreet Ranch, and another one nearer Devil's Hole, but found no sign of Microtus. The most likely looking place found was on the Barnes Ranch 3.8 mi. NW Devil's Hole, but no mice were taken there. No sign of runways or droppings were found.

In the field here, locality above at top of sheet, we saw a Kingfisher; tried to collect it, but failed. There are no rivers anywhere near here, but the several large springs and sloughs containing fish must furnish food for it.

Made thirteen sets for gophers today at the Jap Ranch. Gophers are very numerous here in semi-boggy places

W.B. Davis

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 23, 1933.

Got up at 5:30 and visited the gopher sets. I caught eight and an Indian brought me five more which he had caught while irrigating. Three of them had broken skulls where he had hit them over the head to kill them.

The Thomomys in this valley inhabit the semi-marshy areas, often having burrows that lie in the very moist strata. These marshy areas are semi-ponds during the rainy season, and are always fairly moist from underground water. The long, subterranean blades of grass, chiefly a type of salt grass, were used for food, along with the fleshy roots of other grasses.

Often the burrows are just beneath a hard crust of alkaline deposit that covers the softer subsoil. Nearly every farmer in this region with whom we talked complained of the great numbers of gophers, and our

W. B. Davis, Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nevada.

May 23, 1933.
observations showed them to be present in abundance. No counts were made, however.

Ash Meadows, 4.8 mi. NW Devil's Hole, 2200 ft., Nye Co., Nevada.
May 23, 1933.

101 ♂	Thomomys.	258-86-30-7	wt.	194.2 gr.
102 ♂	"	252-78-30-6	"	184.5 "
103 ♀	"	221-72-30-6	"	144.0 "
104 ♀	"	230-74-29-6	"	107.5 "
105 ♂	"	233-75-30-6.5	"	142.4 "

Ash Meadows, 2.5 mi. W Devil's Hole, 2173 ft., Nye Co., Nev. May 23, 1933

skeleton 106 ♀	Antrozous	117-43-10-34	Tr	16.0	wt.	13.8 gr.
skeleton 107 ♀	"	112-40-10-34	"	15.5	"	12.8 "
skeleton 108 ♀	"	111-41-10-33	"	15.5	"	13.0 "

These three bats were caught with a butterfly net in the evening. They were flying low under the willow trees, and occasionally acted as if they wanted to alight on the trees. At this momentary pause they were caught. All three were prepared as skeletons.

skeleton 109 ♀	Barn Swallow	wt.	11.2 gr.

W.B. Davis.

Amargosa River, 3.5 mi. NE Beatty, 3400 ft., Nye Co., Nevada.

May 24, 1933.

We left our first camp yesterday at 4:25 P.M. and drove to the above locality, arriving here about 7:10 P.M. after driving a distance of 55 miles.

Made camp in an old, deserted ranch house minus the windows, ceiling and most of the flooring.

Went out this A.M. and made 13 sets for gophers in the meadow just back of the house. Here the gophers are inhabiting the narrow strips of moist ground, bordering the swampy spots, where condition of moisture in the soil is at an optimum. In the burrows I found piles of cut food; a thick, fleshy herb that grows in profusion along the borders of the marshy places. All 13 sets were made in about an acre area.

Have seen the following birds so far today: Western Meadowlark, Nevada Redwing, Mockingbird, Arkansas Kingbird, Bullock Oriole, Killdeer, Rock Wren, Pileolated

W. B. Davis

Amargosa River, 3.5 mi. NE Beatty, 3400 ft., Nye Co., Nevada.

May 24, 1933.

Warbler, and a small hummingbird that I couldn't identify although I saw it twice.

1108 ♂ Pileolated Warbler wt. 9.0 gr.

Found old nests of Bullock Oriole, Arkansas Kingbird and Yellow Warbler, all in the cottonwood trees near the house.

Looked at the gopher sets at 2:00 P.M. and had 1 ♂ and 2 ♀'s.

111 ♂ Thomomys 232 - 72 - 28 - 6 wt. 144.9 gr.

112 ♀ " 221 - 63 - 27 - 5 95.2 "

113 ♀ " 4 embr. x 5 mm. 227 - 65 - 26 - 5 107.6 "

Went out at 5:30 and made 4 more gopher sets. Took the following birds and found a young ♀ Thomomys in a trap set this P.M.

skeleton 114 ♂ Yellow Warbler Testes 4 mm. wt 10.0 gr.

skeleton 115 ♂ Savanna Sparrow " 10 mm. " 19.4 "

The Savanna Sparrow is undoubtedly breeding in this locality.

skeleton 116 ♂ Yellow-throat Testes 5 mm. wt 9.8 gr.

The last three specimens were prepared for skeletons only, the skins not being saved.

W. B. Davis.

Amargosa River, 3.5 mi. NE
Beatty, 3400 ft., Nye Co., Nevada.

May 24, 1933.

The valley here is of alluvial deposit, consisting of clay loam, covered in many places by a thin alkaline layer that gleams white in the sunlight. On each side, the valley is hemmed in by hills, covered with rock of volcanic origin, which support a scanty growth of Artemesia and greasewood. The vegetation in the valley proper consists of greasewood in the arid regions, but where water is present, cottonwoods, marsh grass and salt grass are present along with tules and a few reeds.

A farmer 1/4 mile up the valley from here reported the presence of numerous gophers in his alfalfa fields.

I saw a Lepus californicus this evening in the grease-wood area near the water. Several Texas Nighthawks were on the wing and one Poorwill was heard.

Amargosa River, 3.5 mi. NE
W. B. Davis. Beatty, 3400 ft., Nye Co., Nevada.

May 24, 1933.

Heard three calls of Killdeer. It is now dark and no moon. Hylas are present in large numbers, as evidenced by the croaking, and so are mosquitoes. Have found no evidence of the presence of Microtus here.

1177 Thomomys 193-58-26-6 (4 Emb x 6) wt. 80.3 gr.

Amargosa River, 3.5 mi. NE Beatty, 3400 ft., Nye Co., Nevada. May 25, 1933.

1188 ♂ Thomomys 227-75-29-6 wt. 131.0 gr.

119. Cremidophorus

skeleton 1207 ♀ Yellow Warbler ovaries 1 mm. " 8.3 "

skeleton 1217 ♀ Western Warbling Vireo ovaries 1 mm. 10.9 "

Probably a migrant here.

1227 ♀ Pileolated Warbler " 6.9"

Went out this afternoon to look at my gopher sets. Had nothing so made four new sets farther down the valley from the house.

Amargosa River, 3.5 mi. N.E.
W.B. Davis. Beatty, 3400 ft., Nye Co., Nevada.

May 26, 1933.

123 ♀	Thomomys	198-58-26-6	wt. 89.3 gr.
124 ♂	"	232-84-29-6	" 127.0 "
125 ♂	"	213-71-27-6	" 119.0 "
126 ♂	"	218-70-28-5.5	" 134.0 "
127 ♀	"	208-63-25-6	" 104.5 "

128 King Snake

129 Brewer Blackbird's nest and four fresh eggs. Nest placed in midst of a small bush, 2 inches off the ground, in a swampy area.

Got up at 6:00 A.M. and looked at my traps. Had five gophers as listed above. Made four new sets and pulled all old sets but one where the traps had been buried by the gopher.

Saw a ♂ Yellow-headed Blackbird with a flock of Brewer Blackbirds and Nevada Redwings.

Found a Meadowlark's nest yesterday evening in a depression in the ground in rather scanty growth of salt grass. It contained 5 fresh eggs. The ♀ flushed and so far today she has not been observed on it. The male has been singing in the same

W.B. Davis.

Amargosa River, 3.5 mi. NE
Beatty, 3400 ft., Nye Co., Nevada.

May 26, 1933.

general vicinity as the nest, and has been doing so again today even though the ♀ was not on the nest.

A few Pipistrellus were on the wing last evening after sun down, and were feeding over the marshy area back of camp. They do a great deal of diving in feeding. I took five shots at them, knocked down two but could find only one and it was so badly damaged it was not saved.

Set two rat traps in the shack last night and caught two Neotoma, one ad. ♀ and one juv. ♂.

1307 ♀ Neotoma 284-127-27-28 wt. 117.4 gr.

The four hind teats of this female indicate she had been nursing young. They are living in this house and were heard rummaging around night before last. Last night a half-bar of soap was carried into another room where it ——

B. Davis Amargosa River, 3.5 mi. N. E. Beatty, 3400 ft., Nye Co., Nevada.

May 26, 1933.

was found this morning partly eaten.

I found another Brewer Blackbird's nest this evening when I was looking at my gopher sets. It was built of sticks, lined with fine grass and horse hair, placed on the ground on a low mound in the midst of a swampy area and contained five partly incubated eggs, three of which were very heavily spotted, almost a chocolate color.

Amargosa River, 3.5 mi. N. E. Beatty, 3400 ft., Nye Co., Nevada.

May 27, 1933

131 ♀	Thomomys	214-67-29-5	wt. 105.9 gr.
132 ♀	" "	212-67-27.5-5	" 104.9 gr.
133 ♀	" "	204-63-26-5	" 106.0 "
134 ♀	" "	215-62-28-6	" 117.7 "

Broke camp this A. M. at 9:35 and drove to Beatty where we picked up a water can that had been repaired. Found one gasoline can

M.B. Davis 13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada.
May 27, 1933

had sprung a leak and had it repaired. Left Beatty at 10:15 A.M. and headed north for Springdale in the upper end of Oasis Valley, Nye Co., and the headwaters of the Amargosa River, some 11 mi. north of Beatty. Here Russell and I set out 20 sets of gopher traps for fresh workings were plentiful. The owner of the little store here complained of them being so thick that he was forced to use "Gopher-Go," a poison to keep them from riddling his orchard and garden. In the 4½ hrs., between 11:00 and 3:30, we caught a total of eleven, Russell taking 6♀ & 1♂ and I 3♀ & 1♂. I also caught a young one by the tail in one of my traps and I now have him alive. I found a nest in the tunnel where this one was caught. It was made of fine grass packed into an enlarged chamber, about 4"x6", about 4" below the surface of a heavy clay soil. There were

May 27, 1933.
two burrows leading from it, one on each end. I found no other young in the nest.

I found a pile of gopher droppings, about ½ water bucket, that looked like it had been pushed up and out of the underground burrows. Russell said he had never seen such a thing and advanced the idea that it might have been made during the winter when snow was on the ground, and snow was about 18" deep there last winter.

We inquired about gophers farther up the valley and was informed that there was no more green grass and water between Springdale and Goldfield. This proved to be the case, so evidently we had found the northern limits of this Thomomys in Oasis Valley. The bleak bare hills on both sides and at the north end of the valley are excellent barriers for this mammal. There was

B. Davis. 13.5 mi. N.W. Goldfield, 4850 ft., Esmeralda Co., Nevada.

May 27, 1933

a stream coming into the Amargosa River from the east above Beatty, termed Beatty Wash, that had plenty of green grass, and undoubtedly Thomomys ranges in there.

While at Springdale, Russell and I went up to an abandoned mine tunnel about 1/2 mi. to the E. where bats were said to be. The tunnel was some 125' long, & about 30' from the entrance a cluster of Antrozous (Corynorhinus) was hanging from the ceiling. I clapped my butterfly net over them and caught 29. Six more were caught individually while on the wing. We built us a screened box and brought them with us alive, for we found that bats spoil quickly when dead.

We left Springdale at 3:45 headed for Goldfield, arriving there at 5:35, a distance of 71 mi. from Beatty. Here we bought a few provisions and left for the above locality at 5:55. We drove 4 1/2 mi. N. on the Tonopah Road

W.B. Davis 13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 27, 1933.
then turned W. for a distance of about 10 mi. This place is an old lake bed, some 1 mi. wide and 4 mi. long, the long axis in a N. & S. direction and is dotted with piles of hard packed sand on which brushes are growing. There are no white sand dunes here as far as we have explored.

We stopped the car some 1/2 mi. from the E. edge of the lake bed and about a mile from the N. end and set out our traps, baiting with chewed rolled oats. I placed 80, about 25 paces apart, on the hillocks of sand. Evidence of animal life was scarce.

We retired about 9:00 P.M. The night was chilly and we were forced to wear coats before retiring.

W.B. Davis

13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada

May 28, 1933.

Spring Dale, N end Oasis Valley,
Nye Co., Nevada. May 27, 1933.

135 ♂	Thomomys	221-61-28-6	wt. 141.8 gr.
136 ♀	" "	217-59-27-6	" 118.0 "
137 ♀	" "	206-62-28-5	" 93.8 "
138 ♀	" "	209-65-28-5	" 101.5 "
139	Toad		
140	"		

Birds noted at Spring Dale

1. Bullock Oriole - common, nesting
2. House Finch - " "
3. English Sparrow " "
4. Arkansas Kingbird " "
5. Mocking Bird saw three
6. Mourning Dove " ten +
7. Pileolated Warbler common
8. Yellow Warbler "
9. Heron sp?

The owner here reported Great Blue Heron, White Herons, Jack Snipe and ducks on his slough about 3/4 mi. S.W. of there.

W.B. Davis.

13.5 mi. NW Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 28, 1933.

3.5 mi. NE Beatty, 3400 ft., Nye Co., Nevada.

List of birds noted during our stay.

1. Killdeer - Common, probably nesting.
2. Nevada Redwing. " " "
3. Brewer blackbird " nesting.
4. Yellow-headed Blackbird - Saw 10+
5. Western Meadowlark - Saw 8+ - nesting.
6. Mourning Dove - Common
7. Mockingbird - Saw three.
8. Arkansas Kingbird - Saw 8+
9. Rough-winged Swallow - Saw 30+
10. Yellow Warbler - Common
11. Say Phoebe - Saw one - nesting.
Nest was being built in the back room of the house. Actual work was done on it from 5 to 9 A.M.
12. Pileolated Warbler - Common
13. Western Lark Sparrow "
14. Lincoln Sparrow - Saw 10+
15. Western Yellow-throat - Common
16. Western Warbling Vireo. Took only 1.
17. Western Wood Pewee Saw 4.
18. House Finch. - a few.
19. English Sparrow - Common
20. Hummingbird sp? - Saw one.

W.B. Davis. 13.5 mi. NW Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 28, 1933.

141 Horned Toad.

142 ♀	Dipodomys	245 - 143 - 42 - 11	wt.	45.2 gr.
143 ♂	Neotoma	221 - 88 - 30 - 26	"	73.3 "
144 ♀	Perognathus	6 ent. x 2 mm. 130 - 68 - 18 - 7	"	7.3 "
145 ♂	"	132 - 69 - 18 - 7	"	9.2 "
146 ♂	Peromyscus	150 - 61 - 20 - 19	"	18.4 "

Visited the traps this A.M. between 4 and 5. Caught only 8 mammals; besides those listed above I had 1 yg. ♂ Neotoma and 2 ♂ Peromyscus. Evidence indicated that many mammals had visited my traps, but had left them alone. I had two traps sprung, but empty.

I spent from 7 P.M. to 12 M. putting up specimens.

The Horned Toad was caught on the bare, white flat and was so cold it could hardly move. I put it in a screen topped can and placed it in the shade. When I went to look at it at 11 A.M. it was in the sun and dead showing the deadly effect of exposure to direct sun light in heat of the day.

This afternoon about 6 P.M., we drove

W. B. Davis

13.5 mi. NW Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 28, 1933
one-half mile east to the black sand area and both Russell and I set out each 92 traps. I placed mine about 25 paces apart.

The sand in this area is heavily mixed with volcanic dust and is loose and yielding in contrast to the sand hillocks on the lake bed proper. Dipodomys sign were plentiful as were tracks of Canis and Lepus. Due to the fact that our traps had been visited last night but the bait not touched in many cases, Russell fixed up a mixture of rolled oats, bacon grease, raisins and peanut butter and this was used as bait. Some difficulty was encountered in getting it to stick to the pans.

I made a large circuit toward the north while Ward did the same toward the south.

W.B. Davis 13.5 mi. N.W. Goldfield, 4850 ft., Esmeralda Co., Nevada.

May 29, 1933.

147 ♀	Microdipodops	132-72-23-9	wt. 9.1 gr.
148 ♂	" "	132-70-23-9	" 8.1 "
149 ♂	" "	162-82-23-11	" 12.9 "
150 ♂	" "	147-77-23-11	" 13.6 "
151 ♀	Peromyscus	155-61-20-18	" 22.9 "
152 ♂	Dipodomys deserti	334-190-54-18	" 133.3 "
153 ♀	" "	313-183-53-16	" 109.8 "

5 embryos x 5. m.m.

154 ♂	Dipodomys deserti	353-196-54-17	" 132.5 "
155 ♂	" "	336-196-53-17	" 115.8 "
156 ♂	" "	325-183-53-16	" 109.8 "
157 ♀	" "	321-184-54-16	" 117.6 "
158 ♀	" "	337-193-53-16	" 118.3 "
159 ♂	"	250-138-42-14	" 53.3 "
160	Lizzard		

Springdale, N. end of Oasis Valley, Nye Co., Nevada

May 27, 1933

161 ♀	Antrozous (skull only)	94-49-8-30 Tr. 14.	wt 6.1 gr.
162 ♀	Corynorhinus " "	99-45-8-28 Tr. 14	" 6.1 "
163 ♀	" " "	97-47-9-33 Tr. 16	" 6.0 "

contained 1 embryo x 13 m.m.

164 ♀	Antrozous (skull only)	99-45-9-34 Tr. 15	" 7.0 "

contained 1 embryo x 14 m.m.

165 ♀	Antrozous (skull only)	99-46-9-33 Tr. 15	" 5.8 "
166 ♀	" " "	102-47-8-36 Tr. 16	" 5.8 "

contained one embryo x 16 m.m.

W. B. Davis

13.5 mi. N. W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 29, 1933.

Springdale, N. end Oasis Valley,
Nye Co., Nevada. May 27, 1933.

1677 Antrozous (skull only) 98-50-9-35 Tr. 15 Wt. 7.3 gr.
contained one embryo X16 m. m.
1687 Antrozous (skull only) 98-43-9-37 Tr. 16 " 6.1 "
1697 " " " 101-47-9-37 Tr. 16 " 6.2 "
1707 " " " 98-51-8-36 Tr. 14 " 6.1 "

Got up at 4:00 a. m. and visited the traps. The first 40 were not even touched, but after that I found several sprung, and a few from which the bait had been taken and not sprung. In all I took 13 specimens, 4 Microdipodops, two of which were immature; 1 Peromyscus m. sonoriensis; 7 Dipodomys deserti, and 1 Dipodomys ordii (?).

The Microdipodops were taken on the black-topped, loose sand, as were the other takes. This sand is gray under a covering of black volcanic ash. Russell took one specimen of the pallid "Mics" along with several other of the dark variety, and all on

W.B. Davis 13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 29, 1933
the same type of sand. A peculiar incident, indeed.

Spent from 7 A.M. to 4 P.M. in camp making up skins

At 6 P.M. we again drove to the east edge of this dry lake, a couple hundred yards to the north of where we trapped last night and set our traps. Tonight honey was added to the bait to make it stick to the traps. Dipodomys deserti burrows, as well as tracks and spots where they had dug in the sand, were very plentiful in the area I worked. These rodents seem to wander near the bases of the little sand hillocks in their search for food, and their large tracks, along with the furrows made by dragging their tails, were evident everywhere.

When cleaning our specimens today we found two "Dipos" with rabbit droppings in their pockets, evidently serving as

13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nevada.

May 29. 1933.

food. Most of the contents of other pockets were ovaries of small flowers, short lengths of herbs, and seeds.

I set a box trap tonight in hopes of catching a live Dipodomys deserti.

Found the skull of a Badger this evening when setting out traps. It was badly weathered and broken so it was not saved as a specimen. Also found the right front tibia of an Antelope. Specimens saved for positive identification. Russell said it was either a deer or an antelope.

We are camped about 1½ mi. N.W. of Alkali, a hot spring and our nearest water. We have our water containers so have had no occasion to go there and thus look the territory over.

Bird life is almost wanting here. So far I have seen and heard only six individuals, one Horned Lark, and 5 Brewer Sparrows.

W. B. Davis 13.5 mi. N.W. Goldfield, 4850 ft.,
Esmeralda Co., Nev.

May 29, 1933.

All the ~~Antrozous~~ Corynorhinus. we caught at Springdale on the 27th were dead today. Weighed and measured 10 of them and saved the skulls. The rest of them were discarded.

Coyote tracks are plentiful in the sandy area where we are trapping but so far we have heard none.

The weather has been ideal for this area; very little wind, clear days and nights and plenty of heat during the day time. So far on this trip we have experienced no bad weather, other than heat and the high winds at Ash Meadows.

W. B. Davis

13.5 mi. NW Goldfield, 4850 ft.,
Esmeraldo Co., Nevada.

May 30, 1933.

171 ♀	Dipodomys deserti	5 emb x 30 MM. 347 - 203 - 53 - 16	Wt.	159.4 gr.
172 ♂	" "	330 - 187 - 53 - 16	"	115.0 "
173 ♀	Microdipodops	155 - 81 - 26 - 11	"	13.2 "
174 ♂	"	144 - 79 - 23 - 9	"	9.4 "
175 ♀	"	164 - 91 - 26 - 10	"	12.8 "
176 ♂	Dipodomys ordi	243 - 143 - 31 - 14	"	55.4 "
177 ♀	Microdipodops	154 - 86 - 25 - 11	"	15.1 "
178 ♂	Perognathus	127 - 64 - 18 - 7	"	7.9 "
179 ♀	" 4 emb x 12 mm.	131 - 79 - 18 - 7	"	11.9 "

Got up at about 4:00 A.M. and looked at our traps. I had 26 mammals in my traps. Besides the specimens listed above, I caught 1 ♂ Neotoma, 6 ♂ Dipodomys deserti, 5 ♀ Dipodomys deserti, 2 ♂ Peromyscus m. sonoriensis and 1 ♂ Perognathus.

Spent the morning in camp preparing specimens and at 3:20 we broke camp and headed for Goldfield to get a few supplies of necessity before leaving for Silver Peak and the White Mountains.

A high wind arose about an hour before we broke camp, and as we were camped out in the unprotected middle of the old dry lake ——

W. B. Davis. Silver Peak, 4500 ft.,
Esmeraldo Co., Nevada.

May 30, 1933.

bed, everything was filled with dust. It was with no misgivings that we left this spot, even though trapping was good.

Very few birds were seen during our stay here. Heard or saw the following:

Brewer Sparrow 4+
Mocking bird 1
Mourning Dove 1
Horned Lark subsp.? 4+

The desert Kangaroo Rat and a small pocket mouse were the most abundant mammals found.

We arrived here at about 8:00 P.M. and were given permission to use a small adobe cabin by the manager of the power house.

The wind died down this evening and we are now being pestered by mosquitoes.

W.B. Davis

Silver Peak, 4500 ft.,
Esmeralda Co., Nevada.

May 31, 1933.

We spent the day in camp packing specimens for shipment to the Museum.

Mr. Flint, a stockman of this region, came up to the cabin this forenoon. He told us there were no more Mountain Sheep in the Silver Peak Mountains and he believed the severe droughts of the last three or four years have been responsible for their leaving. However, he believed one old ram was still to be found near Cave Springs.

A high wind arose about noon and in the afternoon we had quite a rain storm.

The sand dunes we are to trap on are some five miles to the SSE of here and are plainly visible from our cabin. We were informed by Mr Flint that two roads led to them; one, the closer one that leads to the N end of the dunes, about 1/2 mile S of town, the other some 5 mi. S of town leads to the south end.

W. B. Davis

Silver Peak, 4500 ft.,
Esmeralda Co., Nevada.

June 1, 1933.

Last night we took our beds and drove out to the north end of the dunes. The road leads nearly to them. We each set 92 traps in the low sand dunes about one mile north of the big ones, and then stayed all night.

Arose at 4:15 A.M. to look at our traps. Besides the specimens listed on the following page, I took

Dipodomys deserti 2♂, 1♀
Onychomys 3♂
Peromyscus m. sonoriensis 5♂, 6♀
Perognathus 3 sp?

I found that Microdipodops preferred the areas adjacent to the larger sand dunes and not on them. All but one of my takes were in such situations. I placed my traps near small clumps of sage and greasewood about 25 paces apart. Around the clumps of bushes on the sand dunes proper I took mostly Peromyscus.

We baited our traps with a mixture of rolled oats, bacon grease, peanut butter and syrup.

8 mi. S.E. Blair, 4500 ft.,
Esmeraldo Co., Nevada.

June 1, 1933.

180 ♂	Microdipodops lucida	167-89-25-10	wt.	12.9 gr.
181 ♀	" "	156-90-25-10	"	13.4 "
182 ♀	" "	161-88-25-11	"	15.6 "
183 ♂	" "	161-89-27-10	"	14.0 "
184 ♂	" "	157-89-26-10	"	13.1 "
185 ♂	" "	149-82-24-11	"	11.0 "
186 ♀	" 3 emb. x 10 mm.	162-89-26-11	"	19.2 "
187 ♀	Onychomys	131-44-20-16	"	24.1 "
188 ♀	Peromyscus m. sonoriensis	160-71-19-15	"	23.2 "
189 ♂	" " "	151-64-18-19	"	22.3 "
190 ♀	Onychomys	122-31-19-19	"	19.5 "
191 ♀	Microdipodops lucida	162-91-25-11	"	14.8 "
192 ♂	" "	163-90-25-11	"	14.5 "
193 ♂	Onychomys	123-45-19-17	"	—

Silver Peak, 4500 ft., Esmeraldo Co., Nevada. June 1, 1933.

In many instances we found the traps had been visited but not touched. I noticed that the Microdipodops as well as others followed my tracks, and nearly every mark I had made in the sand with the point of my boot to indicate the location of a set, had been followed lengthwise and often the trap, placed some

W. B. Davis, Silver Peak, 4500 ft.,
Esmeralda Co., Nevada,

June 1, 1933.

12" to 18" away, had not been visited. In places where the trap was placed at the end of such a mark, there was a catch, or the trap had been visited.

I found the burrow of a Microdipodops, that was about one inch in diameter, leading into a small sand hill. It went into the bank at about a 30° angle, and although I dug in an arm's length I could not reach the end.

When we were preparing specimens of Microdipodops today we found the following items in their pouches:
2 Scarabid beetles, 1 small centipede, the pupae of a moth and several kinds of seeds which were unknown to me.

W. B. Davis. 8 mi. S.E. Blair, 4500 ft.,
Esmeralda Co., Nevada.

June 2, 1933.

1948	Microdipodops lucida	157-89-26-11	wt. 12.9 gr.
1958	" "	156-89-26-11	" 12.6 "
1968	" "	162-94-26-11	" 13.1 "
1978	" "	162-95-26-10	" 14.0 "

The above four specimens were collected by Davis & Russell. We left Silver Peak for the Sand Dunes at 9:00 P.M. having waited until the wind had abated somewhat. We set the traps by lantern light, placing about 90 of them in likely looking places, the gently sloping sand near bushes, and in furrows made by the heel of a boot being dragged in the sand. We had noticed that the "mice" and "rats" had been following-up such depressions when made as markers for sets. Got all the traps set by 11:30 and then went to bed.

We arose at 4:00 A.M. and visited the traps. We had ten Microdipodops, four of them listed above, and the following:

Onychomys 1♀

Peromyscus m. sonoriensis 8♀♂

W.B. Davis

Pinchot Creek, White Mountains,
8200 ft., Esmeralda Co., Nevada.

June 4, 1933.

Perognathus nevadensis 1 ♀
Dipodomys deserti 1

Our system of setting the traps in depressions and lightly covering them with sand was no more successful than the method of setting them on the flat places in the sand.

This time we trapped on some low dunes, and on the flat sandy area just to the south of the road leading to McNamara Mine, and at the extreme northern end of the sand dune area. Yesterday, June 1, we trapped a mile farther to the south east.

Came back to Silver Peak, prepared our specimens, and broke camp at about 10:00 A.M. and drove to Cave Springs via the Mary Mine (a steep, hard pull from the east) and had lunch there.

Drove from there to the Chiatovich Ranch where we talked with Marco Chiatovich concerning the presence of

Pinchat Creek, White Mountains
8200 ft., Esmeralda Co., Nevada.

June 4, 1933

Marmots and grouse. He claimed he had never seen any "Ground Hogs" (Marmots) on the Nevada side of the line, but that they were very plentiful up near the head of Chiatovich Creek on the California side. He said they were often found in meadows bounded by cliffs with large boulder talus, and that they were inquisitive animals and would come out from hiding to look at one if he were partially hidden. He also said he had run many of them down on horseback when they were in the meadows.

We left Chiatovich's Ranch and drove to Pinchat Creek via Sand Spring, arriving here about 5:00 P.M. We ~~saw~~ a Golden Eagle near the pass between Fish Lake Valley and Pinchat Canyon.

When we were about 1/2 mi. above Gold Hit the first Callospermophilus was taken. We took three before we reached

W.B. Davis Pinchot Creek, White Mountains,
8200 ft. Esmeralda Co., Nevada.

June 4, 1933.
our camping site. They are very numerous in this canyon, as also are the Eutamias.

We are camped about 1/2 mi. from the end of the road and as high as we could get with the car and still have water. The elevation here is 8200 ft. The typical vegetation is Sage Brush and Pinyon Pine. Along the stream, in which water appears at occasional spots, willow and wild rose can be found as well as a tall growing grass.

When we stepped out of the car at our camp site we saw the tracks of a Mountain Lion. It had come down into the canyon from off the ridge to the west, and apparently crossed to the ridge on the east.

Yesterday, June 3, Russell and I took a 15 mile hike up over Mustang Mountain and up to the foot of Boundary Rock. We climbed to an elevation of 11,500 ft., inspected all the

W.B. Davis Pinchot Creek, White Mountains, 8200 ft., Esmeralda Co., Nevada.

June 4, 1933.
Pinchot Creek, White Mountains, 8200 ft., Esmeralda Co., Nevada June 2, 1933.
1987 Callospermophilus 250-79-36-18

Pinchot Creek, White Mountains, 8200 ft., Esmeralda Co., Nevada.
June 3, 1933
1997 Thomomys 200-61-25-5 wt 87.4 gr.

Mustang Mountain, White Mts., 10,000 ft., Esmeralda Co., Nevada.
June 3, 1933.
2000 ♂ Pika (Ochotona) 176-5-29-21 wt 128.8 gr.

rock slides we found, but found no trace of Marmots.

The life zones on this end of the White Mountains are very peculiar. Where we were camped, the sagebrush was abundant, as it was up to an elevation of 10,000 ft., a characteristic of the Transition Zone. The hills were covered with sage Piñon, the latter a characteristic of Lower Sonoran

June 4, 1933.
Zone, and in these Piñons the Clark Nutcrackers were very common, a characteristic of the Hudsonian Zone. At an elevation of approximately 9000 ft., the White-barked Pine made its appearance, yet the sage was present. The Cony was found both at the 10,000 ft. elevation at 8,200. There was no distinct zonation and no apparent cause for the conglomeration.

The colony of conys found on this trip was in a south facing rock slide near the saddle where the trail from Queen Canyon crosses into Trail Canyon. They were shy little creatures, usually keeping well hidden while keeping up an intermittant calling to one another when we were present. No doubt these were warning calls. One little fellow ventured out so that just his head was showing and I shot him from a

Pinchot Creek, White Mountains, 8200 ft., Esmeralda Co., Nevada.

June 4, 1933.

distance of about 30 ft., with a load of #12 shot. The range was so close that the force of the impact blew away most of his head and lifted him clear of his rock crevice. This is the only specimen we secured, though we tried for nearly two hours to get others.

There were very few "hay piles". After a rather careful search we located three of them under the large shelving rocks. They seem to prefer the large bouldered talus slopes.

The wind was blowing a gale from the east and the cold was penetrating, which, with the high altitude made the day none too pleasant.

The sight of Boundary Peak rising some 3,000 ft. above us repaid in part for the climb.

On Mustang Mountain, a flat-topped mountain some 10,000 ft. in elevation I flushed

W.B. Davis

Pinchot Creek, White Mountains
8200 ft. Esmeralda Co., Nevada.
(Saw old sheep sign near Cony side)

June 4, 1933

seven Sage Hens. Was unsuccessful in my attempts to get one. No grouse were seen, and from the sparsity of timber and the predominance of bare, rocky hill sides, dotted here and there with sage, I doubt if grouse are present in the area we worked.

Got back to camp about 5:30 P.M. and both of us were eager for rest. Our only specimen to pay for this long hike was the ♂ Ochotona I killed, and it was a sorry looking prize.

Today was spent in camp in making up specimens and resting a bit. I took a hike up to the head of Pinchot Creek to set traps for Thomomys. Found very few fresh mounds and made only two sets. Saw a Dryobates (sp?) and followed it for an hour or more but was unable to bag it.

To date I have seen the following birds in and

W. B. Davis.

Pinchot Creek, White Mountains,
8200 ft., Esmeralda Co., Nevada.

June 4, 1933.

around our camp,

1. Clark Nutcracker — common.
2. Green-tailed Towhee — common.
3. Brewer Sparrow — "
4. Rocky-Mt. Nuthatch — saw four.
5. Black-throated Gray Warbler 10+
6. Cassain Purple Finch 10+
7. Western Robin 2.
8. Mourning Dove 2.
9. Cyanocitta stelleri sub? a few.
10. Mountain Chickadee common.
11. Junco sp? — common.
12. Black-headed Grosbeak 3+
13. Rock Wren a few.
14. Wright Flycatcher 6+
15. Broad-tailed Hummer 2.
16. White-throated Swift 6+
17. Tree Swallow 6+
18. Dryobates sp? 2.
19. Red-shafted Flicker 1.
20. Sage Hen (Mustang Mt.) 7.
21. Horned Owl. 2
22. Mountain Bluebird 10+
23. Pileolated Warbler 1.
24. Turkey Vulture 4.

Saw the following mammals here: Eutamia, Callospermophilus,

W. B. Davis.

Pinchot Creek, White Mountains,
8200 ft., Esmeralda Co., Nevada.

June 4, 1933 (Continued).
Sylvilagus, Peromyscus,
Ochotona, and evidence of Mt.
Lion and Porcupine.

June 5, 1933.

We decided to hike back to the Cony slide visited on the 3rd so got up early. When I was cooking breakfast an Ochotona ran across a small rock slide about 40 ft. away. It ran up the hill a short distance, then turned around and came back down, finally coming to rest on the top of a rock where it watched me. I gave it a dose of #12 shot and it fell off the rock. I rushed up there, found a big blotch of blood but could not see the Cony. Went back to the camp, cooked and ate breakfast, then Russell and I went back and spent a few minutes turning over boulders until we found it, a large ♀ with four embryos x30 mm. She had crawled down hill a distance of fully eight feet from where she had been shot, a trait of most badly wounded animals.

W. B. Davis. Pinchot Creek, White Mountains
8200 ft., Esmeralda Co., Nevada.

June 5, 1933.

As a result of this find of Conies so near at hand, we decided to search the nearby rock slides and succeeded in locating several others, but failed to bag any. I set out five rat traps for them, four near a place they were heard "squeeking" and one near a hay pile under a large boulder.

We had not suspected the presence of these Conies, for we were in the bottom of the canyon and all those located were back of a small hill and we could not hear them from camp. The one I killed this morning made no sound, but the movements attracted my attention.

I caught two Thomomys in my two sets but one was so badly eaten by ants that it had to be discarded.

It snowed this morning and the sky this evening bids fair of another storm tonight

W. B. Davis.

Cloverdale Ranch, 22 mi. W
Manhattan, 5697 ft., Nye Co., Nevada

June 6, 1933.

I looked at my traps this morning in Pinchot Cr. Canyon but had no luck with the Conies. Peromyscus had eaten the bait off four traps and the one set near the "hay pile" had been partially covered with grass.

Examination of the "hay pile" revealed the following: grasses, pine needles, pine cones, pine stems, thistles and other herbs I did not know.

We broke camp and left Pinchot Canyon at 10:30 A.M. and drove to Tonopah via Coaldale. We talked with Carl Rick, the game warden at Coaldale, and were informed that the Mt. Sheep were leaving Red Mountain and were migrating into the White Mts. and the Monte Cristo Range. He said he was positive there were 15 individuals in the White Mts. and many more than that in the Monte Cristo Mts., the latter being under his close care, observation and protection.

W.B. Davis Cloverdale Ranch, 22 mi W Manhattan, 5697 ft., Nye County, Nevada.

June 6, 1933.

He keeps a spring dug out for them in what he calls "Sheep Canyon", 4½ mi. NE of Coaldale and he says he has counted as many as 159 there at one time. He said they were very tame and could be approached within 25 yds. The ewes have had their lambs now, but they are still very small.

He has been having trouble with poachers and he claimed it did no good to cause an arrest for the Justices of the Peace were giving him no support.

We noticed plenty of old deer sign in Pinchot Creek Canyon but could find no deer nor any new sign. Mr. Rick said the presence of numerous Mt. Lion in that region kept the deer down in numbers, and I can well believe it from the number of Mountain Lion tracks we saw there.

We arrived in Tonopah at 1:30 P.M., got our mail, ate

W. B. Davis.

Cloverdale Ranch, 22 mi w Manhattan
5697 ft., Nye County, Nevada.

June 6, 1933.

dinner and drove to the above locality. There was a heavy rain over the whole valley this afternoon, but when we got here evidence indicated the fall had been ~~been~~ slight there.

We made camp and set out to look for Thomomys in the fields of this ranch. Both Russell and I looked the whole place over (I went at least a mile above the ranch house) but we could find no evidence of the presence of gophers. There were no mounds, new nor old, and the Indian working on the ranch told me he had never seen any there.

Ammospermophilus are common enough and are considered as pests. These animals are called "gophers" by the residents here.

W.B. Davis. Cloverdale Ranch, 22 mi. W Manhattan, 5697 ft., Nye Co., Nevada.

June 7, 1933.

Spent part of the forenoon making up specimens collected at Pinchot Creek.

Pinchot Creek, White Mountains 8200 ft., Esmeralda Co., Nevada, June 5, 1933.

201 ♀	Ochotona	4 emb x 35 mm.	192-15-27-20	wt. 156.8 gr.
202 ♂ skin+skeleton	Eutamias		173-76-30-17	" 31.8 "
203 ♂	Thomomys		204-56-27-5	" 101.8 "

Cloverdale Ranch, 22 mi. W Manhattan 5697 ft., Nye Co., Nevada. June 7, 1933

skeleton only 204 ♂	Brewer Sparrow
skeleton only 205 ♂	Desert Sparrow
206	Whip-tailed Lizard
207	Leopard Lizard
208	Horned Toad.

This afternoon both Russell and I looked again for Thomomys but neither of us could find a trace. I went down the creek but it soon played out by disappearing into the desert sands.

Cloverdale Ranch, 22 mi. W Manhattan
W.B. Davis 5697 ft., Nye Co. Nevada.

June 7, 1933.

The ranch area under water is about 80 acres in extent, most of which is a meadow saturated with water. The rest, used as sheep pasture, is irrigated so often and so much, by merely letting the fall flow of the creek to spread over the ground, that it is likely gophers could not exist there.

Lepus californicus were quite plentiful in the Artemesia. Last night I heard the first Coyote on the trip.

The following birds were noted here:

1. Say Phoebe
2. Bullock Oriole
3. Brewer Sparrow
4. Desert Sparrow
5. Horned Lark
6. Nevada Redwing
7. Brewer Blackbird
8. Meadowlark.
9. Mockingbird
10. Turkey Vulture
11. Mourning Dove
12. Poor-will.

We were packed up and ready to go to Peavine Ranch, some 15 miles east, about noon.

W. B. Davis

Peavine Ranch, 7 mi. N San Antonio, 6000 ft., Nye Co., Nevada.

June 7, 1933.

We arrived here about three P.M after passing over a barren stretch of terraine between the two ranches, save for Mud Springs about mid way. My Seyler, the owner of Peavine Ranch, an old timer here, gave us permission to trap and camp on his property. He told us there were plenty of gophers and that they were a serious pest in his gardens.

I made 10 sets in the pasture S.E. of the house. Most of this area is boggy from the numerous springs arising there, but there was much land that was damp but not saturated. Here the gophers were working

Russell met Mr. Stevens, owner of the Cloverdale Ranch and learned that Mr. Stevens had never noticed any gophers on his place.

Mr. Seyler has a large ranch

W. B. Davis.

Peavine Ranch, 7 mi. N. San Antonio, 6000 ft., Nye Co., Nevada.

June 7, 1933

here, raises a good deal of alfalfa, has a large orchard and a good size garden. This is possible on account of the water available from Peavine Creek which heads in the Toyobe Mountains NW of here.

We saw our first black-billed Magpie today.

June 8, 1933.

I looked at my Thomomys sets this A.M. Had seven, 2 adult males, 4 adult females and 1 young female. Reset all my traps and spent the A.M in making up skins.

Visited my traps again after dinner and had 1 ♂ and 3 ♀ adults and 1 young ♀. The young one was not saved. Reset all my traps in different burrows. Killed a male and a female Mountain Bluebird which were saved as skeletons only. Looked at my traps again at 4 P.M. and had three more Thomomys

W. B. Davis

Ravine Ranch, 7 mi N San Antonio,
6000 ft., Nye Co., Nevada.

June 8, 1933.

1♂ and 2♀♀. Also killed a male Lazuli Bunting and a ♂ Yellow Warbler both of which were saved as skeletons only.

Have just about trapped out the area I am working except a few small burrows. Reset my "spring" traps and also set four rat traps for "Ammos" in a dry waste field along the creek SE of the ranch house. Their burrows are quite numerous there and yesterday evening I saw two of them disappear down burrows at my approach.

Russell has been trapping in the orchard and garden and says he is about out of gophers in his area.

I talked with an Indian who is working here and he claims there are plenty of deer near the headwaters of Ravine Creek. He also claims he has seen Spilogales along the creek but denies the presence of Citellus grammurus. We have seen no

W. B. Davis Beaver Ranch, 7 mi. N San Antonio,
6000 ft., Nye Co., Nevada.

June 8, 1933.
Rock Squirrels though we have looked and the territory looks very favorable.

I have seen the following birds here:

1. Black-billed Magpie.
2. Mountain Bluebird
3. Lazuli Bunting
4. Nevada Redwing
5. Brewer Blackbird
6. Western Wood Pewee
7. Arkansas Kingbird
8. Poorwill (Heard one)
9. Chat (heard one but couldn't see it)
10. Tree Swallow
11. Rough-winged Swallow.
12. Brewer Sparrow.
13. Western Meadowlark
14. Yellow Warbler.
15. Mockingbird
16. Rock Wren.
17. Cedar Waxwing.

W. B. Davis. Pearine Ranch, 7 mi. N. San Antonio, 6000 ft., Nye Co., Nevada.

June 8, 1933.

209♂	Thomomys	230-73-30-6	wt. 149.0 gr.
210♂	"	270-88-33-8	" 212.6 "
211♀	"	208-63-28-6	" 94.0 "
212♀	"	216-65-30-6	" 107.8 "
213♀	"	215-77-31-6	" 134.1 "
214♀	"	210-67-27-6	" 130.0 "
215♂	"	233-76-30-6	" 177.0 "
216♀	"	208-68-28-6	" 114.5 "
217♀	"	216-70-30-6	" 105.3 "
218♀ skeleton only	"	204-60-29-6	" 103.0 "
219♂ skeleton only	Mountain Bluebird.	Testes 12 mm.	" 27.5 "
220♀	"	" Ovaries 1 mm. sw.	" 31.5 "
221♂	Thomomys.	235-74-31-9	" 175.2 "
222♀	"	210-74-31-6	" 119.1 "
223♀ skeleton only	"	214-69-30-6	" 132.0 "
224♂ skeleton only	Yellow Warbler		" 8.9 "
225♂	Lazuli Bunting.		" 13.3 "

W.B. Davis,
Meadow Creek Ranger Station,
Toquima Mtn., Nye Co., Nevada.

June 11, 1933.

We spent the morning of June 9th in packing and getting things in order so we could visit the Pablo Ranch, on Pablo Creek on the west side of Big Smoky Valley about 15 miles north of Peavine Ranch, to trap for Thomomys

We broke camp about noon, drove to the Pablo Ranch and investigated for Thomomys working. None was found. The only crop being raised, save a small orchard and berry patch, was alfalfa and the method of turning the entire supply of water from the creek onto the fields is probably the cause for the lack of gophers. The ground is soaked most of the time but since the soil is composed of alluvial sand with plenty of gravel down deeper, permitting excellent drainage into the valley below, this type of irrigation can be resorted to without damage to the crops. We looked through the orchard, the pasture and the alfalfa

W. B. Davis. Meadow Creek Ranger Station
Toquima Mts., Nye Co., Nevada,

June 11, 1933.
but could find no single trace of Thomomys.

We left Pablo Ranch the same afternoon, about 2:00 P.M., heading for the east side of Mt. Jefferson via. Manhattan, and Meadow Creek Ranch and arrived here about 5:30 P.M. June 9.

Mt. Jefferson lies to the north of our camp about four miles. This mountain has three peaks, South Summit, Middle Summit, and North Summit; the latter being about seven miles north of here. At this writing there is ~~a~~ very little snow on the mountain and the bare, rock slopes on this, the east, side give little hope of finding much wild life on them.

We are camped in a little two-roomed cabin about 100 yds ENE of the Ranger Station, and between our camp and the hills on the east lies a large green, boggy meadow thru which Meadow Cr. flows.

The soil is sandy with many rocks on

W.B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada.

June 11, 1933.

the hills and the entire region is covered with Artemesia, dotted here and there with Pinus monophylla.

Our maps give no elevation for this area, but I believe this locality to be somewhere near 7500 ft, and Mt. Jefferson to be about 3,000 ft higher

I set a dozen mouse traps in the cabin to rid it of any mice that might be living there. Also made one set for Thomomys.

June 10.

Had 1♀ Dipodomys and 2♂+1♂ Peromyscus m. sonoriensis in my traps in the cabin and a good adult ♂ gopher in the gopher set.

We left camp at 7:00 A.M. to climb Mt. Jefferson in search for Marmots. This is type locality for M. f. parvula that Howell described in 1915. We climbed the ridge to the west of camp and from there to the top of South Summit, investigating rock slides and rock piles for evidence of their presence. I followed the east side of

W. B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada,
(Written June 11, 1933)

June 10, 1933.

Jefferson Creek, crossed over and followed Wild Horse Canyon to the top, working over all the rock slides available. I reached the top about 12:30, ate lunch, walked out onto part of Middle Summit and returned to camp via Sawmill Canyon, Wild Horse Canyon, Jefferson Creek and then by following the west side of the ridge back to a place opposite camp. Arrived in camp about 6:00 P.M. having hiked about 15 miles.

I saw no sign of Marmota, though Russell found old droppings on the ridge about two miles S. of the South Summit. I found several slides in which there were Conies, but did not succeed in taking any.

I took two Eutamia, one picta the other quadrivittatus and one Clark Nutcracker.

Mr. Stuart, manager of the Meadow Creek Ranch told us he had ridden this part of the country for the past two

W.B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada,
(Written June 11, 1933)

June 10.

years and he had never seen any Marmots. The Indians with whom we have talked, however, claim they are in here. The presence of old droppings prove the have been here and I can think of no reason for their seeming absence now other than the long dry season that has prevailed for the past 5 or 6 years.

I saw the following birds on this hike: Clark Nutcrackers, abundant; Rock Wren 4+; Horned Lark sp? 4.; Mountain Bluebird, 2; Mountain Chickadee, 1; Sage Thrasher, 2.

Old Mountain Sheep sign was plentiful on top of South Summit as were the droppings of some kind of Rabbit. Russell found an old, much weathered sheath of the horn of a Mountain Sheep on the monument of rocks at the top of South Summit.

W. B. Davis.

Meadow Creek Ranger Station 78.
Toquima Mts, Nye Co., Nevada.

June 10.

226 ♂	Thomomys	217-74-30-5 4 emb x 30 mm.	wt. 174.7 gr.
227 ♀	Dipodomys	235-130-40-14	" 57.9 "

2.5 mi N Meadow Creek Ranger Station, Toquima Mts, Nye Co., Nevada. June 10, 1933.

228 ♀	Eutamias	222-78-31-18	wt. 50.5 gr.
229 ♂	"	158-64-27-14	" 31.2 "
230 ♀	Clark Nutcracker		

Thomomys workings are quite numerous both here and farther up on the mountain. Have noted several Callospermophilus around rock piles near camp. Eutamias are present, too.

Down the meadow about a mile east of camp I saw several small brown Citellus. They probably are C. mollis.

Mr. Stuart reported Porcupines were numerous here, and that they were doing considerable damage to his wheat crop by eating the heads of the plants.

Around camp I have

W. B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada.

June 11, 1933.
noted the following birds,
1. Horned Lark subsp?
2. Brewer Blackbird.
3. Barn Swallow
4. Rough-winged Swallow
5. Mountain Bluebird. a pair have a nest in a box nailed to the wall of the small back room of this cabin. Five partly incubated eggs are in the nest.
6. Say Phoebe
7. Brewer Sparrow
8. Sage Thrasher
9. Piñon Jay
10. Rock Wren
11. Black-billed Magpie. These are in the willows along the creek about a mile E of camp.
12. Red-shafted Flicker.
13. Sparrow Hawk.
14. Western Red-tail.
15. Turkey Vulture.
16. Green-tailed Towhee.

W.B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada.

June 11, 1933.

This afternoon was spent in hunting and setting out traps near camp.

I made five sets for Thomomys in the semi-boggy ground along the creek about 100 yds. south of camp. The ground is a soft, black, peat-like formation and the runways were so large I could shove my doubled-up fist into them.

Russell found a Red-tail's nest, on a cliff just east of camp across the meadow, that contained three large young hawks. These were taken alive.

I collected a pair of Say Phoebe. They had a nest under an overhanging ledge of rock near the creek. The eggs were too far advanced in incubation to save them.

A colony of Cliff Swallows has taken up its abode nearby. They have their nests plastered to the cliff on which the hawk's nest was found.

I set 5 mouse traps in sage near camp.

W. B. Davis.

Meadow Creek Ranger Station.
Toquima Mts., Nye Co., Nevada.

June 12, 1933.

231 ♂	Perognathus parvus	167-87-22-8.5	wt. 16.0 gr.
232 ♂ skeleton only	Dipodomys ordii	227-139-39-14	" 50.6 "
233 ♂ skeleton only	Say Phoebe		" 14.0 "
234 ♀	" "		" 12.0 "
235 ♂	Thomomys bottae	227-67-30-5	" 165.2 "
236 ♂	" "	222-64-31-5	" 169.6 "
237 ♀	" 5 emb x 10 mm.	231-74-31-6	" 155.5 "

Antone Creek, 2 mi. S. Meadow Creek Ranger Station, Toquima Mts. Nye Co., Nevada. June 12, 1933.

238 ♀	Citellus oregonus	278-70-40-15	wt. 329.2 gr.
239 ♀	Sylvilagus nuttallii	5 emb x 20 mm. 385-60-95-78	" 883.4 "

Out of the fifteen traps set in the Artemesia near the cabin I took 3♂, 1♀ Peromyscus m. sonoriensis, 1♂ Perognathus parvus, 1♂ Dipodomys ordii; the last two were saved as specimens.

We left camp this A.M. about 6:00 to look for Marmots along Antone Creek, a tributary of Meadow Creek which enters the latter about two miles south-east of camp. We had

W. B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada.

June 12, 1933.

Was told by Mr. Stuart the the government trapper had told him he had seen Marmots near an old mine 1.5 mi. up Antone Creek. We searched the rocks for sign, but found nothing fresh, and saw no trace of Marmots even though we walked at least a mile and a half up the creek from the mine. In all we hiked about ten miles.

Conies were heard in the rock slides and "Callos" were quite numerous around the mine. I saw two Pygmy Rabbits in the tall sage along the creek. Citellus oregonus were found in several places along the road between our camp and the cabin at the mine and I succeeded in taking one adult female. These are the same ones mentioned on page 78 in my notes. Several half-grown young were noticed.

We got back at our camp about noon and spent from

June 12, 1933.
then until four o'clock preparing specimens.

Our water supply was exhausted so we loaded the cans into the truck along with a few traps and drove back to the mine. Russell set several rat traps for "Callos" and one steel set at a hole under the cabin, into which I had seen something large and brownish-gray disappear on our first visit, and we hoped our catch might be a Marmot. Russell noticed a Microtus mordax in the grass along the stream in the morning when we were there, so each of us set 15 mouse traps along the creek.

I noticed two Fox Sparrows along the stream, one of which had a worm in its mouth and which disappeared into a ticket of willows.

We loaded our cans at a clear, cold spring and got back to camp about 6:00 P.M.

I set 15 mouse traps 30 paces apart in the Artemesia near camp.

W. B. Davis.

Meadow Creek Ranger Station
Toquima Mts., Nye Co., Nevada.

June 12, 1933.

While at the mine I shot a *Sylvilagus nuttallii*. We ate the rabbit for supper and saved the skin and skull as a specimen.

About half a mile up Antone Creek there is a large cliff containing many "pot holes" and in one such hole was the nest of a Red-tail. We were unable to ascertain the contents of the nest, but we did see the adult bird. A colony of Cliff Swallows was also nesting there, and the presence of a Sparrow Hawk nearby might be an indication that it, too, was using this cliff for a nest site.

In the forenoon, when we were afoot along Antone Creek, we found several nests of the Black-billed Magpie, all of which contained young. The nests were placed in the rather scanty, slender growing willows along the creek and none of them was more than twelve feet above the ground. They were easily visible in such locations.

W.B. Davis.

Meadow Creek Ranger Station
Toquima Mts., Nye Co., Nevada.

June 13, 1933.

2407 ♀ Perognathus parvus 174-94-28-8 wt. 17.2 gr.
2417 ♀ Thomomys (sembx20) 210-58-28-6 " 141.5 "

I got up about 6:00 this morning and looked at my traps; the mouse traps set last night and two gopher sets that had been out since the 11th. I caught 1♀ Thomomys, 1♂ Perognathus parvus and 1♀ Peromyscus m. sonoriensis. Took in all of my traps.

We drove back to the mine to look at our traps. On the way over I drove the truck and Russell succeeded in killing three Citellus oregonus. I had only one ♂ Peromyscus in my traps. Russell took two Microtus mordax and two "Callos". Nothing was in the steel set. We collected all our traps and returned to camp where we spent the major portion of the remaining time in making up specimens and writing notes.

I found fresh sign of Brachylagus idahoensis in the tall sage not over 50 yards from camp, but could locate no freshly used burrows.

W.B. Davis.

Meadow Creek Ranger Station,
Toquima Mts; Nye Co, Nevada.

June 14.

Got up about 5:30 A.M. and looked at 25 mouse traps I had set in the open Artemesia last night. Caught 3 ♂, 1 ♀ Peromyscus m. sonoriensis, all of which were fed to the young Western Red-tails we have captive.

We left camp at 7:00 A.M. and investigated Mt. Toquima, a peak in the Toquima Mountains some two or three miles to the SW of camp, for sign of Marmots. Although all the likely looking rock piles and slides were investigated we could find no trace of them. In fact, very little animal life was found on the course of this six mile hike.

I saw five deer, one of which was a buck with horns that were just beginning to grow. All five were hemionus. This was the best looking deer country we have seen in this locality. The cover consists of thickets of Mountain Mahogany and Quaking Aspen. Plenty of water is available in the numerous streams that head on

W. B. Davis.

Meadow Creek Ranger Station,
Toquima Mt., Nye Co., Nevada

June 14, 1933.

this peak.

I took one "Calls" high on the east side of the peak near the headwaters of a small creek. I also saw two Eutamias and one Cottontail.

Birds were not numerous, the Clark Nutcracker being the most common. I saw the following birds:

1. Mt. Chickadee 2. Clark Nutcracker.
3. Sage Hen 4. Mt. Bluebird.
5. R.-S. Flicker 6. Rock Wren.
7. Brewer Sparrow 8. Green-tailed Towhee
9. Thrush sp? 10. Purple Finch. sp?
11. Warbler sp? Looked something like an Audubon Warbler but I couldn't get a good look nor a good shot at it.
12. Nuthatch sp?

Found a nest of a Green-tailed Towhee containing four fresh eggs. The nest was placed in a rather large bushy-topped Artemisia about two feet off the ground. The bird flushed when I was about five feet from the nest. The outer nest was made of Artemisia twigs and the inner nest was lined with cow hair.

W. B. Davis.

Meadow Creek Ranger Station,
Toquima Mts., Nye Co., Nevada.

June 14, 1933.

I also located a Brewer Sparrow's nest containing one fresh egg. Birds at this elevation are nesting rather late, though Russell found a nest of Pica p. hudsonica with 7 heavily incubated eggs.

2 mi. SW Meadow Creek Ranger Station, Toquima Mts., Nye Co., Nevada. June 14, 1933.

242 ♂ Callospermophilus 257-97-39-18 wt. 135.0 gr.
243 Green-tailed Towhee's Nest + 4 fresh eggs. Nest placed two feet off the ground in the larger branches of an Artemisia.

We have been here six days, hiked over 30 miles of mountainous country and have utterly failed to find any traces of Marmots having been in this region recently.

This is our last camp on this trip, so tomorrow, June 15., we leave here and head for Berkeley, California via Austin, Reno and Sacramento. We have

W. B. Davis.

Meadow Creek Ranger Station
Toquima Mts., Nye Co., Nevada.

June 14, 1933.

experienced ideal weather conditions most of this trip and have not been impeded by late lying snows. Our stay in the White Mountains was the only stop where we suffered from cold.

We left Jefferson country at 6:00 A.M. and drove straight through to Oroville, California, arriving there at 11:00 P.M. the same day.

W. B. Davis. 8 mi. E Reno, 4500 ft., Washoe Co., Nevada. June 28, 1933

244 ♀ Perognathus formosus 182-103-23-9
245 ♀ " " 175-93-23-10
246 ♂ Peromyscus crinitus 176-95-23-19.

Toquima Range, 1 mi E Jefferson, 7600 ft., Nye Co., Nevada. June 29, 1933.

The group of us left Berkeley June 27 at 9:15 A.M. in foggy weather. This climatic condition cleared up when we reached the Sacramento Valley. We ate dinner at Roseville and left there at 1:05; passed through Colfax at 2:20 P.M. and reached the Summit of the Sierras at 4:25. We ate supper in Reno; left there at 7:00 P.M. and made camp for the night along side the road by a barren, rock strewen hill eight miles east of Reno. Ward Russell and I put out individual trap lines. I placed fifteen traps at 20 pace intervals along the slope of the side of the hill, practically all of them being placed in rather rocky situations. Saw numerous Night Hawks this evening.

Berkeley, Alameda County, California

Nov. 30, 1933.

The remainder of these notes are copies of those made by me when I was a member of the Zoology Class 1933 Nevada Collecting Expedition. I was serving as cook for the group from June 28 to August 1 - at which latter date Hall and the main group returned to Berkeley while Russell, Gorham and I remained in the field until August 14th.

Members of the party were;
Dr. E. Raymond Hall - In charge.
Ward Russell - Field assistant
W.B. Davis - Cook.
Francis Gayle - U.C.
Frank Gorham U.C.
Dr. Paul Wilson - Marin Jr. College.
Steven D. Durrant - U. of. Utah.
Olie. Lilieland - Pasadena Jr. Hi. Sch.
Jack Arnold - Colinga High School.

W. B. Davis.

Toquima Range, 1 mi. E Jefferson, 7600 ft., Nye Co., Nevada.

June 29, 1933.

On the morning of the 28th I found four mammals in my traps; 2 ♀ *Perognathus formosus*, 1 ♂ *Peromyscus crinitus*, and 1 ♂ *Neotoma lepida lepida*. The first three were saved as specimens.

We broke camp at 5:20 and drove to Fallon for breakfast.

Between Lenn and Fallon the following birds and mammals were noted:

Dipodomys sp.? Run over in road.
Citellus mollis - Common - near Fallon.
Cormorant sp. - on Truckee River.
Black-billed Magpie.
Yellow-headed Blackbird.
Arkansas Flycatcher.
Gull - Calif. or Ring billed?
Killdeer 30+
Avocet. 30+
Pied-billed Grebe.
Coot.
Canvas-back
Valley Quail
Sage Thrasher
White-faced Glossy Ibis. 6

W.B. Davis Toquima Range, 1 mi. E. Jefferson, 7600 ft., Nye Co., Nevada.

June 29, 1933.

Ate dinner in Austin and drove to the above locality, arriving about 6:30 P.M. having traveled 445 mi. from Berkeley in the two days.

247 ♂ Microtus mordax 159-50-21-12
Caught in grass along the stream.

June 30, 1933
Toquima Range, 1 mi. E Jefferson, 7600 ft., Nye Co., Nevada

248 ♂ Eutamias minimus picturatus
184-80-28-14 wt. 38.4 gr.

July 1, 1933
Toquima Range, 1 mi. E. Jefferson 7600 ft. Nye, Co., Nevada.

249 ♂ Western Warbling Vireo wt. 12.0 gr.
250 ♂ Humming bird - Selasphorus platycercus 3.3 ..
251 ♂ Western Chipping Sparrow .. 12.4 ..
252 ♂ Audubon Warbler .. 12.4 ..
253 ♂ Lazuli Bunting (Coll. by J. F. Arnold) .. 15.2 ..

July 1, 1933
Toquima Range, N. Slope Toquima Peak. 9300 ft., Nye Co., Nevada.

254 ♀ Grouse sp.? D. o. obscurus (Coll. by W.C. Russell) wt. 891 gr.

W.B. Davis Toquima Range, 1 mi. E. Jefferson, 7608 ft., Nye Co., Nevada.

July 4, 1933.

Toquima Range. S.W. Slope Mt. Jefferson, 11000 ft., Nye Co., Nevada.

July 2, 1933

255♀ Mt. Bluebird (skeleton only) wt. 30.7 gr.

Toquima Range, 2 mi. E. Jefferson 7800 ft., Nye Co., Nevada.

256♂ Tolmie Warbler wt. 11.2 gr.

Monitor Valley, 9 mi. E. Toquima Mt., 7000 ft. Nye Co., Nevada.

July 7, 1933

257♀ Neotoma l. lapida 251-81-29-28 wt. 138.3 gr.

Trapped in a deserted house.

Hot Creek Range, 8 mi. W. Tybo, 5700 ft. Nye Co., Nevada.

July 9, 1933.

258♂ Crotophytus C. baileye

Taken among rocks in old stream bed.

9 mi. W. 3 mi S. Tybo 6200 ft., Nye Co., Nevada

July 10, 1933

259 Microdipodopa megacephala 160-79-24-11 (E.R. Hall. coll.)

260 " " - 81.5-24-11 (Coll. by E.R. Hall)

261 " " 152-84-23.5-11 (E.R. Hall coll.)

262 " " 154-81-23.5-10 (" " ")

W.B. Davis

Monitor Range, Green Monster Canyon, 7500 ft., Nye Co., Nevada.

July 12, 1933.

9 mi. W. 3 mi. S Tybo, 6200 ft. Nye Co., Nevada.

July 10, 1933.

2637 ♀ Microdipodops megacephalus 163-91-24-11 (E.R. Hall Coll.)

Monitor Valley, 9 mi. E. Toquima Mts. 7000 ft., Nye Nevada

July 6, 1933

2647 ♀ Dipodomys o. columbianus 212-115-38.5-13

Monitor Range, Green Monster Canyon, 7500 ft., Nye Co., Nevada.

July 12, 1933

2657 ♀ Eptesicus fuscus 114-46-9-18 Tr. 8 wt. 14.4 gr.

2668 ♂ Eutamias quadrivittatus 222-96-33-18 (F. Gorham. Coll.) " 57.8 "

Monitor Range, Green Monster Canyon, 7500 ft. Nye Co. Nevada.

July 13, 1933.

2677 ♀ Eptesicus fuscus 1 amb x 29 120-47-9-18 Tr. 8 wt. 23.0 gr.

2687 " " 118-42-8-17 Tr. 8 " 21.3 "

2697 ♀ Tadarida mexicana 1 amb x 29 97-35-9-18 " 15.2 "

2707 ♀ Eptesicus fuscus 118-46-9-18 Tr. 8 " 16.3 "

2718 ♂ " " Young 58-15-6.5-closed " 3.3 "

This young found with dead mother 18 hrs. after she was shot. ♀ probably wounded and young born after she fell to the ground. Young still alive and very active, producing a continuous squeaking.

W.B. Davis Monitor Range, Green Monster Canyon, 7500 ft., Nye Co., Nevada.

July 15, 1933.

2729 ♀ Eptesicus fuscus 113-43-9-17 Tr. 7 wt. 18.8 gr.
2730 ♂ Tadarida mexicana 88-37-8.5-18 Tr. 4 " 10.0 "

Monitor Range, Green Monster Canyon. 7500 ft., Nye Co., Nevada.

July 17, 1933.

2749 ♀ Eptesicus fuscus 125-50-9-18 Tr. 8 wt. 15.3 gr.
2750 ♂ " " 54-18-7-8 " 1.9 "

These two are mother and offspring. The mother was shot from the air the evening of July 14; The young was born that night in captivity. It was found clinging to the mother's teat. She was observed washing the young with her tongue and hovered it with her tail membrane while she was clinging to the top of the cages. The female was not fed, and on July 16 the young was found clinging to the screen on the cage separated from its mother. It was not observed with her again. Both were killed today, the ♀ still showing a great deal of vitality tho she was pierced thru the thorax, snout and wing with shot. The young was very weak and emaciated.

W.B. Davis Hot Creek Range, 4 mi. N. Hot Creek 6400 ft., Nye Co., Nevada.

July 18, 1933.

Toquima Range. 2 mi. E. Jefferson. 7800 ft., Nye Co. Nevada.

276 ? Accipiter cooperi. OK

This bird was taken July 3 along with 3 others from the nest while they were still in the "down" stage. It died last night. The body was very much emaciated, tho there were opportunities for eating all it wished. Could not sex the specimen.

277 ♂ accipiter cooperi.

Hot Creek Range, 4 mi., N. Hot Creek, 6400 ft., Nye Co., Nevada. July 18, 1933

278 ♀ Ammospermophilus leucurus 182-54-37-12 wt. 64.6 gr. (Collected by E. R. Hall.)

Hot Creek Range, 4 mi. N. Hot Creek, 6400 ft., Nye Co. Nevada. July 19, 1933.

279 ♀ Amphispiza OK b. deserticola wt. 14.0 gr.

W.B. Davis Hot Creek Range, 4 mi. N. Hot Creek, 6400 ft., Nye Co., Nevada.

July 19, 1933.

Ralston Valley, 34 mi. E. and 1 mi. N. Tonopah, 5650 ft., Nye Co., Nev. July 19, '33

280 ♀ Perognathus parvus 165-87-22.5-8
281 ♀ " " 167-88-22-8
282 ♂ Peromyscus m. sonoriensis 159-69-20-18.
283 ♂ " " " 166-73-20-16.
284 ♂ Microdipodops 166-92-27-10
285 ♀ " 166-89-26-9
286 ♂ " 170-92-26-11
287 ♂ " 145-72-26.3-10.2
288 ♂ Peromyscus m. sonoriensis 165-70-20-19
289 ♂ " " " 167-71-20-19

Numbers 280, 281, 282, and 283 were collected by W. C. Russell; the remainder by Frank Gorham.

Hot Creek Valley, 3½ mi. E. Hot Creek, 5650 ft., Nye Co., Nev. July 20, 1933.

290 ♀ Microdipodops (Coll. S.D. Durrant) 161-88-23-11 wt. 12.0 gr.

Ralston Valley, 34 mi. E and 1 mi N., Tonopah, 5650 ft., Nye Co. Nev. July 18, 1933.

291 ♀ Dipodomys m. levipes. (Coll. W.C. Russell) 265-155-41-13.
292 ♀ " " " (Coll. F. Gorham) 285-161-41-14.
293 ♂ " " " " " 291-170-41-14
294 ♀ " " " " " 265-153-42-13.

W.B. Davis Hot Creek Range, 4 mi. N. Hot Creek, 6400 ft., Nye Co., Nev.

July 20, 1933

2957 ♀ Woodhouse Jay OK wt. 73.3 gr.

N. end. Reveille Valley, Old Mill 6200 ft. Nye Co. Nev. July 22, 1933

2967 ♀ Peromyscus m. sonoriensis 164-64-19-19.5 wt. 20.3 gr.
2977 ♂ " (skull only) " 156-61-19.5-18.5 " 17.3 "
2987 ♀ " " " 165-65-19-19.5 " 18.5 "
2997 ♀ " " " 164-68-19-17.5 " 19.5 "

The above four specimens were collected by S. D. Durrant.

Quinn Canyon Mts. Big Creek 5700 ft., Nye Co., Nev. July 23, 1933

3007 ♀ Perognathus formosus 173-95-23-10
Collected by W. C. Russell.

Quinn Canyon Mts., Burned Cowel Canyon, 6700 ft., Nye Co. Nev. July 25, '33

3017 ♂ Erethizon epixanthum 765-187-108-27 wt. 15 lb.
I shot the above specimen at about 9:00 A.M. S. D. Durrant and I were driving up the canyon when we observed it hurrying off thru the Artemesia in order to seek shelter in the Piñon Pines.

W.B. Davis Quinn Canyon Mts., Burned Corral Canyon, 6700 ft., Nye Co., Nevada.

July 27, 1933

I set out eleven mouse traps last night near a small stream bordered by Wild Roses, Labiatae, and Salix, with Artemisia just beyond them.

Out of the traps I took 5 Peromyscus m. sonoriensis, two of which were saved, and one Microtus mordax. The latter was taken in a trap set in the midst of Wild Roses. Three traps were sprung but contained nothing.

302 ♂	Microtus mordax	147-49-19-13	wt. 21.5 gr.
303 ♀	Peromyscus m sonoriensis	156-70-18-18	wt. 19.5 "
304 ♂	" " "	136-58-19-18	" 15.3 "
305 ♂	Aphelocoma woodhousei		" 76.0 "
306 ♂	Pipilo maculatus curtatus		" 39.6 "
307 ♂	" " "		" 38.0 "
308 ♂	" " "		" 36.6 "
309 ♀	Carpodacus cassini		" 17.7 "
310 ♀	Eutamias dorsalis	210-90-33-18	" 53.2 "

This afternoon I hiked about ½ mile up the canyon looking for Pipilo m. curtatus. I took two immature birds of this species, one ♀ Carpodacus cassini and one Eutamias dorsalis. The Pipilos were found in large

W.B. Davis Quinn Canyon Mts., Burned Corral Canyon, 6760 ft., Nye Co., Nevada.

July 27, 1933.

Clumps of Rosa and Salix where adequate cover was close at hand. Two ♂♂ were seen singing from the tops of Pinus monophylla which were growing in the floor of the canyon, but I was unable to get close enough for a shot.

The Eutamias was taken in the midst of Artemisia and Chrysothamnus in the floor of the canyon, though Pinus was growing not more than 100 ft., away on the sides of the hills.

Aquilegia was found growing around the three springs there and several Trochilidae were observed feeding on them.

The hillsides in this locality are composed of shales for the most part and support a heavy stand of Pinus monophylla Juniperus; the undergrowth is largely Artemisia

W.B. Davis Quinn Canyon Mts., Burned Corral Canyon, 6700 ft., Nye Co., Nevada.

July 28, 1933.

311 ♂ Peromyscus m. sonorienseia 157-69-19-18 wt 132 gr.

This specimen was taken in a live trap set on the n. slope of the hill just back of camp.

Quinn Canyon Mts., Burned Corral Canyon, 6750 ft., Nye Co., Nevada July 28, 1933

312 ♂	Lophortyx gambelix	wt. 168.0 gr.
313 ?	" " young of #312	" 32.0 "
314 ?	" " " " "	" 20.0 "
315 ♂	" "	" 170.7 "

I have heard Quail calling for the past three days and this A.M., while on the way to the spring situated about 1/4 mi. E. of camp, I flushed two coveys, consisting of the two parents birds and the young. The parents refused to fly, though the young readily took to the air and flew about 200 ft., some of them landing in Pinus monophylla. I took the male bird of both coveys, and two young from one covey. The young kept up an incessant calling similar to that of a young turkey.

W.B. Davis Quinn Canyon Mts. Burned Corral Canyon 6700 ft. Nye Co., Nev.

July 28, 1933.

Quinn Canyon Mts. Burned Corral Canyon, 6750 ft., Nye Co., Nev. July 29, '33

3168 ♂ Eutamias dorsalis 203-90-31-19

3179 ♀ " m. pictus 190-89-29-19

Quinn Canyon Mts. Burned Corral Canyon, 6800 ft., Nye Co., Nev. July 29 '33

3188 ♂ Reithrodontomys 143-65-14-13

3199 ♀ Peromyscus m. sonoriensis 157-67-18-18

The above two specimens were trapped by Jack Arnold.

Quinn Canyon Mts., Burned Corral Canyon, 6750 ft., Nye Co., Nev. July 29, 1933

3208 ♂ Callospermophilus lateralis 258-90-36-18 wt. 160.0 gr.

This is the only "Calls" I have seen here, though F. Gorham took one young one. This one was in a shrub, eating the fruit.

He had his pouches filled with the fruit. I have noticed that Eutamias dorsalis and E. pictus are often seen in these shrubs, and also in Rhus trilobata eating the fruit.

W.B. Davis Quinn Canyon Mts., Burned Corral Canyon, 6700 ft., Nye Co., Nevada.

July 30, 1933.

Quinn Canyon Mts. Burned Corral Canyon, 7300 ft., Nye Co., Nev. July 30, 1933

3219 ♀ Dryobates wt. 57.0 gr.

Quinn Canyon Mts., Burned Corral Canyon, 6700 ft., Nye Co., Nev. July 30, 1933

3229 ♀ Myotis v. interior 102-45-7-13 Tr. 7 wt. 8.0 gr.
3230 ♂ " " " 100-44-7-13 Tr. 7 " 8.0 "

These two were shot at about 8:30 P.M. after dark while they were flying about a little pond endeavouring to drink.

Quinn Canyon Mts. 7 mi. E. Nyala 6700 ft., Nye Co., Nev. July 31, 1933.

325 ♂	Eutamias dorsalis	202-89-32-19	wt.	51.1 gr.
326 ♀	" "	215-100-31-19	"	54.0 "
327 ♂	" "	199-96-31-19	"	50.6 "
328 ♂	" "	200-89-30-19	"	48.7 "
329 ♀	" "	212-100-32-19	"	55.0 "
330 ♀	" "	212-98-32-19	"	53.1 "
331 ♀	" "	213-94-31-19	"	56.1 "
332 ♀	" "	Utah Univ. 212-99-32-19	"	52.5 "

Jack Arnold and I left camp about 6:30 A.M. and hiked about a mile west of camp to the

W.B. Davis

Quinn Canyon Mts., Burned Corral Canyon 6700 ft., Nye Co., Nevada

July 31, 1933.

cliffs that can be seen easily from here. I followed the dry creek bed down to the bottom of this canyon (Burned Canyon) and then followed a narrow alluvial slope up to the cliffs. There was an abundance of Rhus trilobata and growing along these dry water courses and it was in these that I found most of the Eutamias dorsalis. They seem to do most of their feeding early in the morning, from 6-9 A.M. for very few were seen on the return trip to camp which was reached at about 9:45 A.M.

When surprised, E. dorsalis utters a series of high pitched calls, but when the animal is running it is quiet. These calls are usually given when the animal is perched in some shrub and is well concealed.

W.B. Davis

Eagle Valley 3 mi. N. Ursino, 5900 ft.
Lincoln Co., Nev., August 2, 1933

White River Valley, 5 mi. E. Sharp,
Nye Co., Nevada. August 1, 1933.

333 ♂ Ammospermophilus leucurus 192-65-37-10

Eagle Valley, 3 mi. N. Ursino, 5900 ft.,
Lincoln Co., Nevada, August 2, 1933.

334 ♂ Eutamias m. pictus 178-82-30-13 wt 37.3 gr.

Quinn Canyon Mts., Mouth of Big Creek,
(horn only) ~~335~~ 5700 ft. Nye Co., Nevada July 24, 1933
335 Antilocapra americana (♂) horn only.

We left our last camp at Burned Corral at 8:15 A.M. Aug. 1 and got 5 miles E. of Sharp when transmission trouble developed on the Rio. Russell walked back to Sharp to see if we could get towed to Caliente. This was about 10:30 A.M. Gorham and I stayed with the truck for a couple of hours, then I went hunting. I walked about four miles back toward Sharp, following Cherry Creek from where it seeps into the sand and disappears. I

W. B. Davis

Eagle Valley 3 mi. N Wilne,
5900 ft., Lincoln Co., Nevada.

August 2, 1933.

Shot one Ammospermophilus leucurus while it was running through short Artemesia along the bluff of Cherry Creek Wash.

At the mouth of Cherry Creek Canyon I saw a Citellus grammurus but was unable to cross the creek to get a shot at it.

I noticed numerous mounds where Thomomys had been working in an alfalfa field about a mi. E. of Sharp. (Sharp is here designated as the ranch about a mi. E. of the Sharp Post Office. Such designation is the correct one for the P.O. has been ~~re~~moved. The owner of the ranch said the gophers were pests and that he had to resort to trapping to keep them in check. He also claimed that Citellus grammurus did considerable damage to his garden.

I returned to the car about 6:00 P.M. Gorham said he had shot at an Eagle during my absence.

Eager Valley, 3 mi. N. Wisine
5900 ft., Lincoln Co., Nevada.

August 2, 1933.

At about 7:30 Russell returned with a Mr. Youndt of the General Land Office and who is surveying in the Sharp region. With Mr. Youndt's help we took the top off the transmission and found a small bit of metal lodged between the teeth of the driving gear. This was removed, the car put together, and we started for Hiko at about 8:00 P.M. The roads were in very poor condition due to recent rains, so we did not arrive at Hiko until after 11 P.M. and here we camped for the rest of the night.

This A.M. we drove to Caliente where we had breakfast and purchased a few supplies. We arrived at this locality about 2 P.M.

Just below camp (south) Russell took a Citellus grammurus. Another one was seen at the same place but we were unable to get a shot at it. As we drove into camp another one was

W.B. Davis Eagle Valley, 3 mi. N. Ursine
5900 ft., Lincoln Co., Nevada.

August 2, 1933.
seen. I took a shot at it, but missed.

This afternoon I took a walk up a small canyon just west of the house in which we are camping. The principal vegetation was Pinus monophylla with Artemisia, Prunus, Rhus trilobata and Salix occupying the lower parts of the canyon. The soil is of sedimentary origin with a volcanic cap, the former forming cliffs in many places.

In a small grove of Prunus I found four Eutamias dorsalis busily engaged eating the fruit. When they saw me, they hurried down to the ground and ran up a talus slope. One of them stopped, climbed to the top of an Artemisia and kept up a series of sharp warning notes for about ten minutes. None of them was taken.

I returned to camp about 3 P.M. Our time was changed to Mountain Time at Caliente, so all time expressed while we are

W. B. Davis

Eagle Valley, 3 mi. N. Ursine,
5900 ft., Lincoln Co., Nevada

August 2, 1933
at this camp refers to Mt. Time.

About 4:00 P.M. I started setting traps in an alluvial wash and in a steep walled canyon to the west of our camp. I placed 100 mouse traps about 25 paces apart in Sarcobates, Artemesia, at the foot of rocky precipes, and ~~in~~ a few on bare, rocky ground. The soil in the alluvial wash is of clay and fine sand at the lower reaches of the plain, and gravel and sand in the middle and upper reaches. In places the Artemesia is higher than my head (5'9"). The Sarcobates was found only on the clay and clay-sand areas.

I shot one Eutamias m. pictus. It was running up the side of one abrupt hill. I saw one more but was unable to collect it.

This evening Russell found bats emerging from a small hole in the wall of this stone

W.B. Davis

Eagle Valley, 3 mi. N. Ursine, 5900 ft.,
Lincoln Co., Nevada. Aug. 2, 1933.

house. We propped my butterfly net a short distance from the opening and with this method, plus pulling them out of the hole with a pair of long forceps, we have taken 14 of them, two of which are Tadarida mexicana and the remainder Eptesicus fuscus.

Russell and Gorham made sets for Microtus in the swampy area just east of our camp.

Eagle Valley, 3 mi. N Ursine 5900 ft.,
Lincoln Co., Nevada. Aug. 3, 1933.

336♂	Perognathus p. oliveaceous	164-85-24-7	wt. 18.4 gr.
337♀	Eutamias dorsalis	203-89-30-23	wt. 52.2 gr.
338♂	" "	198-85-30-19	" 48.9 "
339♀	" "	213-92-32-18.5	" 59.2 "
340♀	Eutamias m. pictus	189-88-28-12	" 25.0 "
341♀	Peromyscus crinitus	166-86-19-17.5	" 14.0 "
342♂	" "	150-74-18-18	" 15.2 "

Aug 2, 1933.

343♀	Tadarida mexicana	101-40-9-19 Tr-5.	wt. 11.4 gr.
344♂	Eptesicus fuscus	106-39-10-13" 8	" 13.6 "
345♀	" "	115-48-10-16" 8	" 16.2 "
346♀	" "	110-47-11-15" 9	" 16.5 "

W.B. Davis. Eagle Valley, 3 mi. N. Ursine, 5900 ft., Lincoln Co., Nevada. Aug. 3, 1933.

347 ♂	Eptesicus fuscus	105-42-10-17	Tr. 8	wt. 16.7 gr.
348 ♂	" "	105-40-10-14	" 9	" 17.0 "
349 ♀	" "	128-52-11-17	" 10	" 18.2 "
350 ♀	" "	112-48-11-16	" 9	" 15.2 "

Aug 3, 1933.

351 ♂	Eutamias m. pictus	188-88-29-23	wt. 35.3 gr.
352 ♂	Eutamias dorsalis	208-94-31-30	" 45.6 "
353 ♀	Neotoma lepida	291-136-28-28	" 138.4 "
354 ♀	Perognathus f. oliveaceous	162-90-23-7	" 14.8 "
355 ♂	Reithrodontomys	135-64-15-13	" 11.0 "

Nos 351, 353, 354, 355 were collected by Frank Gorham.

This A.M. I ran my trap line and found 24 P. m. sonoriensis; 5 P. crinitus; 1 Eutamias dorsalis utahensis; one young Neotoma lepida and 1 Perognathus parvus. The P. sonoriensis were taken in each type of habitat except at the base of the cliffs in the step-walled canyon. Here I took Peromyscus crinitus and the E. dorsalis. The Neotoma was taken on a bare, rocky, north facing slope. All my traps were left out in hopes of catching Eutamias m. pictus.

W.B. Davis
1933.

Eagle Valley, 3 mi. N Ursine, 5900 ft.,
Lincoln Co., Nevada. Aug. 3, 1933.

I spent the remainder of the morning in making up specimens.

About 1:00 P.M. I ran my trap line again and found one E. pictus and one E. dorsalis. The former was taken in a trap set in Sarcobatus, the latter in a trap set in the sandy stream bed in the canyon.

Most of the afternoon was spent in making up specimens. About 5:00 P.M. I took in all my traps so I could set for Microtus in the meadow. I had one E. pictus in a trap set in the midst of Sarcobatus. It seems that this type of habitat is preferred to any other here.

I made 30 sets for Microtus along the stream in the meadow and also in a swampy spot covered with a high growth of grass and reeds. I found several places in the latter situation where there were piles of cut, green grass. The typical Microtus

W.B. Davis
1933.

Eagle Valley, 3 mi. N Ursine, 5900 ft., Lincoln Co., Nevada. 113.

August 3, 1933.

runways were lacking. Sets were made at such spots where there was cut grass. I made several sets on the leafy mats of water plants which were growing amongst the tules in the creek. The remainder of my sets was along the stream bank on low, shelving places.

Frank Gorham caught 10 Microtus montanus and Russell caught two in this same meadow. During the day Russell caught four more.

Russell shot two more Citellus grammurus. They are inhabiting the rocky talus slopes on the W. side of the valley. I saw one at the top of the rocky gorge about 1/4 mi. E of camp, but it was too far away for a shot.

Early this morning, just a few minutes after sun up, I saw two E. dorsalis on the hillside just south of our camp. They were on the ground running about,

W.B. Davis
1933.

Eagle Valley, 3 mi. N Ursine, 5900 ft.,
Lincoln Co., Nevada. Aug. 3, 1933.

evidently looking for food. I climbed the hill and they scampered to the top of a rock about 50 ft. away where they sat watching me. The tail was waved up and down and the reddish under part of the tail was seen in flashes. I shot one with #12 shot with my 410. I have found that E. dorsalis is not the elusive animal it is said to be and my experience has been that they are found feeding in the early hours of the morning on the fruits of Rhus trilobata Prunus and Squaw Berry and by looking for them in such situations I have been fortunate enough to take a goodly number of them.

August 4, 1933.

I visited my traps this A.M., but had no Microtus. I caught two L. m. sonoriensis in two sets I had made on the leaves of plants floating in the water, and two Porzana carolina

W.B. Davis 1933 Eagle Valley, 3½ mi. N Ursine, 5900 ft.; Lincoln Co., Nevada. Aug. 4, 1933.

both immature. Both rails were caught by the neck in traps set in the high grass.

Eagle Valley, 3½ mi. N. Ursine, 5900 ft., Lincoln Co., Nevada. Aug. 3, 1933.

356 ♂ Eutamias m. pictus 185-35-29-13 wt 33.4 gr.
357 ♀ Eutamias dorsalis 212-93-32-18 " 47.4 "
357 collected by Frank Gorham.

Eagle Valley, 3½ mi. N. Ursine, 5900 ft., Lincoln Co., Nevada. August 4, 1933.

358 ? Porzana carolina wt. 78.8 gr
359 ? " " " 63.5 "
360 ♂ Melospiza " 23.0 "
361 ♂ Scoleophagus cyanocephalus " 71.7 "
360 + 361 collected by W.C. Russell.
362 ♀ Eptesicus fuscus 115-50-11-16 Tr. 7. wt. 15.7 gr.
363 ♀ " " 125-51-11-17 " 8 " 17.0 "

Russell and Gorham left this P.M. to check on the southern range of Eutamias m. pictus, if possible. I remained in camp and in P.M. made 40 sets for Microtus at the margins of sloughs in a hay field about ¼ mi. above (north) Four camp. I in the

W.B. Davis 1933.

Eagle Valley, 3½ mi. N. Ursine, 5900 ft., Lincoln Co., Nevada. August 5, 1933.

evening I caught four more bats as they left a small hole in the side of the house. Only two of these were saved because the remainder were all immature.

364 ♀	Microtus montanus	157-37-21-14	wt. 47.0 gr.
365 ♀	" "	163-44-20-14	" 48.0 "
366 ♀	" "	170-45-21-16	" 53.4 "
367 ♂	" "	191-46-22-14	" 80.4 "

2 mi. S.E. Pioche, 6,000 ft., Lincoln Co., Nevada. August 5, 1933.

368 ♀	Peromyscus truei	180-88-21.5-26
369 ♂	Peromyscus m. sonoriensis	145-57-19-16
370 ♂	Perognathus p. oliveaceous	168-84-23-19
371 ♂	Eutamias dorsalis	201-86-31-21

The above four specimens were collected by W.E. Russell.

Russell and Gorham returned this morning with no Eutamias in pictus. It seems that this part of Eagle Valley in which we are camped is the southern limits of its range. This may be due to the difference in temperature between this part of the valley

W.B. Davis
1933

Eagle Valley, 3½ mi. N Ursine, 5900 ft.; 117
Lincoln Co., Nevada. August 5, 1933.

and that in the proximity of Ursine. Mr. Hammond, a rancher in Eagle Valley, and in whose house we are now staying, told me that in winter it was common for the temperature to be −30°F while at Ursine where he lives, only 3½ mi. S. of here, it is seldom below −10°F. This difference is evident in the summer, too, but probably not to such an extent. The only explanation I can think of for this difference is that in this part of the valley where we are camped there are numbers of springs and thus a higher humidity.

Due to these springs, the inhabitants of this region call this part of the valley "Spring Valley", though it is really a part of Eagle Valley.

We found no Callospermophilus here, so we have decided to move farther north and into the mountains to see if we can find them.

W.B. Davis
1933.

1/4 mi. W. Utah-Nevada Boundary
38° 17' N Lat., 7300 ft., Lincoln Co.,
Nevada. August 6, 1933.

3727 ♀ Eutamias dorsalis 192-85-29-18 wt. 54.1 gr.
3728 ♂ Sylvilagus n. grangeri 310-38-95-65 " 694.3 "
3747 ♀ Thomomys lotae 226-70-27-5 " 117.0 "

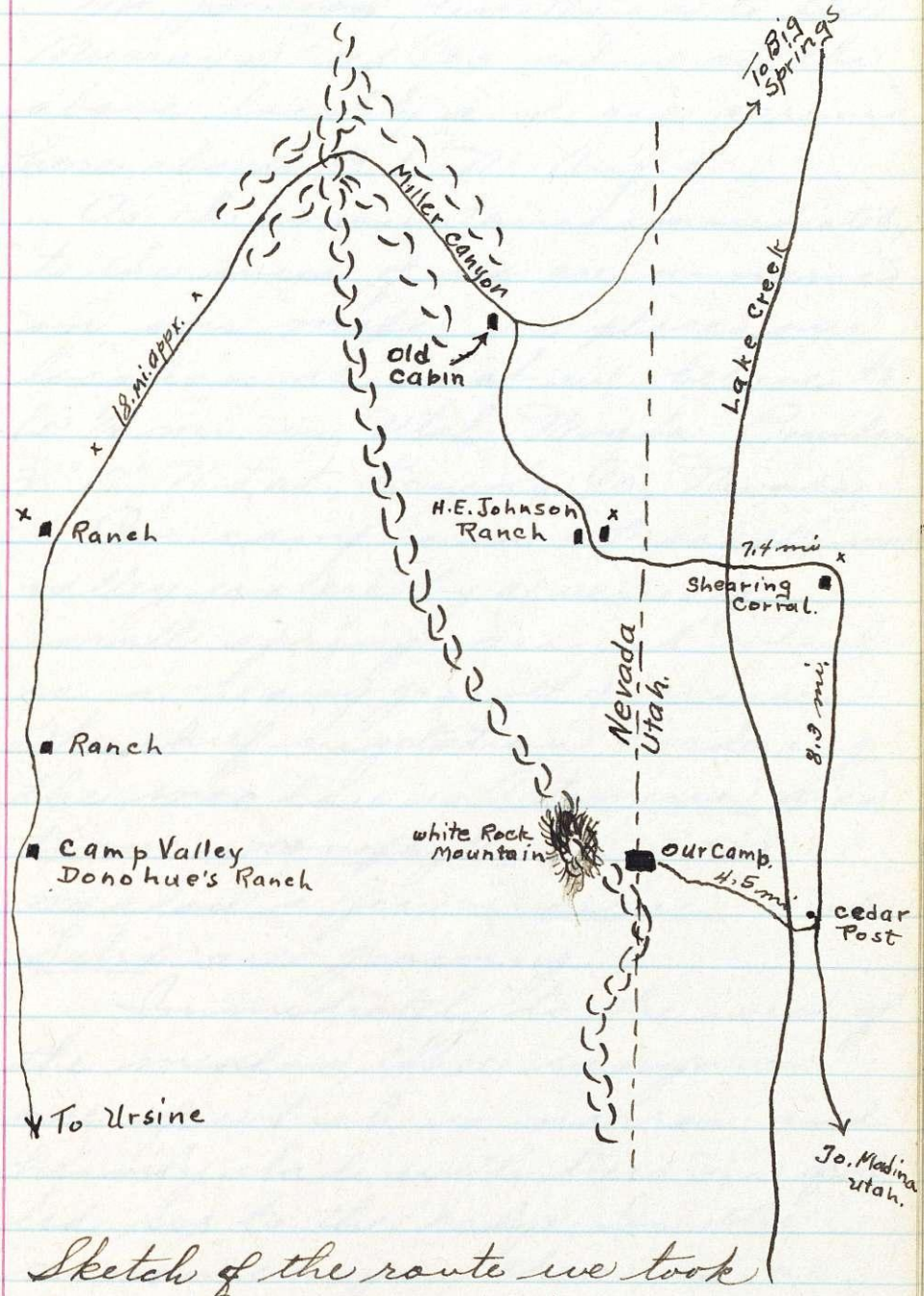
We broke camp yesterday at Eagle Valley and drove to the Donohue Ranch, designated as "Camp Valley" on our maps, where we were told we could get information concerning the mountains in this region.

Mr. Donohue was not at home but a rancher there told us the most likely place to find a region suited to "Callos" was on "White Rock Mountain", a peak some 20 miles E. of Camp Valley and near the Utah-Nevada Boundary. He also told us to stop at the H.E. Johnson ranch in Hamlin Valley, in Nevada, and ask for additional information.

The road from Camp Valley traverses a range of mountains, unnamed on our maps, and passes down Miller Canyon into Hamlin Valley in which the Utah-Nevada boundary lies.

W.B. Davis
1933.

1/4 mi. W Utah-Nevada Boundary
38°17' N. Lat., 7300 ft., Lincoln Co.,
Nevada. Aug. 6, 1933.



Sketch of the route we took from Camp Valley to our camp at the above locality.

W.B. Davis
1933

¼ mi. w. Utah-Nevada Boundary,
38° 17' N Lat., Lincoln Co., Nevada.
Aug. 6, 1933.

Mr. Johnson directed us to the Murray & Sheep Co's. cabin at the above locality and we arrived here about 8 P.M. Aug. 5.

As the mountains immediately to the west of us are unnamed on our maps, we placed our location at what we believe to be ¼ mi. w. Utah-Nevada Boundary, 38° 17' N Lat., Lincoln Co., Nevada.

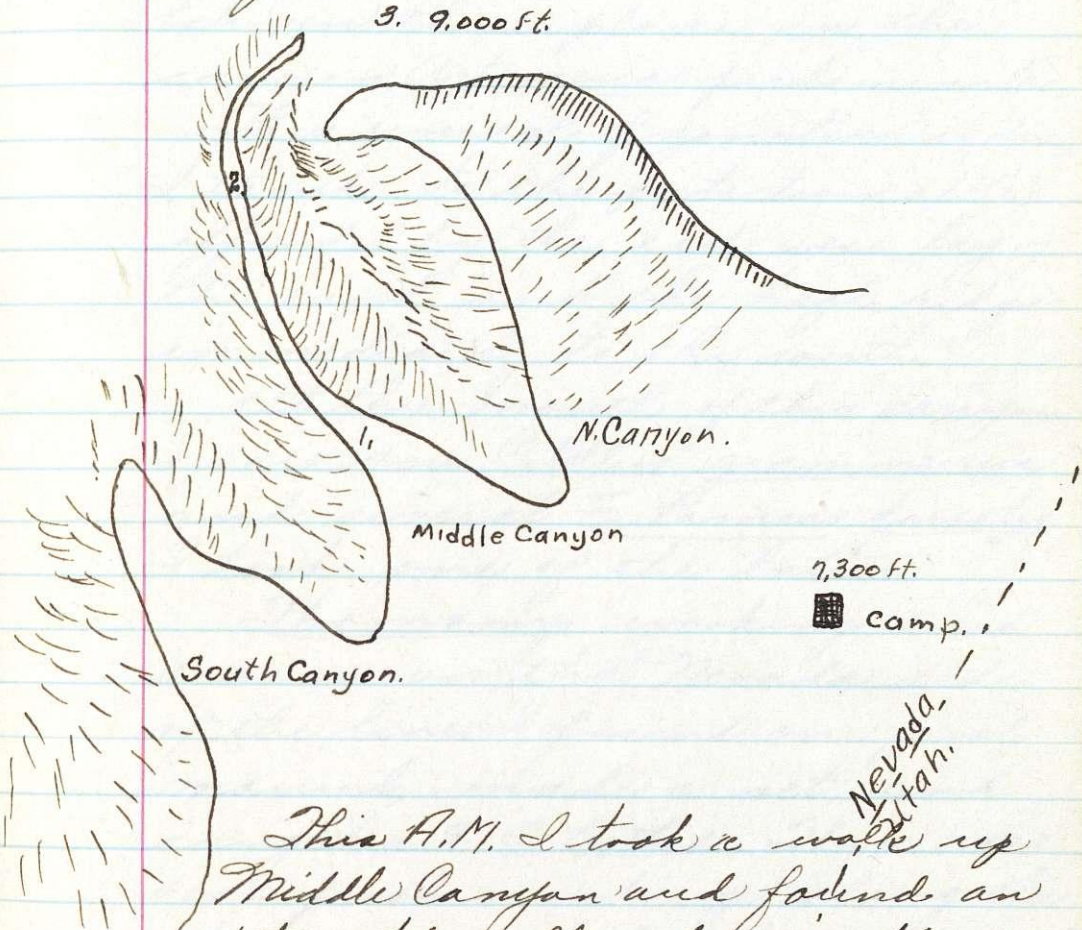
Our camp is in a broad alluvial valley watered by a series of small springs around which is a heavy growth of grasses. The chief vegetation bordering the meadow is Artemesia and Pinus monophylla. In the meadow a few Quercus and Salix are growing.

Immediately to the west of the meadow three canyons, one of which is narrow and heavily clad with trees in spots, led up to the ridge. In the narrow canyon there is a dry stream bed and indications showed it carried more run-off than either of the other two canyons.

W. P. Davis
1933.

1/4 mi. W. Utah-Nevada Boundary,
38° 17' N Lat., 7,300 ft., Lincoln Co., Nevada,
Aug. 6, 1933.

These three canyons I choose to call North, Middle and South Canyon, as per sketch below.



This A.M. I took a walk up Middle Canyon and found an interesting floral zonation. At the place designated (1.) I found a growth of Abies concolor in the bottom of the stream bed bordered by Pinus monophylla, Artemesia and Service Berries. Above this place about 1/2 mi. there was a small clump of Populus tremuloides,

W B Davis
1933.

1/4 mi. W. Utah-Nevada Boundary,
38° 17' N. Lat., 7300 ft., Lincoln Co., Nevada,
August 6, 1933.

At (2.) and up on the top of the ridge, estimated 9,000 ft., there was Abies concolor again. In between these places, in the canyon, Artemesia predominated.

This reversal of zonation is due, I think, to the protection at (1.) afforded by the east-west lay of the land and the high ridge immediately to the south.

At the mouth of this canyon I saw one Citellus grammurus and several Eutamias dorsalis. I took one of the latter.

Thomomys working were scarce on the Nevada side of the line. I found one fresh mound, made a set, and caught a ♀ T. bottae. There were 4 or 5 fresh workings along the stream on the Utah side of the line, but no effort was made to secure them.

In the evening I made 90 sets, chiefly in Artemesia to try and take Lagurus. I found none of their workings, however.

W. B. Davis 1933.

1/4 mi. w. Utah-Nevada Boundary, 38°17' N. Lat., 7300 ft., Lincoln Co., Nevada, August 7, 1933.

375 ♂	Eutamias dorsalis	213-95-32-18	wt.	56.4 gr.
376 ♀	" "	219-98-32-19	"	57.0 "
377 ♀	" "	203-88-30-19	"	50.0 "
378 ♂	Dipodomys ordii	235-130-27-12	"	50.5 "
379 ♀	Perognathus parvus	165-84-22-7	"	16.0 "
380 ♀	Peromyscus truei	180-90-23-24	"	20.3 "
381 ♀	P. m. sonoriensis	142-57-18-18	"	15.7 "
382 ♂	" " "	151-62-19-17	"	19.7 "
383 ♂	" " "	150-68-19-18	"	19.5 "

1 mi. w Utah-Nevada Boundary, 38°17' N Lat., Lincoln Co., Nevada 7,700 ft., August 7, 1933.

384 ♂	Eutamias m. pictus	173-80-26-13	wt.	27.1 gr.
385 ♂	" " "	182-81-26-13	"	35.0 "
386 ♀	Eutamias quadrivattus	192-82-31-17	"	49.8 "
387 ♀	" "	202-87-29-19	"	54.2 "
388 ♀	" "	209-89-32-19	"	58.7 "

Visited my traps this A.M. and found 32 Peromyscus, 2 E. dorsalis, 1 Dipodomys o. columbianus, 1 P. p. oliveaceous, 1 P. truei. No Lagurus! Russell and Gorham also reported No Lagurus!

In the afternoon I took a hike up Middle Canyon to see if I could find E. pictus

W.R. Davis
1933

1/4 mi. w Utah-Nevada Boundary, 38°17' N Lat., 7,300 ft., Lincoln Co., Nevada. August 7, 1933.

and Calloecermophilus lateralis.

In a clump of Abies at (1.) (see p. 121.) I took an E. quadrivattus at an elevation of approximately 7500 ft. Up the canyon about 1/4 mi. I saw several E. dorsalis and one Citellus grammurus but couldn't take any of them. About 1/2 mi. above this clump of firs I took an E. pictus in an Artemesia habitat. Higher up the canyon near a grove of Populus tremuloides I took another E. quadrivattus. At an elevation of approximately 9,000 ft., I took four more E. quadrivattus in or near associations of Abies and Arctostaphylus. They were eating berries of the latter plant. At this same altitude, but in an Artemesia association I took another E. pictus. No E. dorsalis were seen higher than 1/4 mi. above the Abies at (1).

This reversal or mixing of the elevations at which E. pictus and E. quadrivattus were taken correlates with the reversal of

W.B. Davis
1933.

1/4 mi. w Utah-Nevada Boundary,
38°17' N. Lat., 7,300 ft., Lincoln Co.,
Nevada. Aug. 7, 1933.

the flora as mentioned.

The terraine and flora on top of the mountain looked favorable for Callospermophilus, but I saw none, nor was I able to locate droppings amongst the rocks.

I saw one grouse, probably the Dusky Grouse, in a fir thicket at an elevation of approximately 9,000 ft.,

The scarcity of deer sign in this region is undoubtedly due to the presence of large numbers of grazing sheep.

Coyotes are plentiful here and a camp tender for the herders told us they constituted a serious menace to the flock, even approaching the sheep when the herder was asleep nearby. According to this camp tender, this region has not been trapped by Government Trappers for several years. This P.M. made about 40 sets to try again for Laguna.

W.B. Davis 1933.

1/4 mi. W Utah-Nevada Boundary, 38°17' N. Lat., 7300 ft., Lincoln Co., Nevada, Aug. 8, 1933.

3897 Eutamias dorsalis 209-89-37-17 wt. 53.4 gr.
3908 ♂ Perognathus parvus 166-85-28-7 " 19.6 "
3918 ♂ Dipodomys ordii 252-145-36-14 " 59.0 "

In my 40 sets I took 18 Peromyscus m. sonoriensis, besides the above specimens. No trace of Lagurus was found by any of us.

I spent the morning in making up specimens and getting ready to go to Geyser, in Duck Valley, to see if we could locate Microdipodops or Onychomys

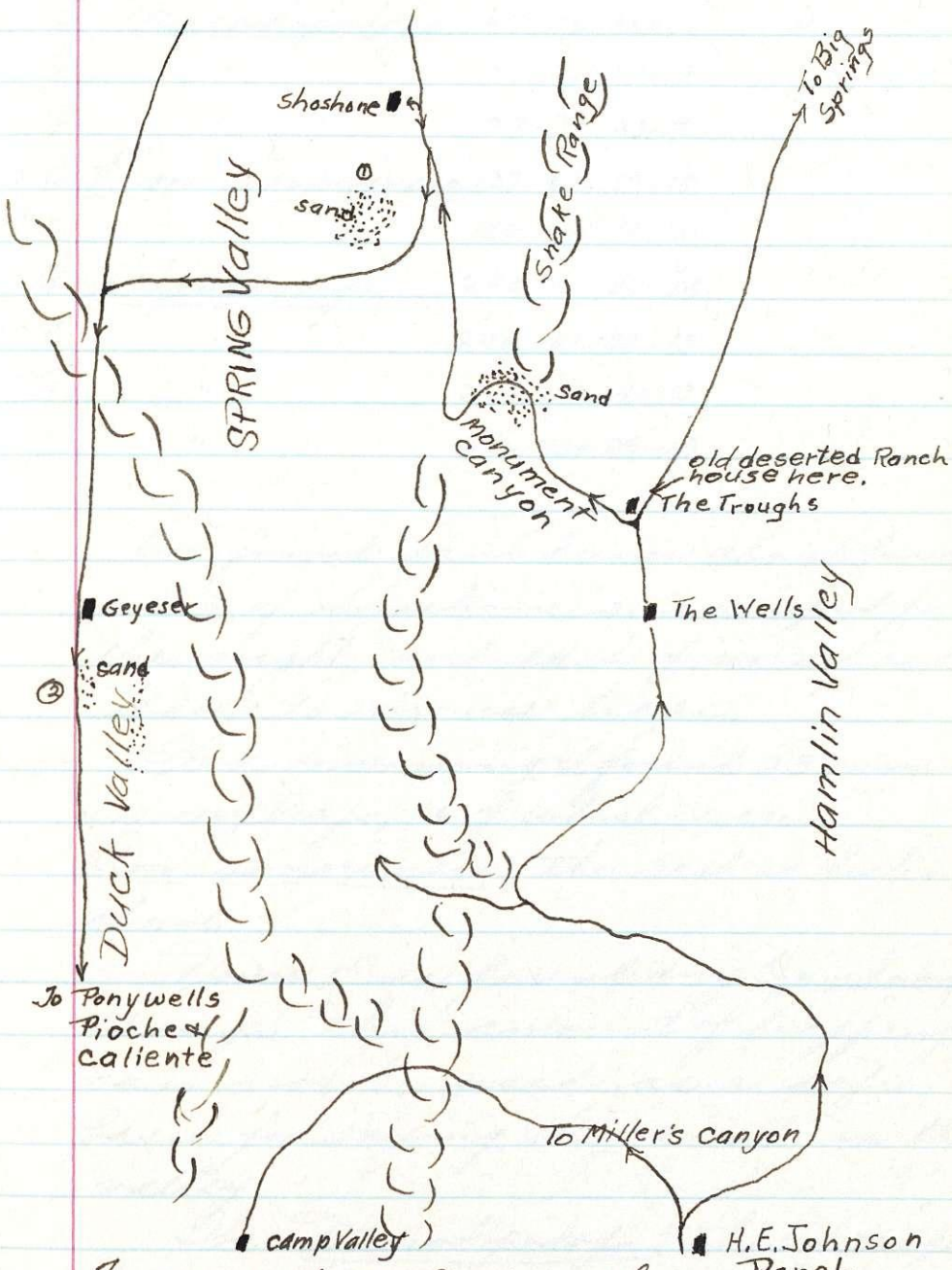
Spring Valley, 4 mi. S Shoshone, 5900 ft., White Pine Co., Nevada August 9, 1933.

We broke camp yesterday about 2 P.M and drove N up Hamlin Valley to the H. E. Johnson Ranch where we were given directions to get to Geyser.

We missed the road someplace and drove to Shoshone via the sketch on the following page. Russell killed a 40" rattlesnake about 2 miles south of Shoshone.

W.B. Davis
1933

Spring Valley, 4 mi. S Shoshone
5900 ft., White Pine Co., Nevada.
August 9, 1933.



Trapped at ① + ② in the sand. Sketch of route we followed from the H.E. Johnson Ranch to Shoshone and Geyser.

W R Davis
1933.

Spring Valley, 4 mi. S. Shoshone,
5900 ft., White Pine Co., Nevada,
August 9, 1933.

392 ♂	Microdipodops	147-76-22.5-8	wt. ?
393 ♀	"	147-77-23-9	
394 ♀	"	152-77-23-9	
395 ♂	P. m. sonoriensis	157-67-19-18	
396 ♀	" " "	158-68-19-18	
397 ♀	Dipodomys	240-130-38-13	
398 ♂	"	240-131-38-13	
399 ♀	"	262-150-40-13	
400 ♀	"	242-134-39-13	

We found sand dunes about four mi. S. of Shoshone so camped for the night and each of us set out about 90 mouse traps.

This morning I found 23 mammals in my traps, 16 of which were P. m. sonoriensis; the rest as listed above.

None of us found any Onychomys though this amount of trapping can not be used as a safe basis for saying they aren't in the valley.

The Microdipodops that I caught were found amongst the sage brush on sand, instead of on the sand dunes as I expected. In fact, most of my takes were off such

W.B. Davis

Duck Valley, 3 mi. S Geyser, 6050 ft.,
Lincoln Co., Nevada. Aug. 10, 1933.

places and not on the sand dunes proper.

4019 ♀	P. m. sonoriensis	162-71-18-17
4028 ♂	" " "	146-62-17-17
4037 ♀	Microdipodops	151-84-24-9
4047 ♀	"	157-84-23-10
4058 ♂	"	152-79-22.5-9.

At a place we believe to be 3 mi. S. Geyser in Duck Valley, we found some fine, reddish sand on the east side of the highway. About ½ mi. e. of the highway were what appeared to be sand dunes with Artemesia growing on them. We stopped here the night of Aug. 9th and each of us set out about 90 traps.

The sand proved to be only in a small area parallel to the main highway. Between this sand and the "dunes" was a flat alkali area covered with Sarcobatus & Chrysothamnus. The dunes proved to be a deposit of fine alkali silt overlaying a hard deposit of the same material. On these dunes the Artemesia grew to a height of 7' to 8'. This association appeared to support no

W. B. Davis
1933.

Duck Valley, 3 mi. S Geyser, 6050 ft.,
Lincoln Co., Nevada. Aug. 10, 1933.

mammals other than Rabbits and Coyotes. Tracks of both these were numerous. There were no "diggings", tracks or burrows of smaller mammals that I could see, so I made only 8 sets there and returned to the sand near the highway to make the rest of my sets.

This A.M. when I ran my trapline I found 3 Microdipodops, 1 young Dipodomys ordii and 8 P. m. sonorensis. All of these were taken in the sandy areas amongst Artemesia with the exception of one Peromyscus which was taken on the alkali dunes in the valley.

None of us took any Onychomys, though more intensive trapping might produce evidence of their presence.

I found numerous bleached Lepus skeletons amongst the Sarcobatus & Chrysothamnus which probably indicate that Tularemia was raging there not so many years ago.

W.B. Davis
1933.

Monitor Valley, Potts R.S., 6650 ft.
Nye Co., Nevada. August 11, 1933.

406 ♂	Microtus montanus			175	50 - 21 - 16	wt.	55.8 gr.
407 ♂	"	"		178	39 - 20 - 15	"	65.1 "
408 ♂	"	"		173	41 - 20 - 14	"	54.6 "
409 ♀	"	"		160	34 - 19 - 13	"	51.3 "
410 ♂	"	"	170	142	41 - 19 - 15	"	———
411 ♀	"	"	142	176	24 - 18.5 - 12	"	41.1 "
412 ♀	"	"	176	172	43 - 19 - 14	"	54.2 "
413 ♂	"	"	172	169	44 - 19 - 13	"	46.8 "
414 ♀	"	"	169	169	39 - 19 - 13	"	40.2 "
415 ♂	"	"	169	172	41 - 19 - 14	"	52.5 "
416 ♂	Perognathus parvus			172	91 - 22 - 7	"	12.3 "
417 ♀	P. m. sonoriensis			160	64 - 19 - 19	"	29.3 "

Duck Valley, 3 mi S Geyser, 6050 ft.,
Lincoln Co., Nevada. August 10, 1933.

418 ♂	Peromyscus m. sonoriensis	167	77 - 19 - 17
419 ♂	Dipodomys levipes	266	150 - 43 - 14
420 ♂	Dipodomys ordii	240	130 - 39 - 13.

We drove to the above locality yesterday, arriving about 3 P.M.

A large ranch is in the immediate vicinity of the Ranger Station on which a large acreage of "wild hay" is growing. This was being harvested upon our arrival, so we followed the hay pitchers about the field to catch any

W. B. Davis

Monitor Valley, Potts R. S., 6650 ft.,
Nye Co., Nevada. Aug. 11, 1933.

Microtus that might be under the hay cocks. L. Gorham caught two in this manner and Russell caught one by following the hay rake about the meadow.

Numerous Microtus runs were found in the wet places where the hay had been cut, so each of us set out traps for Microtus last night. I made 45 good sets, 10 of them being under the prostrate swaths of hay that had not been raked. The remaining sets were made in "runs" in the tall grass along the fences and ditches, and also in the tall, flushy, reed-like grasses in the cow pasture.

This morning I visited my traps and found 5 adult Microtus montanus in them. One of these was caught in one of the sets under the prostrate swaths of unraked hay. Five of my traps had been sprung but contained nothing. One adult male was caught by the right hind leg

W.B. Davis
1933

Monitor Valley, Potts R.S., 6650 ft.,
Nye Co., Nevada. Aug 11, 1933.

and had dragged the trap 10 ft. over the top of a rank growth of tall marsh grass. It was dead when I found it, probably due to exposure.

I followed the hay pitchers again this A.M. and caught two more adult ♂♂ with my hands. It is surprising how well these animals have adapted themselves for concealment. Even in the short stubble of this field, one had to watch very closely when the haycock was pitched onto the wagon in order to see the mouse when it started to move to a new locality. The extremely short legs permitted the animals to press their bodies close to the ground so the back was below the level of the stubble. The dark colaration of the pelage plus the slow, sinuous method of crawling enhanced the chances of escaping detection.

I observed a reversal of this form in the field that was being raked. Here I saw a Microtus

Monitor Valley, Potts R.S., 6650 ft.,
Nye Co., Nevada. August 11, 1933.

that had been disturbed by the hay rake escape by running over the top of the prostrate grass, entirely exposed, for a distance of perhaps ten feet, before diving in under for concealment. Movement was accomplished in this case by a combination of leaping and running.

No Thomomys workings were observed on this ranch.

Russell and I made up skins in the P.M. while Gorham trapped for gophers at the Pine Creek Ranch and Potts' Ranch. He reported finding only one fresh gopher working at the Pine Creek Ranch, while at Potts Ranch they were reported as abundant.

There are several hot springs about ¼ mi. S. of the Ranger Station that form into small pools. Here we saw several Brewer Blackbirds and Cinnamon Teal. The rancher here reported that ducks were numerous here in the fall.

W.B. Davis 1933

Monitor Valley, Potts Ranch, 6900 ft., Nye Co., Nevada. Aug 13, 1933.

421 ♀	Thomomys bottae		210-66-29-5	wt. 105.4 gr.
422 ♂	"	"	260-73-33-7	" 233.0 "
423 ♂	"	"	260-87-32-7	" 196.4 "
424 ♀	"	"	232-77-30-5	" 135.7 "
425 ♂	"	"	252-87-32-6	" 183.0 "
426 ♀	"	"	222-73-29-6	" 117.5 "
427 ♀	"	"	232-76-29-6	" 172.0 "
428 ♀	"	"	277-76-27-5	" 131.4 "
429 ♂	"	"	210-67-29-5	" 90.0 "

Monitor Valley, Potts R.S., 6650 ft., Nye Co., Nevada. Aug 12, 1933.

430 ♂ Microtus montanus 177-46-20-13.

Monitor Valley, May's Ranch, 7200 ft., Nye Co., Nevada. Aug. 12, 1933.

431 ♀	Thomomys quadratus		196-61-27-5
432 ♀	"	"	202-53-27-4
433 ♂	"	"	208-55-27-4.

We trapped yesterday morning, Aug. 12, for two hours at May's Ranch on Barley Creek. Thomomys quadratus were working in the alfalfa field west of the ranch house. 8 specimens were taken and then we drove to Potts Ranch, north of Barley Creek, where Gorham had made some Thomomys

W.B. Davis 1933

Monitor Valley, Potts Ranch, 6900 ft., Nye Co., Nevada. Aug. 13, 1933.

sets. He had caught only two specimens in his traps here. We had decided to drive to the Toyabe Range yesterday P.M. (12th), but tire trouble developed, so we made additional sets for Thomomys.

Russell and I worked together and made 28 sets. The gophers were numerous but they were working deep, from 6" to 2 ft., so some difficulty was met in locating the burrows.

We took 18 gophers this A.M. out of our 28 sets and spent all day in camp making up specimens from yesterdays & todays catches.

15 mi. N. Ursine, Eagle Valley, 6200 ft., Lincoln Co., Nevada. Aug. 5, 1933.

skull only 4348 Odocoileus hemionus (pick up).

6 mi. n. Pine Cr. Ranch, Monitor Valley, 6700 ft., Nye Co., Nevada. Aug. 11, 1933.

skull only 435 Canis latrans (pick up)
skull only 436 " " " "
skull only 437 " " " "
skull only 438 " " " "

W.B. Davis
1933.

Berkeley, Alameda Co., California.
Aug 15, 1933.

The above fine "skull only" specimens were "pick ups".

We left Potts Ranch the evening of Aug. 13, drove to Austin where we had supper and camped for the night.

Drove back to Calif. on the 14th passing through Fallon, Reno, Sacramento, Berkeley.

Berkeley, Alameda Co., California

W.B. Davis
1933

Nov. 26, 1933.

4348 Audubon Warbler.

Picked up dead by La Nell and Bobby Davis on the sidewalk in front of 2529 Dwight Way. Had evidently hit something or had been hit for hemmorhage of the brain had caused death. Testes o. Stomach contents: crushed parts of a Coleopteran.

Dec. 30 On the U.C. Campus 1:00 P.M. Heavy rain. Saw:

1. Glaucous-winged Gull. - one in a flock of California Gulls. Had no black markings on tips of wings.
2. California Gull - a flock of 30 birds, both adults and immature, was on the lawns between Bolt Hall and the Science Building were walking around picking things up off the grass. Probably was angle worms for they are numerous on the walks and on the grass since the rain began.

W. B. Davis
1933

Berkeley, Alameda Co., Calif.

Dec 30 (Continued)

3. Western Robin – a flock of 15 or more flew from the lacrow into the Monterey Cypress trees near the hand-ball courts.

4. Nuttall Sparrow – Heard several singing but saw none.

5. Calif. Jay. – Heard one calling from an oak tree.

Field Notes

W. B. Davis

1934

Idaho-Yellowstone Park-
Berkeley.

W. B. Davis
1934.

Berkeley Alameda Co., Calif.
Feb. 26, 1934.

3 mi. N. Sunol, Niles Canyon,
Alameda County, Calif. Feb. 25, 1934.

4358 ♂ Golden-crowned Sparrow. Coll. by James Stevenson
Testes very small, about 1 mm. in diameter. Practically no fat on the skin.

Oroville, Butte Co., Calif.
Mar. 3, 1934

4368. Callospermophilus 257-93-40-19.
Died in captivity at Oroville. Was captured near Susanville, Lassen Co., Calif. last fall.

Table Mt., 6 mi. N. Oroville, Butte Co.,
Calif. Mar. 3, 1934

437 ♂ Sayornis saya

4 mi. N. Knights Landing, Sutter Co.,
Calif. Mar. 2, 1934

438 ♂ Melospiza l. lincolni

7 mi. NW Oroville, Butte Co., Calif.
Mar 3, 1934

439 ♂ Savannah Sparrow

W. B. Davis
1934.

2 mi. N Marysville, Yuba Co., Calif.
Mar. 2, 1934.

4408 Agelaius p. californicus

2 mi. S Ramon, Contra Costa Co.,
Calif. Mar. 11, 1934.

4418 Pipilo maculatus
4428 Ixoreus naevius
4438 Plain Titmouse
4448 Golden-crowned Sparrow
4458 " " "

In company with James Stevenson and Don Hatfield I rode to the above locality. Day warm, bright sunshine. Many birds were seen: Western Bluebird, common along the highway; Western Meadowlark, common along highway; Calif. Jay, few; Long-crested Jay, few; Golden-crowned Sparrow, common in the shrubs; San Francisco Spotted Towhee, common in chaparral; Sparrow Hawk, heard one; West Red-tail, saw one at the above locality; Plain Titmouse, very abundant & in full song; Lutescent Warbler heard songs; Bewick Wren heard several; Pallid Wren-tit heard three; Allen Hummer, saw several; Varied Thrush, abundant & very wary.

W. B. Davis
1934.

El Cerrito Mud-flats, Alameda Co, Calif.
Mar. 24, 1934.

Went hunting here, with Bobby, for shore birds. Found none, but saw several sea gulls, mostly californicus, a few occidentalis and philadelphia. The Bonapartes kept flying along the edge of the water, tern-fashion, looking for food. When thus engaged they were easily approached. At the north end of the flats there were hundreds of gulls resting on the sand bars.

I shot one gull, californicus, breaking its wing, and when it landed, hundreds of other gulls of all three species hovered around over the spot. I took two Bonapartes while they were hovering above, using #7½ in a 410 gage. The Bonapartes are much more active than their larger relatives and were in the air most of the time.

4466 ♂ Larus philadelphia
4479 ♀ Larus philadelphia
skeleton only
4487 ♀ Larus californicus

W. B. Davis
1934.

El Cerrito Mud Flats, Contra Costa Co., Calif. Apr. 28, 1934.

Visited the mud flats at high tide. Numerous shore birds were present, occupying areas of shallow water in company with gulls and terns. The Western Sandpiper was by far the most numerous. Several flocks of Dowitchers were found. The Red-backed Sandpipers were mingled with the Western and were exceedingly hard to spot.

A slight breeze was blowing and the feeding activities of the huge flocks of Western Sandpipers in relation to the wind was interesting. Every bird fed head-on into the wind. Frequently those in the front of the flock would retreat several yards, but the probing in the mud always began after the birds had headed into the wind. Time about 1:30 P.M.

The dowitchers fed, at times, with the smaller sandpipers, but always flocked by themselves in flight. In contrast to the

W. B. Davis
1934.

El Cerrito Mud Flats, Contra Costa Co., Calif. Apr. 28, 1934.

nervous, whirling, swallow-like flight of the Western Sandpipers, the Dowitchers were more direct in their flight. Perhaps this can be correlated with the difference in size of the birds.

All the birds taken were extremely fat, though this excess of fat had not deteriorated the skin in any way as is the case with overly fat Varied Thrushes, for instance. The skinning process was fairly easy, though time consuming as all the fat had to be removed. What causes this difference between the texture of the skin in these two kinds of birds?

The Red-backed Sandpiper was mottled reddish-brown on the back, and just beginning to acquire the black belly. The backs of the Western and Red-backed Sandpipers are very similar in color, though the latter is larger, lacks webs on the feet and in summer has

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1934.

El Cerrito Mud Flats, Contra Costa County, Calif. Apr. 28, 1934.

a black belly.

alcohol.

449 Western Sandpiper.
450 " "
451 " "
452 " "
453 " "
454 " "
455 " "
456 " "
457♂ " "
458♂ " "
459♀ " "
460♀ " "
461♂ Red-backed Sandpiper.
462♀ " "
463♂ Long-billed Dowitcher.

El Cerrito Mud Flats, Alameda Co., Calif. May 4, 1934

skel. only
464♂ Western Sandpiper.
skel. only
465♀ " "
466♀ Knot.
467♀ "
468♂ Semipalmated Plover
469♂ " "

James Stevenson, Roger Sprinkle and I drove out to the beach

W.B. Davis 1934 El Cerrito Mud Flats, Alameda County, Calif. May 4, 1934.

about 1:30 P.M. The tide was coming in, yet there was a considerable extent of the mud flat still out of water. Most of the shore birds were congregated at the south end of the flats near the sewer outlet.

Western Sandpipers were in majority with Red-backs next. Several curlews were seen, but they were too shy to get a shot at them with my 410. About 50-75 Knots were observed, three of which I knocked down at one shot as they swirled past me in close-rank formation. I thought they were Dowitchers, but on examination the much shorter beak was easily discernable. The color of both the Knot and the Dowitcher is very similar.

Two Semi-palmated Plovers were taken. At a distance I cannot distinguish this bird from the Red-backed Sandpiper.

Stevenson said he saw

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1934

El Cerrito Mud Flats, Alameda Co., California. May 4, 1934.

several Bonaparte Gulls in full spring plumage. Also, he took a Golden-crowned Sparrow, very fat, that almost equals the spring record of May 8, 1919 for this locality. Besides this, he took a Song Sparrow, a Pine Siskin and a House Finch. Several Allen Hummers and California Gulls were seen.

Although at least 5 species of shorebird were feeding on the flats at the same time, the different species, save the curlew, flocked pretty much to themselves. There seemed to be very little mixing of flocks though often they were feeding side by side. Of two species, one large and the other small there seemed to be a great deal more mixing. The curlews were usually widely scattered, tho in the same general area, and did not hesitate to feed among the more numerous smaller species.

W. B. Davis
1934.

El Cerrito Mud Flats, Contra Costa County, Calif. May 6, 1934.

4708 Song Sparrow.
skel. only
4718 Western Sandpiper.

Drove to the north end of the mud flats in Richmond and attempted to get some shore birds but they were congregated on a small gravelly island out of reach. Saw numerous Red Backed Sandpipers, Western Sandpipers, a few Semi-palmated Plovers and Dowitchers. Cliff Swallows were flying over this part of the flats. Then drove down to the El Cerrito section of the flats. Here the majority of the birds was Western Sandpipers (about 500-700), then Red-backed Sandpipers (about 100). Three Knots and two Hudsonian Curlews were seen, but they were too wild to approach close enough for a shot. Killed one Semipalmated Plover and two Western Sandpipers. One Alameda Song Sparrow taken. They were very common, at least 15 seen.

W. B. Davis 1934. El Cerrito Mud Flats, Alameda County, Calif. May 7, 1934.

4728 ♂ Knot
4738 ♂ "
4747 ♀ "
4757 ♀ Hudsonian Curlew. (Shot by Stevenson)
skel. only. 4768 ♂ Western Sandpiper
4778 ♂ " "

Cowan, Stevenson and I visited the south end of the flats this morning about 8:30 to 9:40. The tide was going out, but was still far enough in when we arrived to congregate the birds on the flats near the sewer exit. Knots, (about 75), Dowitchers (few, only one taken), Sanderlings, Semi-palmated Plovers, Western Sandpipers (fully 500), Red-backed Sandpipers (about 300), and Hudsonian Curlews (about 25) were present. Although the birds were congregated, each species tended to keep pretty much to itself within the larger aggregation. The Curlews were usually much more scattered through the flocks than any of the others. The Knots and Dowitchers were intermingled even in flying

El Cerrito Mud Flats, Alameda County,
May 7, 1934.

W.Q. Davis
1934

flocks. One Dowitcher and two Knots were knocked down by Stevenson with one shot into a flying flock. It is surprising how well the wounded birds could swim even though they lack webbing on the feet. These two species almost invariably did most of their foraging at the edge of the receding water, while the other sandpipers were usually content to glean their fare from the mud flats themselves, or from the small, shallow tide pools that were left behind as the water receded. At times, though, they were found feeding at the water's edge in close proximity to the Knots and Dowitchers.

Of the gulls, the California and the Bonaparte, the latter now in full spring plumage, were noted.

The two of us, Jim and I, killed 12 Knots, 3 Western Sandpipers, 1 Dowitcher and 1 Hudsonian Curlew in our hour's hunting.

W.B. Davis 1934. El Cerrito Mud Flats, Alameda Co., Calif. May 12, 1934.

4788 ♂ Sanderling.
skel. only 4790 ♂ Sanderling.
alcoholic 480 "

Yankee Hill, Butte Co., Calif. May 15, 1934

481. Scolopornis occidentalis
482. Gerrhonatus scincicauda.

10 mi. NE Knights Landing, Yuba County, Calif. May 15, 1934.

483. Petrophis catenifer.

Yankee Hill, 2000 ft., Butte Co., Calif. May 16, 1934

484 ♂ Nuthatch
485 ♂ Black-throated Gray Warbler
486 ♂ " " " "
487 ♂ Western Chipping Sparrow.
488 ♂ ~~Cassin Solitary Vireo~~. Black-throated Gray warbler.
489 ♂ Cassin Solitary Vireo
490 ♀ Western Tanager
491 ♂ Ash-throated Flycatcher.
492 ♀ Spotted Towhee.

12 mi. N Oroville, Butte Co., Calif. May 16, 1934

493. California Thrasher.

W. B. Davis
1934.

Yankee Hill, Butte Co., Calif.
El. 2000 ft. May 16, 1934.

Left Oroville, after a trip from Berkeley, for Yankee Hill about 7:30 P.M. yesterday. Drove to Upton's place to get Allan Upton to go with me to Idaho. While waiting for him I collected a few birds and put them up.

The territory in which I hunted was openly timbered with Pinus sabiniana, P. ponderosa, Pseudotsuga taxifolia, Arctostaphylos and Poison Oak. Birds were plentiful, the most abundant being the Black-throated Gray Warbler, three males of which were taken. In numbers, perhaps the Cassin Vireo was second. Their clear, loud songs were to be heard almost constantly. One Western Wood Pewee and two Ash-throated Flycatchers were noted. The latter were doubtless nesting in the top of a tall dead yellow Pine. Several Junco, Chipping Sparrows and Western Tanagers were also noted.

On the way back to Oroville I stopped near a Ceanothus

W. B. Davis
1934.

Oroville, Butte Co., Calif. May, 16, 1934.

cuneatus thicket some 12 mi. N Oroville. Here I saw two Wren Tits at close range, at least two feet, both of which were carrying food. They kept so close it was impossible for me to get a shot at them, even though I waited half an hour for the opportunity. I endeavored to locate their nest, but the dense thicket was too much for me.

I was crawling around underneath the Ceanothus when I noticed a California Thrasher on the ground some 30 feet from me. Obstructions prevented a shot at that time, but soon she flew to the top of a Quercus wislizenii scrub, and at a distance of about 20 ft. I shot with a half load of #12 and nearly mutilated the whole bird. One tail feather was all that remained of the tail. The condition of the breast indicated a brooding bird. I failed to locate her nest, however.

W. B. Davis 1934. El Cerrito Mud Flats, Alameda Co., Calif. May 21, 1934.

4948 Alameda Song Sparrow

Allan Upton and I drove to the Mud Flats this A.M. The tide was just going out. I searched the flats from one end to the other and saw only two shore birds — two Hudsonian Curlews. All the others seem to have left on their northern migration. Took a shot at the Curlews, but the distance was too great for my 410.

Several gulls, some of which appeared to be Bonapartes were noted, but they kept out quite a distance.

Had poor luck in trying to bag some Song Sparrows. Out of 7 shots, I killed only one. Took two English Sparrows and one House Finch for Allan to practice on.

W. B. Davis
1934.

Dwight Way Hill, Berkeley,
Alameda Co., Calif. May 22, 1934.

495? California Jay, Juvenile.
496. ♀ Brown Towhee.
497 ♀ Rufous Crowned Sparrow.
498 ♂ Anna Hummingbird
499 ♀ Allen Hummingbird

Allan and I hiked up on the hill, spending from 11:30 to 3:00 P.M hunting. The day was cloudy with a fair west wind. Several birds were noted that were not taken, among which were the California Thrasher, Wren Tit, Bushtit, Olive-backed Thrush (heard) California Quail.

The songs of the Wren Tits seemed to indicate that they predominated in numbers, but the birds were seldom seen. Humming birds were rather common, the Anna seeming to be most abundant. Two ♂♂ Annas were shot but could not be located as they had fallen in leaf litter in the chapparal.

A nest with three fresh eggs of the Brown Towhee was found in a Baccharis about 5' from the ground. The bush was along

Dwight Way Hill, Berkeley,
Alameda Co., Calif. May 22, 1934.

the side of the road, not more than 3' from same, but was well screened by the foliage. The nest and eggs, as well as the female, were collected. On our return past the spot the male was seen in the vicinity but not collected.

I tried to get a shot at the California Thrashers, but they were too wiley for me. Two were actually seen, and several others were heard.

The Rufous-crowned female's condition indicated she was a brooding bird and doubtless the nest was in the near vicinity.

The California Jay was one of a family of four young that were well able to fly, but were still flocking together and being fed by the parents. We noted several feeding trips by the parent birds to this family group. Two of the birds were taken, one of which Allan made into a study skin.

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20 mi. s. Owyhee, Nevada, May 26, 1934

Allan Upton and I left Berkeley, California, Thursday, May 24, at 9:45 A.M. for a collecting trip through Nevada and into Idaho. Speedometer reading 775.

Left in a rain storm, but left this behind at Davis, though we hit rain again when we were crossing the Sierras and at our camp the first night.

At four miles west of Donner Summit we stopped at 5:30 and collected two Steller Jays and one Cony. Killed one other Jay but it lodged in the branches of a tall fir and I was unable to get it. At this same place we saw two Marmots that were occupying the rock slide of the railroad grade along with the Cony. The cony was a ♀ and showed signs of nursing young for the mammary glands were highly developed. Heard Juncos and Chickadees here, but never collected any of them.

Left this place at 4:30 and

(p. 158)

drove until 7:00 P.M. and then camped at the south end of a big Alkali flat 6 miles north of Fernley. Our camp was at the edge of the flat, but in the sand. Greasewood was quite common on the flat, while some sort of sage was on the sand.

I set out 22 traps about 20 paces apart in the sandy areas to the east of the highway. Several likely looking burrows were noted that later proved to be occupied by Dipodomys desertii and Dipodomys ordii.

Rained and blowed all night and neither of us got much sleep for we were expecting the tent to come down any time. Everything not placed inside the car was pretty well filled with sand -- our supper as well.

May 25, 1934, 20 mi. s. Owyhee, Nevada.

Got up at sunrise and visited my traps. Out of the 22 sets I took the following, all of

(p. 159)

which were saved: Dipodomys desertii 2; Dipodomys ordii 6; Onychomys 1; Perognathus nevadensis 1. It seemed strange to me that not a single Peromyscus was taken.

(p. 187)

20 mi. so. Owyhee, Nevada, May 26, 1934

Allan Upton and I left Berkeley, California, Thursday, May 24, at 9:45 A.M. for a collecting trip through Nevada and into Idaho. Speedometer reading 776.

Left in a rain storm, but left this behind at Davis, though we hit rain again when we were crossing the Sierras and at our camp the first night.

At four miles west of Donner Summit we stopped at 5:30 and collected two Steller Jays and one Coney. Killed one other Jay but it lodged in the branches of a tall fir and I was unable to get it. At this same place we saw two Mermots that were occupying the rock slide of the railroad grade along with the Coney. The coney was a 9 and showed signs of nursing young for the mammary glands were highly developed. Heard Junnos and Chickadees here, but never collected any of them.

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(p. 188)

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We stayed encamped until 2:30 P.M. and I spent the time in making up specimens. Allan went hunting and came back with one male Redwing and a young Rattlesnake. The latter was much distended, so I cut it open and found a Perognathus nevadensis inside. The skull was saved as a specimen as well as the snake.

Left camp at 2:30 headed for Lovelock and Elko. Still raining intermittantly. The flat proved to be about eight miles long and in places cat tails were growing. At 10 mi. N. of Fernley we saw a single Yellow-headed Blackbird. It flew before we could stop to get a shot. Several Redwing and Brewer blackbird were

(p. 160)

noted in the marshy areas near the road. The place looks favorable for Microtus, At 45 mi. N. of Fernley we picked up a rattlesnake that had been run over and saved it as a specimen. The rattles had been cut off and the head and body partly smashed yet there was some fight still left in the snake.

At 46 miles N. of Fernley two Ravens were noted as they were flying near the road and appeared to be playing in the high wind.

34 miles N of Lovelock a small colony of Ammospermopholis was seen. They had the entrances to their burrows in the face of a two foot embankment at the side of the road.

Drove on to Elko where we camped for the night in the sagebrush at the north edge of town. Reached Elko at 10:45 P.M.

May 26, 20 mi. s. Owyhee, Nevada.

Got up about 7:00 A.M. and went hunting for an hour in-

(p. 161)

side the city limits of Elko. Killed four birds, Western Meadowlark ♂, Western Lark Sparrow ♂, Mountain Bluebird ♀, and Cassin Kingbird♂, all of which were saved as specimens.

Left Elko, head north for Owyhee, distant 105 miles, about 9:30 A.M. The road leads out across the sagebrush-covered rolling hills with very little water available. About 10 miles N. of Elko I killed a Sagebrush Chipmunk ♂.

At 39 miles north of Elko a small willow-bordered stream was met which drained in a northerly direction. Here we saw

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Got up about 7:00 A.M. and went hunting for an hour in-

(p. 161)

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At 32 miles north of Elko a small willow-bordered stream was met, which trained in a northerly direction. Here we saw

several ground squirrels of the ~~mollis~~ oregonus group, but were unsuccessful, in our attempts to take specimens. At this locality I killed a ♂ Tolmie Warbler and heard several Chats.

From this place on north to Jack Creek (62 mi. N of Elko by road) we saw ground squirrels. At Jack Creek, a ranch house and gas station, we took three ground squirrels and two ♂♂ Red-wing Blackbirds.

Jack Creek is one of those

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little desert valleys that is fed by springs and a small creek. As is usual with such places, much of the area was swampy and given over to sheep grazing. Cottonwood trees are growing there and Yellow Warblers, Robins, Brewer Blackbirds, and Arkansas Kingbirds were noted.

We left Jack Creek and drove to the above locality, reaching here about 2:30 P.M. The road is very rough and rocky just a few hundred yards below camp and as we were driving slowly, we noticed a Marmot cross the road and head for a rock slide. We stopped the car, jumped out, and Marmots seemed to be everywhere. We killed three, and as the place looked likely for Microtus and birds, we decided to camp along the small creek that arises in talus debris at the foot of a rugged, rocky mountain to our east about ¾ mile.

The elevation at this camp I should judge to be not over 4000 feet. The surrounding country is typical sage land save for

(p. 163)

the long narrow neadow caused by the water from the two branches of this creek.

I set out 22 mouse traps in runways in the marshy area, ~~placing~~ spacing my traps about 20-30 paces. Killed 3 Redwings in the marsh.

Spent the remainder of the day making up specimens.

May 27, 20 mi. s. Owyhee, Nevada

Visited my traps this A.M. and found 7 Microtus montanus? and one Peromyscus m. sonoriensis in them. Five of these were saved as specimens. The runways were very small, averaging about 1 1/4 in. across. The specimens are small for montanus and it may be they are nanus, though the dark coloration seems to point toward montanus. However, the hind foot

over

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averages less than 20 mm. It might be that some of them are subadults, yet all the ♀♀ were with good sized embryos. I left my traps set during the day and took three more Microtus, two of

(p. 164)

which were saved. There is a nest of the Swainson hawk in a cottonwood some 25 ft. high within 100 feet of our camp. Allan wounded the female and it looks as if the nest will be deserted. Four eggs are in the nest.

Killed a ♂ Chat this morning. Several more were heard in all directions. One was calling from a slight ridge to the north of camp about 100 yards and as the moon was full I could see well enough to shoot it. Couldn't find it, so will look again in the morning. Several Poorwills were flushed and as they "took off" they uttered a whisper-like whistle of "wheeit." This call was heard several times.

Tonight the Horned Owls are hooting. From the sound of the calls there is a pair in this vicinity, and probably nested on the cliffs of the nearby Mt. Lazuli Buntings, Yellow Warblers, Black-billed Magpies, Meadowlarks,

(p. 165)

Ravens and Killdeers were heard or seen here yesterday and today, but not taken.

We hunted quite awhile for Marmots today, but found no trace of them. They seem to have vanished into thin air. Droppings are very plentiful in the rock slides near the creeks. Water seems to be a requisite for them and their tracks are common in the mud near the areas of the rock piles.

May 28, 20 mi. s. Owyhee, Nevada.

Set out 20 mouse traps in the marsh last night and had only two Microtus montanus and one Peromyscus maniculatus. Went hunting for Marmots on the rock slides but could see none. There was plenty of sign in the lower slides, but very little farther up on the mountain.

Chat and magpies are common, both nesting in this locality. Killed one male chat. There was indication that the male aids

(p. 166)

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(p. 165)

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Obat and magpies are common, both nesting in this locality. Killed one male obat. There was indication that the male sides

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in incubation for the breast was bare of feathers and that peculiar fatty tissue, found in brooding females, was just beneath the skin. Saw one Lazuli Bunting ♂ and tried to collect it, but missed.

May 28, 1 mi. s. Riddle, Owyhee Co., Idaho.

Moved camp this afternoon to this locality, some 50 miles North. Collected intermittantly on the way, arriving here about 5 P.M. The territory between these two localities is almost a continuous valley, separated by a very low pass.

A couple of miles N. of our previous camp is a large ranch on the areas fed by a good sized stream. Much marsh land was present and the usual accompaniment of marsh loving birds was noted, among them Redwing, of which one was collected, a ♂, Brewer Blackbirds, Yellow Warblers, Meadowlarks,

(p. 167)

and Vesper Sparrows. One of these was shot, but proved to be so badly damaged that it could not be saved, even as a skeleton. Citellus oregânus were common, but they were too wary at this place to permit our taking of a specimen. This squirrel was seen regularly from this ranch to our present camp and several were collected en route, including one here just as we stopped the car.

These squirrels are most numerous around watered areas, but this commodity seems not to be essential for many of them were noted on the barren sage covered desert. Perhaps the greater abundance of herbage near watered areas tends to congregate them in such areas.

Owyhee is near the middle of the Duck Valley Indian Reservation and consists of an area given

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over to farming by the Indians. Most of the dwellings speak of destitution. The area is watered by a branch of the Owyhee River and the riparian growth affords ample "nitches" for many birds. The ground squirrels were living in burrows at the sides of the road in this area, for the continual irrigation limits the areas available to them.

Tree Swallows, Barn Swallows, Cliff Swallows, Brewer and

(p. 166)

in incubation for the breast was bare of feathers and that peculiar fatty tissue, found in brooding females, was just beneath the skin. Saw one lazuli bunting ♂ and tried to collect it, but missed.

May 28, 1 mi. s. Middle, Owyhee Co., Idaho.

Moved camp this afternoon to this locality, some 50 miles North. Collected intermittently on the way, arriving here about 3 P.M. The territory between these two localities is almost a continuous valley, separated by a very low pass.

A complex of miles N. of our previous camp is a large ranch on the areas fed by a good sized stream. Much marsh land was present and the usual accompaniment of marsh loving birds was noted, among them Redwing, of which one was collected, a ♂, Brewer Blackbirds, Yellow Warblers, Meadowlarks,

(p. 167)

and Vesper Sparrows. One of these was shot, but proved to be so badly damaged that it could not be saved, even as a skeleton. Citellus grammus were common, but they were too wary at this place to permit our taking of a specimen. This squirrel was seen regularly from this ranch to our present camp and several were collected en route, including one here just as we stopped the car.

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Tree Swallows, Barn Swallows, Cliff Swallows, Brewer and

Red-wing Blackbirds, Sage Thrashers, Robins, Meadowlark, Brewer Sparrows, Horned Larks, and English Sparrows were seen. The song of Chats, Lazuli Buntings and Yellow Warblers were heard. The whole area appealed to me as one worthy of working, for the desert on both sides tends to congregate the ripariani and marsh fauna into a limited area.

Just north of the Nevada

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-Idaho line about a mile is a large marsh several hundred acres in extent and covered with a rank growth of tules with the water about knee deep. Here hundreds of Yellow-headed Blackbirds were seen, and two, a ♂ and a ♀, were collected. A colony of Black-crowned Night Herons was flushed from their roost in the tules at the first shot, and as the flock soared over me, I brought one down with a charge of #12 shot in my 410. The specimen was saved. Several Black Terns were flying over the area, and ~~the~~ two ♀'s were taken. Doubtless they were nesting in the area. One Bittern was flushed and a Coot's nest with 12 eggs in a nest anchored to tules and yet floating in the water was found. Very few Red-wings were noted, the Yellow-heads seeming to usurp the whole area.

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About two miles N. of the marsh a Burrowing Owl was seen. Tried to collect it, but the distance was too great for my 410. Killed a Brewer Sparrow at this place.

This camp is near a large wild-hay field in a shallow valley, and surrounded by sage covered slopes and hills. In many places outercroppings and ledges and cliffs of basalt are found. A small reservoir that stores water to irrigate the hay field is some 200 yards to our west. We are camped at the site of an old, nearly demolished stone house and have to haul our drinking water from the stove, a mile distant.

Several pairs of Wilson Phalaropes were noted as we crossed the creek. They were swimming and feeding in a shallow pond near the road. Three, 2 ♀'s, 1 ♂, were collected.

(p. 171)

May 30, 1 mi. s. Riddle, Owyhee Co., Idaho.

Yesterday was spent in making up specimens.

This P.M. Allan and I went hunting for Redwings in the

hay-field. They were rather wild and only one ♂ was secured. Four Western Willets, one Savanna Sparrow and three Wilson Phalaropes were taken. The latter bird is doubtless nesting in that marsh, for the ♀'s had greatly enlarged ova. One gull and a small, white Tern were seen at the reservoir, the former was collected. Two grebes are on the reservoir, but so far have escaped our attempts to bag them.

Set out 40 mouse traps in the sage, and along a basalt-outcropping this P.M.. Also made 5 gopher sets near the reservoir. The burrows are so small that they have to be enlarged with a trowel before the trap can be placed.

(p. 172)

After I had set my mouse traps, I found an area up the creek where gophers are working. No sets were made, however. Vesper Sparrows are very common here, occupying the sage areas in which bunch grass is growing. Three of these were collected, and one female was noted that seemed to be very much interested in a certain area of bunch grass near which I set my trap. I failed to locate any nest, but there is doubtless one there. Rock Wrens, Brewer Sparrows, Sage Thrashers, Robins, and Yellow Warblers were seen and one ♂ of the latter collected.

Found the skull of a Marmot in the rocks on the N. side of the ravine. This ravine is now dry, but in rainy seasons carries a good sized stream.

Pygmy rabbits are rather

(p. 173)

common here, Took one on the 28th and another one this P.M. Have seen several. Both specimens taken were females and were heavily laden with embryos. These were 6 in number in each case and measured 60 mm. and 72 mm. respectively. The embryos seem to be nearly ready for birth and are hairless.

These rabbits seem to feed at any time of the day. To-day I saw one at 1 P.M., and yesterday one at 3 P.M. Both specimens taken, however, were shot at about 4:30 P.M. Their runways and burrows are in the taller sage, but they seem to do a great deal of their feeding in the shorter, 1 1/2 ft.; denser sage, where, perhpas greater coverage is available.

Saw one ♀ sage hen and two young when I was setting my traps. One young was taken.

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Saw one ♀ sage hen and two young when I was setting my trap. One young was taken.

(p. 174)

May 31, 1 mi. s. Riddle, Owyhee Co., Idaho.

Set out 40 traps yesterday evening about 30 paces apart in sage (tall) and about rocky situations. Took only 9 Peromyscus maniculatus in the sets. Left the traps out during the day and caught two Eutamias. They are minimus. WBK Apr. 24, 1937

These chipmunks are larger than E. minimus, but like them are found in sage and around rocky ledges and slides. Allan has seen several of them, but so far the two I caught are all I have seen.

Marmot sign is abundant in this area, droppings being present in nearly every rock pile, but we have been unable to see any of them.

The owner of this place called today and he said there were a few coyote in this region, but that most of them had been killed off, by the poison campaigns by the B.S. He is not in favor of this method of ridding the region of predators.

Made four new sets for Thomomys up the creek about

(p. 175)

half a mile. They are scarce in this area, but there are plenty of old mounds through the sage area. They have doubtless found that habitat too dry and have moved to moist areas along the creek. All the burrows are small in diameter so that difficulty is met in setting the traps. They are inhabiting the semi-stony and grassy areas near the creek, or in patches of small sun flowers, a plant that grows in profusion in certain areas that appear to be of deeper soil.

Saw several Rock Wrens and took one specimen. Vesper Sparrows appear to be the most abundant bird in this whole area, even out numbering the common Brewer Sparrow and Brewer Blackbird. Allan has found several of their nests, most with young. I found one nest with only one newly hatched young in it. The nest was placed in a depression in the ground

(p. 176)

so that the rim of the nest was flush with the ground. It was at the base of a very small sage (8" high) in a rather sparsely vegetated alkali flat. The peculiar evening call of the singing male is distinctive.

Left my 40 traps out tonight.

(p. 174)

May 31, 1 mi. s. Riddle, Owyhee Co., Idaho.

Set out 40 traps yesterday evening about 80 paces apart in sage (tall) and about rocky situations. Took only 9 Peromyscus maniculatus in the sets. Left the traps out during the day and caught two Eutamias.

These chipmunks are larger than E. minimus, but like them are found in sage and around rocky ledges and slides. Allan has seen several of them, but so far the two I caught are all I have seen.

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Left my 40 traps out tonight.

June 1, 1 mi. s. Riddle, 5300 ft., Owhyee Co., Idaho.

Had only three Peromyscus in my traps; one was saved. It rained hard nearly all night and this fact may account for the sparsity of my catch. These mice and the Marmots and Rabbits appear to be the only small mammals in this area; of course, there are numerous colonies of ground squirrels. These latter live in loose colonies; that is, their burrows are scattered within certain areas, the intervening areas being uninhabited.

Went down in the marsh west of camp to collect a series of Redwings. They were very wild and all of them had

(p. 177)

to be shot on the wing. A series of 4 ♀'s and 3 ♂'s was taken. Several of their nests were found in the short swamp grass. A colony of Yellow-headed Blackbirds is inhabiting one area of the marsh, and their territory rights are observed by the Brewers and Redwings. I noticed several of the ♂ Yellowheads put a Brewer Blackbird to flight.

The Willets appear to be very much interested in a certain area of the marsh, but search failed to find a nest. The season may be early, or it may be that young are present, for both of the birds are frequently seen. There is only one pair left in the marsh now, as we clllected the other two.

Several Savanna Sparrows were seen, but I could not get close enough for a shot.

Found a Green-winged Teal's nest in the tall sage about 200 feet from our camp. We have been hunting in this

(p. 178)

very area for Pygmy Rabbits, but had never approached the nest close enough to flush the brooding bird. The ♀ was collected along with the 7 eggs, which appear to be well incubated, and the nest down. The nest was on the ground under the drooping branches of a sage some two feet high.

Several young sage hens and the ♀ were seen near camp. We heard from the owner of the only store here that sage hens used to be here by the thousands and that hunters used to see how many they could kill in a day, then stack the birds up and leave them. He told me of one man, a manager for J.C. Penney at Mountain Home, Idaho, who came out here with a case of 12 gage shells and killed 300 birds in one day, then stacked them up and left them. Now the birds are scarse and certainly need

June 1, 1 mi. s. Middle, 5300 ft., Owyhee Co., Idaho.

Had only three Peromyscus in my traps; one was saved. It rained hard nearly all night and this fact accounts for the sparsity of my catch. These mice and the Armota and Rabbits appear to be the only small mammals in this area; of course, there are numerous colonies of ground squirrels. These latter live in loose colonies; that is, their burrows are scattered within certain areas, the intervening areas being uninhabited.

Went down in the marsh west of camp to collect a series of Redwings. They were very wild and all of them had

(p. 177)

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(p. 178)

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protection. The farmers in

(p. 179)

this region are in favor of their protection, even during the open season that is allowed by law on them.

June 3, 1 mi. s. Riddle, 5300 ft., Owyhee Co., Idaho.

Went hunting up Indian Creek to a place about three miles S.E. of Riddle. The stream is in a narrow canyon bordered by lava bluffs and in places small stony meadows are present. Alder, Cottonwood, Aspen, and Willow are the principal trees with currant and Rose bushes forming the soft chaparral along each side of the stream.

We looked at our steel sets for Marmots. One trap had been sprung, but we failed to catch anything. Hunted all the rocks for this rodent but failed to see any. There was abundant sign, both old and fresh.

I saw one Callospermopholis on the rocks about two

(p. 180)

miles up the creek. Knocked it down with a charge of #12 but it escaped into one of the many crevaces in the rocks. The color resembled very much the form found in Nevada. Allan saw one on the N. side of the creek, about 1/2 mi. farther up stream.

Two Citellus were shot and one Eutamias. All the Citellus are very fat, especially the old ones causing a great deal of work in the preparation of a study skin.

Several birds were taken including Nighthawk, Fox Sparrow, Song Sparrow, Vesper Sparrow, Western Wood Pewee, Black-throated Gray Warbler, Yellow Warbler, House Finch, Brewer Sparrow. Found the nest of a West. Redtail in an Alder some 15 feet from the ground, ~~yet~~ in the top of the tree containing 3 eggs. Flushed

(p. 181)

a Horned Owl from a thicket of Alder along the stream. Tried to collect it but failed to make a hit. A pair of ravens was present mear the canyon and an old nest on the rocky cliff on the N. side indicated a nesting pair. There was nothing in the nest, and it looked like it had been used.

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(p. 179)

this region are in favor of their protection, even during the open season that is allowed by law on them.

June 3, 1 mi. s. Riddle, 3500 ft., Owyhee Co., Idaho.

Went hunting up Indian Creek to a place about three miles S.E. of Riddle. The stream is in a narrow canyon bordered by lava bluffs and in places small stony meadows are present. Alder, Cottonwood, Aspen, and Willow are the principal trees with currant and Rose bushes forming the soft chaparral along each side of the stream.

We looked at our steel sets for Marmota. One trap had been sprung, but we failed to catch anything. Hunted all the rocks for this rodent but failed to see any. There was abundant sign, both old and fresh.

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(p. 180)

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Two Citellina were shot and one Eutamias. All the Citellina are very fat, especially the old ones causing a great deal of work in the preparation of a study skin.

Several birds were taken including Nighthawk, Fox Sparrow, Song Sparrow, Vesper Sparrow, Western Wood Pewee, Black-throated Gray Warbler, Yellow Warbler, House Finch, Brewer Sparrow. Found the nest of a West. Robin in an Alder some 15 feet from the ground, yet in the top of the tree containing 3 eggs. Planned

(p. 181)

a Horned Owl from a thicket of Alder along the stream. Tried to collect it but failed to make a hit. A pair of ravens was present near the canyon and an old nest on the rocky cliff on the N. side indicated a nesting pair. There was nothing in the nest, and it looked like it had been used.

List of birds taken or observed at this locality:

1. Killdeer (common)
2. Wilson Phalarope (12 pair)
3. Eared Grebe 2.
4. Bonaparte Gull 1.
5. Tern (Least?) 1.
6. Mallard (3 pair)
7. Green-winged Teal 1.
8. Cinnamon Teal 2 pr.
9. Western Willet 4 pr.
10. Brewer Blackbord (common)
11. Red-wing
12. Yellow-headed B.B. 20 pr.
13. Savanna Sparrow nesting
14. Brewer Sparrow
15. Vesper Sparrow nesting ---(p. 182)
16. West. Meadowlark common
17. Raven 2 pr.
18. Turkey Vulture 2
19. Sage Thrasher
20. House Finch
21. Sage Grouse
22. Yellow Warbler
23. Black-throated Gray Warbler
24. McGillivray Warbler
25. Nighthawk (Pacific)
26. Poor will. (common, but not able to collect any)
27. West. Robin
28. Bullock Oriole 1 pr.
29. Black-headed Grasbeak.
30. Chat (Long-tailed)
31. Fox Sparrow
32. Song Sparrow (fallax)
33. Black Tern
34. Cliff Swallow
35. N. violet-green Swallow
36. Rough-winged Swallow
37. Horned Owl
38. Red-tailed Hawk nesting
39. Black-billed Magpie
40. Horned Lark
41. Green-tailed Towhee
42. West. Wood Pewee
43. Gray Flycatcher (wright)
44. Rock Wren
45. Barn Swallow

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43. Gray Flycatcher
44. Rock Wren
45. Barn Swallow

(p. 183)

June 4, 1934, Rupert, Minidoka Co., 4300 ft., Idaho.

Left Riddle yesterday about 11 A.M. and headed N. for Mountain Home, some 90 miles distant, and then turned east over the main highway to Rupert, a distance of some 230 miles.

The region between Riddle and Bruneau River Valley is a high, sage-covered plateau averaging well over 5000 ft. in elevation. Most of the area is covered with lava outcropping or flows. Here the Horned Lark was very common, especially in those areas where the sage was stunted and not over a foot high. We managed to take three birds by shooting from the car.

Bruneau Valley is a broad low area given over to farming and following the course of the Bruneau River. The area is one that looks very promising for collecting. Some 20 mi. S. of the town

(p. 184)

of Bruneau there is an area that looks very favorable for Microdipodops. There are Microtus in the valley as was attested to by farmers who were haying. We followed a bull rake for a time, but none were seen. However, the men said that when they were shocking the hay the mice were seen regularly. This place is the first place at which we saw Jack Rabbits since leaving Nevada. They seem not to be in the Riddle country.

Five miles N. of Bruneau near the Snake River I killed a young Antelope Ground Squirrel. This, to my knowledge, is the first specimen listed for the State.

5 miles south of Mountain Home we found the Citellus to be very abundant. They were living in burrows at the sides of the roads,

(p. 185)

and in colonies in the sparsely sage-covered areas. Hundreds of them were seen, most of them being young of the year. Six specimens were taken, two of which are good adults. These squirrels are certainly of a different race from those found at Riddle. The hind foot averages considerably shorter and the color appears to be much grayer.

About 5 mi. E. of Glenns Ferry we saw our first Marmota caligata, a big black and brown-colored fellow. We tried to get a shot at it, but failed. The same thing happened 3 mi. W. of Bliss where we saw two of them. These Rockchucks were

flaviventris,

(p. 183)

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living out in the desert near the lava out-croppings in which they had their dens. Sign was fresh, and if time had permitted, I am sure

(p. 186)

we could have trapped them with steel sets.

We spent most of today making up specimens. This P.M. about 6, we drove four miles N. of town to the Rim Rock and killed four Jack Rabbits. I set out 32 traps in a sandy sage-covered area about four miles N. of Rupert. There appeared to be some sign of Dipodomys, and tracks were seen that resemble very much those of the Kit Fox, but the proximity to habitations lead me to doubt that they were Fox.

I enquired of a farmer where one could find Thomomys and received the reply that he knew of none on the whole project, and was positive there was none on his ranch. This, if true, is a peculiar fact, indeed.

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June 5, Rupert, 4300 ft., Minidoka Co., Idaho.

Visited my traps this A.M. at 7 and found 1 Citellus, 1. Eutamias, 3 Peromyscus maniculatus (one saved, the others had their heads eaten off), 1 Perognathus parvus and 2 Dipodomys. The Citellus was still alive and gasping for air since the trap was not strong enough to break its neck. The area trapped was about a half mile square in the midst of alfalfa fields and probably represents a remnant of a much larger similar area.

In the afternoon Allan, Frank Dunn, and I drove out to the McKenzie Drain, 5 miles south of Rupert to hunt for Redwings, and Song Sparrows. One song sparrow was seen and collected at this place, but no Redwings were seen. Hunting was so poor, due to the lack of proper riparian growth, that we drove one mile east and crossed the Snake River via the Donner Bridge and hunted just south of the river.

Areas that in former times

(p. 188)

were marshy and had plenty of water are now dry or nearly so because of water shortage. The past winter was so mild and so little snow feel in the mountains that a severe shortage of water has resulted. Farmers in this area have been allotted only 60% of the normal amount of water necessary for

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irrigation. No redwings were found in these semi-marshy areas, but a small colony of Yellow-headed Blackbirds was found and one female taken. One song sparrow was seen and taken and one Avocet was taken from a group of three pairs. A pair of Red-head ducks and three pair of Mallards and one of Cinnamon Teal were flushed from a small, muddy pond in the midst of cat-tails.

Ground Squirrels were fairly common along the bank of the river and in nearby fields. Three were taken by shooting them. They proved to

(p. 189)

be young of the year and are quite distinct from those squirrels found on the north side of the river. The squirrels on the south side of the river are very similar to those collected at Riddle in Owyhee County, while those taken on the north side of the river resemble the ones we collected near Mountain Home, also on the north side of Snake River. From the point of view of the mammals, this river must be the boundary that separates races and species. It would be very interesting to find out just what effect this river has on the speciation and isolation of mammals in southern Idaho.

The area on the north side of the river is very sandy, but is nearly all under cultivation. On the south side the soil is a heavy clay and partly under cultivation. The typical riparian growth along the river itself consists of willows and wild roses.

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In the evening Allan and I drove to Acequia, some 5 mi. north-east of Rupert and set out 50 mouse traps in sandy, sage-covered areas. Numerous small burrows were noted in the sand which looked like they might belong to ground squirrels. The traps were set in two areas about 1/2 miles apart, but in similar areas. One, to the south of the railroad tracks, was more heavily covered with sage, and looked to be a likely place for Peromyscus.

Lepus californicus were very numerous in the last area and Allan killed 6 of them. Skulls only were saved.

June 6, Rupert, 4300 ft., Minidoka Co., Idaho.

Visited the traps this A.M. with Allan and Ray Ennis. Dipodomys ordii was all I caught, and only eight of these.

irrigation. No redwings were found in these semi-marsh areas, but a small colony of Yellow-headed Blackbirds was found and one female taken. One song sparrow was seen and taken and one Avocet was taken from a group of three pairs. A pair of Red-head ducks and three pair of Mallards and one of Cinnamon Teal were flushed from a small, muddy pond in the midst of cut-tails.

Ground Squirrels were fairly common along the bank of the river and in nearby fields. Three were taken by shooting them. They proved to

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be young of the year and are quite distinct from those squirrels found on the north side of the river. The squirrels on the south side of the river are very similar to those collected at Riddle in Owyhee County, while those taken on the north side of the river resemble the ones we collected near Mountain Home, also on the north side of Snake River. From the point of view of the mammals, this river must be the boundary that separates races and species. It would be very interesting to find out just what effect this river has on the speciation and isolation of mammals in southern Idaho.

The area on the north side of the river is very sandy, but is nearly all under cultivation. On the south side the soil is a heavy clay and partly under cultivation. The typical riparian growth along the river itself consists of willows and wild roses.

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The absence of Peromyscus maniculatus puzzles me. Perhaps they are in a different type of habitat

(p. 191)

than they occupy in Nevada. So far I have taken only one adult Peromyscus in this region. The color appears to be darker than is the case of those mice taken at Riddle. Again it may be due to a difference in genetic makeup due to isolation caused by the Snake River.

In the afternoon Allan and I mover camp to Leo Davis's ranch, 2 miles east of Acequia. He is an uncle of mine and has done considerable trapping around Acequia and the Minidoka Dam. Marmots were supposed to be common and tame in the rocks near his ranch and was the main drawing card for the move.

To go back to this morning. On the way back from looking at our traps, a Citellus mollis was shot at Acequia, and one near the cmeetery north of Rupert 4 miles. We drove back to Rupert in a round about way, going north to the desert

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and then driving west over one of the numerous old desert roads in hopes of getting a Pygmy Rabbit. One was seen, but disappeared down a burrow. Hundreds of Black-tailed Jack Rabbits were seen and several collected near the cemetery. Skulls only were saved.

June 10, Rupert, 4300 ft., Minidoka Co., Idaho.

Spent two days and a half at Leo Davis's ranch collecting Marmots were numerous, but certainly not tame. We hunted the afternoon of the 6th, 7th, and 8th and in all got 5 adults and one young. Another adult was given me by two young girls who had killed it with clubs near their alfalfa field. The marmots were inhabiting rock piles that had been made during the excavation of the North Side Canal. These rocks were large, of volcanic origin, and were piled in such a manner that numerous siutable dens were available.

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and had 5 steel sets out for two nights for skunks and weasels, but failed to get any. However, last winter Leo took several skunks in traps. A skull of one of these skunks was taken from a skinned carcass and saved. On the 8th Leo wounded a weasel, but it got into the rocks and escaped. They are fairly common in that area for George Sullivan, a rancher, some 2 miles S of where we were, killed a weasel that was in his chicken pen. He used a 12 gage shotgun and mutilated the animal so badly that it could not be saved as a specimen. The neighbors adjoining Leo on the north also killed a weasel, but used a club. When I saw it, the skull was smashed to bits and the fur slipping from the much decayed body. It could not be saved.

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The Marmots taken were very fat. At least 3 hours were required in the preparation of one specimen. One quart of fat was taken from one adult. Natives in that region said that oil from Marmot fat made the best leather oil obtainable. I'm going to try it.

Although these Marmots were living in the near vicinity of water, I am beginning to doubt that water is one of their necessities. These animals were seen in the desert near Bliss several miles from water. They are also reported from the desert near Minidoka; again several miles from water.

Allan had the index finger of his right hand bitten nearly through by a wounded Marmot that he was trying to kill. They are a hardy animal and require 22 long rifle a bigger gun to kill them. As it was only 1 of the five taken ~~was~~ killed outright by the bullet, the others being merely

(p. 195)

the other being merely wounded and captured as they were attempting to seek escape in the rocks. Several marmots escaped us by getting into the rocks before we could reach them.

These marmots, I believe, are a different species from those taken near White Rock, south of Owyhee, and from the one seen near Riddle.

Five Thomomys were taken in Leo's Alfalfa field. The soil there was very sandy and as a result of the ease in digging, the burrows were quite large in diameter for the size of the gopher. All those taken were females, and try as I

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If so, where and how do they cross the river? Are those at Pocatello like the Nevada form or like the Nampa form? On the face of it, it seems more likely they are like the Nevada race, for certainly the Snake River is a barrier to gophers.

Microtus were found in Leo's hay field. No traps were set because no good runways could be found, yet, during the haying, three of these mice were killed by Leo. His method of stepping on them was a bit drastic for they were all three badly smashed. However, two skins and one skull only were saved. These mice are reported as being very common on the project here and doubtless a good series could be taken if one followed the haying operations.

A small series of Red-wing Blackbirds was taken at Leo's ranch. They were feeding fledglings and were in company with Brewer Blackbirds in his

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alfalfa field. Arkansas Kingbirds, Yellow Warblers, House Finches, and English Sparrows were the other common birds on his ranch.

No trapping for small mammals was done during our stay at the ranch for it rained hard every evening, night and forenoon we were there. Every afternoon it would clear up and we would go hunting.

The territory near Leo's ranch is very sandy and covered in most places by a heavy growth of sage brush. From his place one can see the sage-covered desert stretching for miles to the north. No trees of any sort grow wild in the region and the introduced Poplars offer the only suitable nitches for many of the birds. Yellow Warblers were nesting in the trees about the ranch house. Along the canal some willows are found growing in or near seepage ponds.

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Otherwise the only shrub growing is the sage.

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Allan had a message from home telling of the death of his father, so left on the early morning stage yesterday.

I spent all day yesterday in making up specimens and in packing two boxes of skins for shipment to Berkeley.

Today is Sunday, so I took part of the day off and visited with my folks. In the evening Dad, Ray Ennis, George Lutz, and I drove out to a rabbit drive 4 1/2 miles NW of Paul. About 1000 rabbits were killed in two drives. I looked over the dead and dying rabbits and found 14 adult skulls that had evaded the blows of clubs and collected these. Females seemed to outnumber the males 2 to 1. Fully 80% of the rabbits killed were young of the year. The bodies were hauled away to be ground up for chicken feed.

June 12, Rupert, 4300 ft., Minidoka Co., Idaho.
(p. 199)

Started for Elba, Cassia Co., yesterday and broke a rear axle on the car when 4 mi. SE of Albion. Phoned Dad at Rupert and he came over and towed me back.

While waiting for Dad I hunted for Ground Squirrels which were numerous in that area and succeeded in taking 9 good adult specimens. There seems to be two species of Citellus living in that area. Both are of the same general color, but one has the under surface of the tail reddish bordered by a white band while on the other, the under surface of the tail is grey and lacks any suggestion of reddish. The hind foot of the ones with the greyish tail averaged 46 mm., while those with the reddish tail averaged 42 or 43. Beyond these two pronounced differences, they all resemble one another. Whether the ones with the grey tail live in

(p. 200)

separate colonies on the 40 acres area in which I hunted, I do not know, for I never noticed the difference in the specimens until I got back here yesterday evening.

I talked with a member of the Albion Fish and Game Club yesterday and learned some very interesting information. The chairman of the state Fish and Game Commission, a Mr. Barrett, lives in Albion and has taken an active part in restocking the state with fish and game. At Albion this past spring, a bounty was offered on Black-billed Magpies and their eggs. One cent each for the eggs and two cents each for the birds. I was told that $20 had been paid out on eggs alone in that small community.

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Even so, the Magpies seemed not to have suffered for they were very numerous. Poison had been distributed for

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Magpies and Ground Squirrels this past spring and hundreds were reported as having been killed. The effect on the population of the two animals apparently was not much. On the small area in which I hunted squirrels, there were fully a hundred animals (Squirrels), most of them young of the year. Perhaps their method of poisoning is at fault.

At this same locality, i.e., 4 mi. SE of Albion, I saw the following birds. (No especial effort was made to find out how many species were present.) Black-billed Magpie, Yellow Warbler, Brewer Blackbird, Chat, Black-headed Grasbeak, Vesper Sparrow, English Sparrow, Killdeer.

On the way to Albion I stopped two miles south of Rupert and attempted to collect a lone White-faced Glassy Ibis that was feeding in

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company with two pair of Cinnamon Teal in a small pond in a barn yard. The bird flew before I got in range. At this same pond I saw a Spotted Sandpiper and Several Killdeers.

I spent the whole day today in making up the nine specimens of Citellus, They were very fat and required gasoline to cleanse the pelage after the skinning operation was completed.

So far on this trip there have been only two days when no rain fell. Again tonight it looks like more rain is in store. Since this is one of the driest years in the history of the project, rain is welcomed by the people.

June 16, Elba, Cassia Co., Idaho.

Drove over here June 14, arriving about 2 P.M. June 13, I

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borrowed Dwight Disney's Ford and drove out to the Remsberg ranch about 3 1/2 mi. ENE of Rupert. The ranch, like many others on the project is planted mainly to alfalfa, wheat and clover. Microtus were reported by John Remsberg as being present in his fields. I failed to find any during the short time I stayed there

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Collected two Savannah Sparrows. Horned Larks, Eastern Kingbird, Arkansas Kingbird were common as were the more common other birds. John said weasel and skunk were frequently killed on his ranch. Ate dinner here and then drove out to the river about 4 mi. E of Rupert at a place we used to call "Little Sloughs".

This place is on the bank of the Snake River and consists of a small slough of water with a few cat tails. Most of the area is given over to pasture land and all green vegetation is kept closely

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cropped so that very little cover is now left for the marsh loving birds.

One pair of White-faced Glossy Ibis, two Avocets, three pair of Cinnamon Teal, one Coot, as small colony of Redwings, and one of Yellowheads, two Meadowlarks, Yellow Warblers, Magpies, and Black-headed Grosbeaks were the birds observed near the slough. Along the river bank the Bank Swallows were abundant. Several terns of a size larger than Forsters, and with black-tipped primaries were flying over the river or resting on a shoal in the water. A flycatcher was collected at the NE end of the slough on the golf course.

June 14, Elba, Cassia Co., Idaho.

Elba is a small ranching community boasting one store, a school, a church, and post-office, on Cassia Creek some 34 miles south of Rupert, The valley through which the creek runs is only 3 or 4 miles

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wide, heading on Mount Independence and extending in an easterly direction to the Raft River Valley. Both sides of the valley are hemmed in by mountains that are mostly bare save for sage and juniper. Mount Independence boasts a small forest that can be seen from the town and at present is partly covered with snow. Five lakes are reported as being situated near the top of the mountain.

Cassia Creek flows thru the center of the valley and is bordered immediately by a rank growth of willows, cottonwoods, and roses, beyond this riparian growth meadows dotted with springs, extend for some distance. Most of the meadowland is

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June 14, Kiba, Cassia Co., Idaho.

Kiba is a small ranching community boasting one store, a school, a church, and post-office, on Cassia Creek some 24 miles south of Rupert. The valley through which the creek runs is only 3 or 4 miles

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given over to grazing and to the raising of wild hay.

I am staying at the Wickle Ranch, my aunt's place, some 1/4 mile NE of the store.

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Between the house and the creek there is a large marshy area given over to grazing. In many places the water arises from permanent springs in which water cress is growing. In these scattered clumps of cress the Microtus are found. The rest of the area is too closely grazed to permit the growth of necessary cover. In this same marsh Wilson Snipe are breeding, at least three pair being present. The males can be heard every evening and most of the night uttering their peculiar "burring" sound. This, I believe, is caused by the tail feathers for I notice the sound is made only when the bird is banking in flight.

Killdeers are numerous, and one pair of Wilson Phalarope was seen. The ♂ was collcted.

Night hawks and a few bats have been observed flying over this same area. "Mel", my uncle, saw several bats

(p. 207)

along the creek last night when he was fishing. So far I have seen only three bats and fave failed to collect any. Three Nighthawks, 2 ♂♂ and 1 ♀ were taken yesterday evening. The ♀ lacks the white band on the tail. The size of the ova indicated that breeding is not far distant. There is a peculiar "comb" on the large toe of these birds which, I suppose, is of some aid in preening. This structure may have been developed to partly replace the lack of a highly developed beak.

The day I arrived "Mel" had a weasel up a tree in the front yard and tried to kill it with rocks. It has not been seen since. Striped Skunk have been seen lately. One ♀ and 6 young were seen by "Mel's" father near the creek about 6 days ago. The dog killed one of the young. So the story goes, the female

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disappeared in a willow clump when the horse and rider appeared. The young, however, followed the horse, in single file, for some distance. When the dog rushed in and grabbed one of the young, snapping its back and tossing it into the air , it (the

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dog) was sprayed and didn't molest the rest of them. They, then, turned tail and, with tails over their bakcs and in single file, disappeared in the willows.

Muskrats are reported as being common. I have had out three sets for them, but so far have failed to make a catch. Shall set some more traps along the creek. The three sets are in a deep, narrow gully in the hay field where "Mel" has taken them in winter. I saw no recent sign, but did find one burrow. Since these animals have lots of territory in which to move, it may be they are

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no longer in that particular territory.

Yesterday I took a walk about the 320 acre ranch. I saw several quail, probably California Quail, since these have been introduced at various times. Saw a pair of Chinese Pheasants and two large Sage Hens.

Bobolinks are common in the hay field here. The males have a peculiar habit of bunching like blackbirds, and when not disturbed use the taller clumps of grass as perches. The song was frequently given on the wing and when perched on the top of some willow or rose bush. Only one of the grayish-yellow females was seen -- and collected. The condition of the breast indicated the ♀ does most, if not all of the incubation and brooding. The ovaries were small ○ , but yet I saw two males chasing

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this one ♀. This, it would seem, might indicate a second breeding for I feel quite sure they have nested once this season.

Redwing and Brewer Blackbirds are very common, the Redwings predominating. Black-billed Magpies are present, and fledglings are afield now.

September 15, Rupert, Minidoka Co., Idaho.

My father's death, Sept. 11, called me back to Idaho. Entered Idaho via Wells, Nevada on Highway #93. Sept. 13, kept a careful watch for ground squirrels but failed to see a single one. Many burrows were in evidence, but no squirrels. Inquiry revealed that they had been last seen about two weeks previous.

dog) was sprayed and didn't molest the rest of them. They, then, turned tail and, with tails over their backs and in single file, disappeared in the willows.

Muskrats are reported as being common. I have had out three sets for them, but so far have failed to make a catch. Shall set some more traps along the creek. The three sets are in a deep, narrow gully in the hay field where "Mel" has taken them in winter. I saw no recent sign, but did find one burrow. Since these animals have lots of territory in which to move, it may be they are

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no longer in that particular territory.

Yesterday I took a walk about the 320 acre ranch. I saw several quail, probably California quail, since these have been introduced at various times. Saw a pair of Chinese Pheasants and two large Sage Hens.

Bobolinks are common in the hay field here. The males have a peculiar habit of bunching like blackbirds, and when not disturbed use the taller clumps of grass as perches. The song was frequently given on the wing and when perched on the top of some willow or rose bush. Only one of the grayish-yellow females was seen -- and collected. The condition of the breast indicated the ♀ does most, if not all of the incubation and brooding. The ovaries were small ♂, but yet I saw two males chasing

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this one ♀. This, it would seem, might indicate a second breeding for I feel quite sure they have nested once this season.

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At the Idaho-Nevada Line, and from there north for a distance of about 10 miles Eutamias minimus were

(p. 211)

quite common along the highway where they were feeding on the Russian Thistle that lined the highway on each side. Two Chipmunks were observed sitting in the thistles pulling off the seeds; many others were observed scampering away from the thistles and into the sage. The preferable habitat for this chipmunk appears to be in the vicinity of lava out-cropping in areas where there is plenty of Artemesia that is not too high.

This whole area, at least along the highway, is one of hills and valleys, everywhere covered with sage -- even to the top of the highest hills in sight, -- and at frequent intervals dotted with lava out-croppings.

After a distance of 10 miles north of the line, the basalt is lacking, to a great extent, along the highway, but farther to the east and to the west it is still discernible. Perhaps this explains the apparent lack of

(p. 212)

Eutamias beyond this 10 mile limit along the highway.

Occasionally Chipmunks were taken on sandy, sage-covered areas, but usually, and by far the greatest number, they were found in rocky-sage areas.

At one mile north of the Nevada-Idaho Line I hunted for a time 7:00 -- 8:45 A.M. while Mrs. Davis was preparing breakfast. Two Eutamias minimus were taken, and from this point north to the 10 mile limit, I took 10 specimens, many immature; 6 ♂, 4 ♀. These I skinned out yesterday and preserved the skins in 30% alcohol; later to be made into study skins.

At one mile N of the line I saw an immature Sylvilagus idahoensis at very close range; in fact, so close that I could not shoot it, without literally blowing it to pieces. Time: 8:45 A.M. It was abroad and had been foraging. When it saw me it retreated to its burrow where

(p. 213)

it sat up, assuming a pose much like that of a Picket-pin ground squirrel. The front feet were folded over the belly.

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(p. 213)

it sat up, assuming a pose much like that of a Picket-pin ground squirrel. The front feet were folded over the belly.

The brown neck patch and very short ears were quite prominent. I backed off to take a shot and as I got ready, the rabbit fled into its burrow.

Several burrow entrances were grouped close together, each averaging about 5" in diameter. Contrary to the common belief, these burrows had no partly depressed surface runways leading to them. They were merely dug at a slight angle and the runway dispensed with. The sage in this particular area was not over 2 1/2 ' high and not very dense.

The following birds were also noted at this place: Rock Wren, Horned Lark, Sage Thrasher, Raven and Black-billed Magpie.

Since these Chipmunks, as above noted, were feeding on

(p. 214)

Russian Thistle, and since the cheek pouches in many of those taken contained the seeds of this weed, it is possible that these Rodents play a role in the dispersal and propagation of this much despised weed. Again, the fact that they must consume large quantities of the seeds may indicate their usefulness in checking the spread of this plant.

September 18, Rupert, Minidoka Co., Idaho.

Yesterday I spent the day along Snake River south and east of Rupert. The following birds were noted.

1. Song Sparrow
2. Western Willet
3. Caspain Tern
4. California Gull
5. Forster Tern
6. Many ducks
7. White Pelican (3)

No mamals were observed other than the Jack Rabbit.

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No mammals were observed other than the Jack Rabbit.

(p. 215)

October 28, 1934, S.F. Bay, Berkeley, California.

Hunted along the shore just south of the Berkeley dump grounds. Heavy on shore wind; cloudy. Eared Grebe. -- Took one ♀. She was riding the waves about 15 ft. from the bank. Often the breakers broke over her, entirely submerging the bird, yet she appeared at ease. No attempt was made to dive into the breakers. If the waves were not too high, she rode the crest, if they were breaking, she was submerged. The iris was orange with a faint circle of light yellow bordering the pupil. The feet were black underneath, as were the outsides of the torsus; the top of the feet and inside of torsus were bluish. This bird is #840. Phalaropes?? Several were noted. Looked like Wilson.

(p. 216)

June 28, 1934, Fishing Bridge, Yellowstone N. P.

Yesterday A.M. was spent in the laboratory at Mammoth in making parasitological slides from specimens taken from Salmo lewisi and Larus californicus. In the P. M. I was moved to this locality for the purpose of collecting pelicans, mergansers and osprey parasites.

This morning I borrowed a boat and went down the Yellowstone River perhaps a mile and a half and collected two pelicans and one California Gull. All three were examined for parasites and those found preserved in 10% formalin.

The weather, for a change, was ideal. Slight down-river breeze.

White Pelican

About 100 individuals were noted this morning. ~~They were noted this morning.~~ They were in flocks of from 10 - 30, some feeding, others merely resting in shallow water or on exposed sand bars. In shallow water where the current is slight, the pelicans feed by swimming in any direction, submerging the

(p. 217)

head and neck and scooping up the fish. In a strong current, however, the bird drifts with the current, or swims, but always with the current. Feeding is accomplished similarly. When the

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(p. 217)

head and neck and scooping up the fish. In a strong current, however, the bird drifts with the current, or swims, but always with the current. Feeding is accomplished similarly. When the

bird has drifted a sufficient distance, it flies up stream to about the position it was previously and the floating process begins anew.

The bed of the river in places where pelicans were noted feeding is a series of shallows and deeper holes. In these holes numerous trout were observed, and it is doubtless in such areas of great abundance of fish that most of the feeding is done.

The pelican experiences some difficulty in taking off from the water. This is accomplished by a spring into the air and for some distance both feet are vigorously kicked backward in the water, with toes outstretched to give greater resistance to the water, at each beat of the wings. When

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sufficient momentum and altitude have been reached, the feet are drawn up. This process of taking off is one of interest to watch.

These birds are wary, even here in the park, so that a great deal of stalking and lying-in-wait were necessary to secure the two specimens.

By 9 A.M. most of the birds had finished their morning fishing and were idling away the time on the sand bars. I believe that feeding, or most of it, is done in the early morning, 5 to 7 or thereabouts, and again in the evening.

One large ♂ taken had eaten a Salmo lewisi that measured 16 " in length. Digestion had partly taken place. Several flat worms that doubtless came from the coelom of the fish were found in the stomach of this bird. These appeared to be dead and partly digested, though the latter is doubtful. These were saved. Several nematodes

(p. 219)

were found in the stomachs of both pelicans. Cestodes were present, in the duodenum only, in both pelicans.

An interesting surprise was the finding in the pouch of each of these birds a cluster of lice clinging to the membrane. These were preserved, some still attached to a portion of the membrane. Apparently water has very little effect on these arachnids.

In flight the pelican assumes a rather rigid pose, the head being pressed back against the dorsal part of the body and the neck crooked. The birds usually followed one another in single file and the "swish", "swish", "swish" could be heard

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In flight the pelican assumes a rather rigid pose, the head being pressed back against the dorsal part of the body and the neck crooked. The birds usually followed one another in single file and the "awlah", "awlah", "awlah" could be heard

with each measured , deliberate wing stroke.

One bird that was shot through the heart left the water and flew some 50 yards before it fell into the river.

Mallard

One male and apparently three females were noted flying

(p. 220)

up in the river toward Fishing Bridge.

California Sea Gull

These birds were common on the river and appear to be partly parasitic on the pelican. At times when the pelicans were feeding numerous gulls would be hovering over head or resting in the water close by. On several occasions I observed a "rumpus" among the gulls with a pelican as the center of attraction. Doubtless the fish are what the gulls were after.

One ♂ was collected and the digestive tract searched for parasites. The stomach contained remains of fish, mostly viscera that had been discarded by fishermen. The gizzard contained several fin rays and vertebrae, but neither contained parasites. The intestine, duodenum, contained several Cestodes which were preserved.

Yellow Warbler.

2 ♂♂ and 1 ♀ were observed in the willows near Fishing Bridg Bridge.

(p. 221)

Cervus americanus.

One ♀ was observed while I was lying-in-wait for the pelicans. I was stretched out on the ground behind a log. The elk approached the river from the opposite side and started to cross, but changed her mind and went up stream to a place opposite me. Here she took to the water, and for the distance of perhaps 100 ft. had to swim. At this time only her head was visible. Several times she twitched her ears to get relief from the gnats. When she landed on this side she was slightly up wind and not more than 10 feet from me. Flies were giving her a great deal of trouble, especially one bat fly ? that insisted on hovering near and attempting to alight on her nose. At times when the fly attempted this she would toss her head into the air and stamp the ground with her right hoof.

She was observed to feed on a species of Salix and then moved

with each measured , deliberate wing stroke.

One bird that was shot through the heart left the water and flew some 50 yards before it fell into the river.

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(p. 220)

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She was observed to feed on a species of Salix and then moved

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into an area covered with Artemisia and herbs. Here she was observed grazing for some time -- about 10 minutes. She then moved over into the timber and disappeared.

Microtus.

Several runs, burrows, cut grass and scats were observed in the meadow near the river.

Ondatra.

Burrows were found in a perpendicular bank along the river that doubtless belonged to this species.

Eutamias.

Several of these noted, but I am unable to tell the species.

Alces.

A bull and a cow were observed in the willows in the marshy area about ¾ mi. below fishing bridge. They were browzing these plants.

Sciurus h. ventorum.

A rather common mammal around the camps and in the second growth area to the north of here. Several were heard, but only two actually seen.

(p. 223)

June 30, 1934, Fishing Bridge, Yellowstone N. P.

Spent yesterday and today looking for Mergansers and Osprey. So far I have been unable to locate either within walking distance from camp. One of the rangers, Semingsen, told me of an Osprey's nest near the 6 mi. post on the Cody road. Since I have no transportation furnished me for these studies, I haven't felt inclined to make the trip out there to check the situation.

Several birds were observed both yesterday and today. I took three pictures of the California Gulls at the lake yesterday. They were baited by tossing bits of pelican meat to them. Chances are good for excellent pictures if one had the proper equipment.

Bald Eagle.

Today I found an eagle's nest in a conifer about 1 1/2 miles below -- north of -- Fishing Bridge along the river. Three young were in the nest and the two adults were in the neighborhood at all times. A peculiar "clucking" sound was made by

(p. 224)

the adults that reminds me very much of the alarm notes of the

(p. 222)

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the adults that reminds me very much of the alarm notes of the

Cooper Hawk. The white head and tail of the adults was clearly discernible. Tomorrow I plan to take pictures of the nest and site and the young birds.

Zonotrichia l. leucophrys.

A nest with four partly incubated eggs was found near the eagle's nest. The cup was placed nearly flush with the ground and well concealed by low Artemisia tridentata. The female was flushed and remained in the near vicinity.

Chipping Sparrow.

Several observed in the Artemisia and again in the conifers.

Junco heamalis.

One pair observed. From their actions I should judge they had either a nest or young close by.

Batchelder Woodpecker.

One observed delving in the wood of a rotten snag.

Mountain Bluebird.

Fairly common here. I saw 10 or 12 today in the

(p. 225)

second growth north of here.

Ruby-crowned Kinglet.

One of the most abundant birds, judging from the frequency one hears their songs.

Rocky Mt. Jay.

Common around the camps and gov't. mess hall. These birds are usually followed from place to place by two or more kinglets which keep up a constant "chatter". The little fellows have never been observed to attack the jays, but they are doubtless trying to route them from the territory.

Black Bear.

Several tracks and scats were observed this morning in the Howard Eaton Trail. Two, a brown and a black, have been seen every day at the gov't. mess.

(p. 226)

July 2, 1934, Dunraven Pass, Yellowstone N. P.

Yesterday I again hiked down Yellowstone River for about two miles looking for Mergansers and Osprey, but failed to find any. One Osprey was noted over Yellowstone Lake, however, but too far away to take.

Bald Eagle.

Again visited the eagle's nest. It is located about 50

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Bald Eagle.

Again visited the eagle's nest. It is located about 50

ft. from the ground near the top of a large Pinus contorta. The nest itself was about 5 ft. high and at this time was a mere platform on top with an area of perhaps 20 sq. ft. The nest had been occupied for several seasons, judging from the mass of accumulated debris. No food of any sort was in the nest. The three young were nearly full grown, dark brownish black in color with yellowish beaks. They were frightened and hissed and attempted to get as far as possible from me and yet remain on the nest. They easily stood on their feet, rather than resting on their torsus-metatorsus

(p. 227)

so I should judge that they will be attempting to fly within two weeks.

This morning I got a ride to Canyon, arriving there at 7:30 and had to wait there until nearly 2:00 P.M. before I could get a ride to Dunraven Pass. This lack of transportation is irksome.

(p. 228)

July 3, 1934, Mt. Washburn, Yellowstone N. P. , Wyo.

Ovis Canadensis.

Range. Range conditions are poor. The grass is short, sparse and beginning to sere. The commonest plants are: Potentella sp.?, wild daisy, Indian warrior, Mt. Forget-me-not, Pologomium sp., and a peculiar rush-like mountain grass, Carex, Lupine and white Phlox. The place where the sheep are now grazing, north side about 400 ft. from the top, is sparsely covered with Picea englemannii.

Habits. 8:30. When I first arrived the 8 sheep were going down the hill from the salt lick to the meadow and flat on the n side. They grazed for awhile, but now one ewe is lying in the open, partially screened from me by a chump of Picea. The rest of the herd is hidden from view. She is chewing her cud, each lasting about 30 seconds. One can easily see the food go down and come up the throat. The sheep are about 150 ft. away and appear to pay

(p. 229)

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(p. 229)

no attention to me tho I am now in plain sight. The day is windy, sun shining, sky partly overcast with clouds. The sheep

are now shedding their winter coat and are ragged looking. Shedding appears to take place first on the head and on a broad strip down the middle of the back.

8:50. The herd appears to be made up of 3 old ewes, 2 young ewes, 3 young bucks. Still lying down. The wind is down the hill and I notice that most of them are utilizing the clump of Picea as a wind break. However, three ewes are out in the open and all are exposed to the sun. (Saw a Pipit and heard a Clarke Nutcracker)

9:15. Method of day bedding. Merely any place seems suitable. The front legs are folded under the body, the hind quarters are placed so the hind legs are projecting to one side. The body is apparently always placed up the hill with hind legs

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pointing down hill. In rising the hind legs are used first, then the front ones.

9:30. The herd got up, voluntarilly and moved down the hill. The ♀ urinated much like a ♀ dog, that is assuming a squatting, spraddle legged posture with the rump close to the ground. The herd split, the broken horned ewe and another young one remaining here and grazing within 100 ft. of me, the rest moved westward and are out of sight. The sheep are grazing on something close to the ground and are not utilizing the numerous clumps of lupine. They appear to be in good condition. The plant of the daisy is eaten. Grasses are eaten, too.

10:00 A.M. Frank Childs came up and we went to Canyon and Lake in search of Osprey and Mergansers. Found several of the former but could get none. Saw none of latter. At 1:00 P.M. we came back up on the mt. All 8 sheep were on the

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west slope of the ridge N of the tower. Frank took several pictures. The sheep were found to be feeding on Potentilla--and a kind of short grass, specimens of which were saved.

July 4, 1934, Mt. Washburn, Yellowstone N. P.

A cloudy, cold day. Rain threatens.

8:15. The sheep are on the n side of the ridge to the east of the tower. The broken-horned ♀ is grazing by herself. The rest of the herd is about 1/4 mile away and lower down the hill.

9:15. Have been unable to find the main flock so far.

are now shedding their winter coat and are ragged looking. Shedding appears to take place first on the head and on a broad strip down the middle of the back.

8:30. The herd appears to be made up of 3 old ewes, 2 young ewes, 3 young bucks. Still lying down. The wind is down the hill and I notice that most of them are utilizing the clump of Pines as a wind break. However, three ewes are out in the open and all are exposed to the sun. (Saw a Pipit and heard a Clarke Nutcracker)

9:15. Method of day bedding. Merely any place seems suitable. The front legs are folded under the body, the hind quarters are placed so the hind legs are projecting to one side. The body is apparently always placed up the hill with hind legs

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9:15. Have been unable to find the main flock so far.

There were four beds in this group, each of which appears to have been used last night.

Night bed. -- Found the night beds of the flock on the N facing slope of the hill E of the lookout. The beds are on a breccia covered hillside with a slope of about 45 degrees. The beds are scraped out of the loose rock and measure about 1½ x 2'. In each bed at the end of the long axis is a pile of feces that in these cases is fresh. Samples of feces saved

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and two pictures taken of the beds -- one a close up.

9:25. Just located two more below me. It is now raining and the sheep are slowly working up hill toward me. Heavy clouds are drifting over and obscuring the view. Heard one of them bleat twice like a domesticated sheep. This is first time I have heard any call at all. The two are now bedded down in the open, one on grass, the other in a rock slide. Again lying down was accomplished by folding the front legs first, then the hind ones. The body is up hill, the legs down hill. Still raining a bit.

10:30. Rain has stopped, but still cloudy. The two sheep have just gotten up and are leisurely grazing in the grassy areas among the rocks. When the animal arises the body is stretched by extending both hind feet backward.

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backward. They are now heading over a small ridge, grazing as they go. These two ewes (judged from the posture when urinating) then moved back to the flat below (n. of) the tower where they joined 5 others, three of which were young rams.

The Bed. -- The oldest ram dug out a shallow depression using his front feet alternately (3 to 4 strokes with each before changing) then lay down. All had their backs up hill and all save two faced away from the wind. The wind was from the SE. The sheep kept to the N slopes of the hills and thus partially protected.

July 5, 1934, Mt. Washburn, Yellowstone N. P.

I didn't go up on the mt. today. Hurdle reported seeing two lambs with the flock, one about two weeks old, the other older. The day was stormy most of the time and the sheep were sighted only twice.

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(p. 235)

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The bed. -- The oldest ram dug out a shallow depression using his front feet alternately (5 to 4 strokes with each before changing) then lay down. All had their backs up hill and all save two faced away from the wind. The wind was from the SE. The sheep kept to the N slopes of the hills and thus partially protected.

July 8, 1934, Mt. Washburn, Yellowstone N. P.

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July 6, 1934, Mt. Washburn, Yellowstone N. P.

Clear sunshiny day. Strong, cold SW wind.

Blue Grouse.

Two Dendragopus were seen on the NE slope of the hill east of the lookout. Both appeared to be ♂♂. The orange red patch over the eye was prominent. They were feeding among the rocks, Polygomem bistortoides being one of the plants they ate. The whole cluster of flowers was snipped off and swallowed. This was the only food identified. They fed apart and when one came too near the other, the second chased the first away. Both could be approached within 20 feet.

10:30. I found a small flock of six sheep near the top of the peak east of the lookout. They were all bedded down on an open grassy hillside. There are 3♀ & 3♂. No lambs in this lot. One ♂ appears to be asleep. His head is thrown back on his side. The

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ram with the big horns is not with this bunch. They have been bedded down for an hour or more. Have been hunting all around this peak but never saw them until a few moments ago. This is higher than I have found them on this peak before.

11:00. The flock got up one by one and began grazing. Took two pictures of them. One of three at about 50 ft., the other of all six at about 100 ft. Picture also shows typical grazing ground. Elk scats are spentiful all over this side of the hill and their presence formerly this spring may help account for the scanty forage. They moved down over the brow of the hill and are now grazing amongst Pinus Albicaulus. Again they moved farther down hill into the open where they are grazing. 11:15. They have all moved to the w slope of the second peak east of the lookout. Moving up hill grazing.

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12:00. When I returned to the lookout I saw a group of 4 ♀♀ & 2 yg on the S slope of the hill just E of there. The lambs appear to be a month or 6 weeks old.

1:00. Went over to this second group. They were lying down on the ridge. The lambs, one of which at least is a ♀,

(method of urination) stick fairly clost to their mothers. Both appear to be about a month old and since they first appeared on the mountain yesterday, the lambs were doubtless born at a lower elevation. Both lambs are still nursing. The other band has disappeared from the slope where I last saw them. This second band is wilder then the other one. They prefer to keep out of sight.

1:30. The flock with lambs has moved down into the canyon SE of the lookout and are out of sight. Numerous old beds are on the talus slope S side of the hill E of the lookout. A picture

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taken of one. The beds in this locality are made in rock slides where gravel has been washed down upon bigger boulders. The gravel is pawed down hill until a nearly level bed is made oval in shape and containing approximately 4 to 6 sq. ft. surface.

The ♂ sheep urinates much like a young puppy does. That is, stands still and drizzles. The ♀♀, even the lambs, always squat to urinate.

Trails.-- Definite trails are made on the steep talus slopes and when the sheep are moving from one place to another these are followed. However, if the sheep are grazing, no particular trails are followed.

2:15. The group with the lambs crossed to the west side of the canyon below the road about 600 ft. and are bedded down. 1 ♀ without a lamb was lost from those above. She gave several bleats which were answered by the ones

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above. In going up the steep part of the trail jumping is resorted to. The sheep are sure footed and travel over quite narrow ledges.

4:00 to P.M. The flock has now risen and resumed grazing on the E face of the Canyon. For the last two hours they have been bedded down, the old ones occasionally rising to nibble a few bites and then lying down again. The lambs never moved at all and were the last ones to move when the group resumed grazing.

Track of sheep as copied from one in soft dirt. Tracks averaged 16" apart going up at 45 degree grade.

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4:45. They first herd with the rams moved back to the peak east of the lookout. This is the first time I've seen them since noon. They are now grazing.

July 8, 1934, Mt. Washburn, Yellowstone N. P.

Mr. Hurdle, lookout on Mt. Washburn, reported seeing a flock of four ewes and three lambs, near the summit.

July 11 (notes for observations made 9, 10, 11).

Food. In the afternoon of the 9th the flock of 6 -- 3 rams, 2 barren ewes, & 1 yearling ewe -- was found feeding on the west exposure about 1000 feet below the summit. This place appears to be their favorite feeding grounds in the afternoon. I was able to approach within 50 ft. of the feeding flock and added the two following plants to their diet: Pedicularis cystopteriodfolia (Lousewart) and Polygonum bistitordies (Knot weed). The former appears to be highly palatable and is much sought for. The latter appears to be taken incidentally. However, fully 60%

(p. 240)

of their food consists of the Meadow grass (Poa sp?) and next in order comes the Erigerons (Daisies).

Chewing Cud. -- This process us usually done only when the animals are bedded down. Counts were made on three different sheep to determine the number of jaw movements given to each cud. These follow.

No. 1 (Ewe)	No. 2 (Ram)	No. 3 (Ram)
64	59	79
63	64	48
59	63	59
62	63	64
63	62	63

These average about 62 movements of the lower jaw to each cud. These are made at the rate of about 1/sec. per movement. The jaw (lower) in a great majority is moved from right to left, and the greater part of the grinding is done on the upward, sideward, left movement. Occasionally the movement is reversed but only for two or three movements, doubtless for the purpose of adjusting the food properly in the mouth.

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Parasites. -- External parasites appear to be affecting the sheep. Scratching of various parts of the body, especially back of the ears is resorted to frequently. This scratching is usually done with the hind foot on the side scratched. At times they were observed to rub their head, especially about the ears on the branches of Picea englemanni. Of the flies the Bot, Horse, & Deer flies appear to molest them most. Frequently a sheep would shake its head, holding the nose high, and then plunge the nose to the ground and hold it there for a few seconds as if trying to avoid the laying of larvae by the bot flies in its nostrils. The Horse fly molesting them is a large blackish one with a green bar across each eye. These alight generally on the belly or between the hind legs where they are less easily dislodged. Deer fly were observed flying about the ears

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of the animals. Doubtless ticks infest them, too. Stomach and intestinal analysis will necessarily have to be made to determine the status of internal parasites.

Shedding. -- The yearling ewe and the two rmas have completely shed and are now wearing their new coats. All the old ewes observed so far are still in the process of moult and present a very ragged appearance. The sides and part of the belly are the last parts to lose the old hair.

This band remained bedded down until about 4 P. M. when they started feeding again.

July 10, Mt. Washburn, Yellowstone N. P.

Daily activity. -- Feeding when I first saw them at 8:30 A.M. Grazed and wandered around the peak to the east of the lookout and bedded down about 11 A.M. Were seen again grazing in the flat N of the lookout about 1/8 mi. at 5:30. Grazed intermittantly

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until about $\frac{3}{4}$ hr. after sun down when they all bedded down on the rocky slope NW of the lookout and about 1000 ft. below the peak.

Food. Added Picea englemanniiBand Pinus albicaulus to their list of food plants. On several occasions at about 6:30 different ones of this same flock were observed browzing. Browzing does not occupy 1% of their time, however, Again they were observed to search out & eat the Pedicularis. Carex sp is perhaps the most common plant on the mountain, but appears to be avoided. This is true of all the lupines and locos.

Habits. The yearling ewe appears to be coming into heat because the young ram is continually trying to mount her. She is not ready yet to take him and always manages to elude him

July 11, Mt. Washburn, Yellowstone N. P.

(p. 244)

Visited the sheep where they bedded down last night at 4:30 this morning and found them about 500 ft. lower down the mountain side. Evidently they had begun brazing as soon as it was light enough to see. The flock of 5 I had watched yesterday had joined up with a flock of 6 ewes and two lambs . Three of the ewes and two lambs left the rest of the flock and moved over into a rocky canyon west of the lookout. The lambs are now old enough to forage and on one occasion only have I seen either of them nurse. They appear to be more frightened by my presence than the old ones and they can easily outrun their mothers.

A ranger from Canyon who visited the lookout at 2:30 A.M. this morning reported seeing 12 sheep bedded down near the road about 200 yds. above the Dunraven R. S. on the Mt. Washburn road. The tendency must be to

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spend the night at lower elevations than the days. This A.M. is the second time I have seen the lambs since I have been up here.

There appears to be no old rams on the mountain and this may be a factor in the small number of lambs seen. Again, no twins have been seen so far.

Birds.-- Found a Pipits' nest yesterday with four fresh eggs. The nest was sunk level with the ground and was placed below an overhanging bank of sod in an open grassy and rocky slope NE of the lookout and about 500 ft. lower.

White Crowned Sparrow. -- Found nest with four naked young on the N slope of the lookout peak between the lower road and

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the one leading to the top. Nest sunk flush with the ground and in the open among the short grass.

(p. 246)

Saw the following birds and mammals near the summit:

1. Rock Wren
2. Mt. Bluebird
3. Red-tailed Hawk
4. Pipit
5. White-crowned Sparrow
6. Raven
7. Callospermophalis
8. Marmot
9. Odocoileus hemianus
10. Cervus americanus
11. Ovis canadensis
12. Clark Nutcracker
13. Eutamias sp?

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July 11, 1934, Dunraven Pass, Yellowstone N. P.

Plants on Mt. Washburn from Dunraven to the top:

Erigeron argentatus
Castilleja pallida
Aragalus alpicola
Sedum Douglasii
Eriogonum umbellatum
Eriogonum ovalifolium
Agaseris grandiflora
Senecio wernerifolius
Senecio microdontus
Mimulus Lewisi
Chamaenerion Angustifolium (Fire weed)
Eriogonum flavum
Eriogonum subalpinum
Arnica ventorum
Eriophyllum intergrifolium
Oxyria diggna (mt. sorrel)
Cerastium Creophilum
Arabis sp.
Lupinus monticola
Astragalis aculeatus

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Senecio werneriflora
Senecio microdontus
Mimulus Lewisi
Chamaenerion Angustifolium (Fire weed)
Eriogonum flavum
Eriogonum subalpinum
Arnica ventorum
Erophyllum interifolium
Oxyria digyna (mt. sorrel)
Oreastum Oreophilum
Arabis sp.
Lupinus monticola
Astragalis aculeatus

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July 13, 1934, Dunraven Pass, Yellowstone N. P.

The nights of July 10, 11, & 12 were spent on top of Mt. Washburn in order to make late evening and early morning observations of the sheep.

Every evening they grazed as they moved downward to their night beds. These beds were usually made on the rocky slopes to the west of the peak, tho I believe other suitable slopes are also used.

There are now 16 sheep on the mountain:

3 rams -- 2 yearlings and 1 3-yr. old.
10 ewes -- 3 with lambs
2 yearlings
5 apparently barren
3 lambs -- 2♀♀ & 1 ♂.

These sheep are usually divided into two bunches as follows:

#1 2 rams 1 3-yr. old and 1 yearling
3 ewes 2 old and barren & 1 yearling
5

#2 1 ram --yearling
7 ewes --1 yearling
3 lambs
11

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July 20, Dunraven Pass, Yellowstone N. P.

July 14, 15, 16, 17, 18 were spent at Mammoth in making reports and waiting to get the transportation problem solved. I came back here the evening of the 18th.

Today there were 43 sheep on the mountain distributed as follows:

3 rams -- 1 3-yr. old; 2 yearlings.
24 ewes -- 14 with lambs
5 apparently barren
5 yearlings.
16 lambs -- unable to determine sex of all.

As was the case with the other lambs that came up on the mountain, the new arrivals came up the canyon to the south-east of the peak. This again leads me to believe the lambs are born and partially reared year Yellowstone Canyon.

(p. 248)

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There are now 36 sheep on the mountain:

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10 ewes -- 3 with lambs
2 yearlings
5 apparently barren

3 lambs -- 2 ♂ & 1 ♀.

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Last year the lamb crop on Mt. Washburn was 15, according to actual numbers counted by Ranger Hurdle. This year there

(p. 250)

are only 7 yearlings left of that crop -- if one assumes that the young return. Perhaps this lack of naturing of the lamb crop is the cause of the decrease in the numbers of sheep on the mountain. If one could determine what happened to the other lambs and avert their death in some way, the problem may be partially solved.

According to Ranger Hurdle there are now more sheep on Mt. Washburn than there has been during the past 3 years. This fact looks encouraging, but one must consider the fact that Mr. Hurdle is stationed on top as a lookout and lacked the time to make proper counts.

Food. I have succeeded in adding the following plants to their food list:

Carex saxatalis -- Sedge
Astragalus aculeatus -- vetch

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Phacelia sp?
At this time the Pedicularis and Erigeron are maturing and the plants sereing. The sheep are no longer eating these p plants as commonly as formerly and are utilizing the later blooming plants.

From this observation it is doubtless true that the sheep are opportunists and vary their food with the season. Even so, I have failed to add any of the Lupines to their food ~~diet~~ list, and it is only of late that I have found evidence of their eating the Carex.

July 23, 1934, Mammoth Springs, Yellowstone.

Artificial Islands. -- I was called into Mammoth to take over the construction of artificial islands for the swan. One is scheduled to be built, in Swan Lake, one at Heart Lake and another one

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at Shashone Lake. Plans have been drawn up for a fleating island, but this sort of thing appears to be unsatisfactory.

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(p. 250)

are only 7 yearlings left of that crop -- if one assumes that the young return. Perhaps this lack of maturing of the lamb crop is the cause of the decrease in the numbers of sheep on the mountain. If one could determine what happened to the other lambs and avert their death in some way, the problem may be partially solved.

According to Ranger Hurdle there are now more sheep on Mt. Washburn than there has been during the past 5 years. This fact looks encouraging, but one must consider the fact that Mr. Hurdle is stationed on top as a lookout and looked the time to make proper counts.

Food. I have succeeded in adding the following plants to their food list:

Carex saxatilis -- Sedge
Astragalus soulsetus -- vetch

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Phacelia sp?

At this time the Pedicularis and Erigerons are maturing and the plants seeding. The sheep are no longer eating these plants as commonly as formerly and are utilizing the later blooming plants.

From this observation it is doubtless true that the sheep are opportunists and vary their food with the season. Even so, I have failed to add any of the Lupines to their food diet, and it is only of late that I have found evidence of their eating the Carex.

July 23, 1924, Mammoth Springs, Yellowstone.

Artificial Islands. -- I was called into Mammoth to take over the construction of artificial islands for the swan. One is scheduled to be built in Swan Lake, one at Heart Lake and another one

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at Shoshone Lake. Plans have been drawn up for a floating island, but this sort of thing appears to be unsatisfactory.

Ice would soon wreck the structure. The most feasable thing for Swan Lake, in the opinion of Frank Childs who has direct supervision of this project, is a crib of logs 25' x 25' filled with logs, rocks, earth & topped with sod and rushes.

July 25, Mammoth Springs, Yellowstone N. P.

Circumstances are such that I could not get men, trucks or materials until the project was down in black and white, so I plan to make a check-up on the road-side cleanup and then leave the park. In my opinion, a man who understands construction should be placed in charge of the building of these islands with a biologist to work with him and pass on the final results. The plan of

(p. 253)

putting one like myself in charge of the construction of the island, under the direct supervision of Frank Childs, appears to me to be a misapplication of a person's capabilities.

August 6, 1934, Oroville, California.

Road-side Cleanup. -- I drove around the main loop; from Canyon to Norris; to the East entrance; and to the Gallatin inspecting the roadside cleanup taking from July 25 --29 in doing so. I found nothing that warrants reporting. The work has been done with regard to scenic beauty, wild life and fire prevention. No dead snags were removed unless they were found to be dangerous to traffic.

In my opinion, the wild life side of the cleanup

(p. 254)

question in Yellowstone is nil. My reasons for this opinion are:

1. Roadisde cleanup has been done on the main travelled roads.
2. These roads are, or are being so constructed that one can travel at least 50 mi. p. h. on them.
3. Tourists travel at great rates of speed on the highways and could see no wild life smaller than a Marmot.
4. Fire hazard should be removed to preserve the remaining habitats of animals that may have utilized the areas within the roadside cleanup area.

ice would soon wreck the structure. The most feasible thing for Swan Lake, in the opinion of Frank Childs who has direct supervision of this project, is a crib of logs 25' x 25' filled with logs, rocks, earth & topped with sod and trees.

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In my opinion, the wild life side of the cleanup

(p. 254)

question in Yellowstone is nil. My reasons for this opinion are:

1. Roadside cleanup has been done on the main travelled roads.
2. These roads are, or are being so constructed that one can travel at least 30 mi. p. h. on them.
3. Tourists travel at great rates of speed on the highways and could see no wild life smaller than a Marmot.
4. Fire hazard should be removed to preserve the remaining habitats of animals that may have utilized the areas within the roadside cleanup area.

5. Persons who are really interested in seeing the smaller wild life in Yellowstone would hardly stick to main travelled highways to do so.

6. There are very few mammals and birds in Yellowstone that could be affected by this cleanup.

7. Under the present system

(p. 255)

of highway improvemetn, the main roads should be maintained for travel without impediment, and the side roads maintained and advertised as nature trails, with little or no improvement of the roads themselves to encourage slower travel.

(p. 256)

Dec. 14, 1934, 2 mi. W San Pablo. Contra Costa Co., Calif.

This P.M., from 1:30 to 4:15 I was hunting in the bay-marsh area on San Pablo Bay about two miles west of the town of San Pablo. This marsh, some two miles or more in length and about half a mile wide, is part of a hunting club area and lies as a fringe along the mud and sand flats which are exposed at low tide. A typical salt marsh area.

In the marsh proper are several deep"drainage" channels and the mouth of a creek which rises in the Berkeley Hills east of San Pablo.

The mud flats constitute the feeding grounds for numerous shore birds, chief of which at this visit was the Least Sandpiper.

The following birds were observed or taken in the salt marsh proper: Song Sparrow, Tule Wren, Willow Goldfinch, Clapper Rail, Short-eared Owl, and Marsh Hawk.

To the east of the taller

(p. 257)

marsh grass is a large area of Salicornia and along the stream are several patches of shrubs which are destitute of foliage. The Salicornia area proper offered few birds except along the stream and there Song Sparrows were most abundant. They favored the shrubby area largely. Savannah Sparrows were found on the area bordering the cultivated areas, doing their feeding in the latter and using the Salicornia for refuge. Pipits, likewise fed in the cultivated areas and resorted to the Salicornia to roost.

5. Persons who are really interested in seeing the smaller wild life in Yellowstone would hardly stick to main travelled highways to do so.

6. There are very few mammals and birds in Yellowstone that could be affected by this cleanup.

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(p. 255)

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(p. 256)

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The following birds were observed or taken in the salt marsh proper: Song Sparrow, Tule Wren, Willow Goldfinch, Clapper Rail, Short-eared Owl, and Marsh Hawk.

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(p. 257)

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One Clapper Rail was flushed in the taller tule-like area, but eluded me. I noted with interest the trails these birds make and follow along the bank of the stream and wonder at the success one would have in trapping them. These trails were about 4 " wide and followed the course of the stream closely. They

(p. 258)

course of the stream closely. They were in the taller, tule area only. The guttural calls of these birds were heard frequently, and just about dusk the chant-like chorus was audible in all directions. Their tracks were commonly observed in these trails and along the muddy, low-tide banks of the creek and the numerous drains. They must do most of their feeding within the "tule" area, because none were observed on the mud flats.

On the mud flats various types of shore birds were seen: Least Sandpiper, Curlew, and probably Red-backed Sandpipers, Sea Gulls sp? were also observed.

In the zone bordering the mud flats I found two crippled ducks, a Canvasback and a Greater Scaup, both of which were taken.

Specimens taken are as follows: Song Sparrow (samuelis?) 10; Marsh Wren (aestuarinus)1; Willow Goldfinch 2; Savannah

(p. 259)

Sparrow (anthinus 2, aludinus 1); Least Sandpiper, 1; Canvasback 1; Greater Scaup, 1.

Meadowlarks and Killdeers were noted in flocks. Had never seen Killdeers in flocks before.

878 ♀ Song Sparrow
879 ♂ " "
880 ♂ " "
881 ♂ " "
882 ♂ " "
883 ♀ " "
884 ♀ " "
885 ♀ " "
886 ♀ " "
887 ♂ " "
888 ♂ Willow Goldfinch (for exchange)
889 ♂ " "
890 ♂ Marsh Wren (aestuarinus)
891 ♂ Least Sandpiper

892 ♀ Savannah Sparrow
893 ♀ " " for
894 ♂ " " exchange
895 ♂ Greater Scaup (skeleton only)
896 ♂ Canvas-back for exchange

One Clapper Rail was flushed in the taller tule-like area, but eluded me. I noted with interest the trails these birds make and follow along the bank of the stream and wonder at the ease one would have in trapping them. These trails were about 4 " wide and followed the course of the stream closely. They

(p. 258)

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In the zone bordering the mud flats I found two crippled ducks, a Canvasback and a Greater Scaup, both of which were taken.

Specimens taken are as follows: Song Sparrow (sammiella?) 10; Marsh Wren (sestuarinus)1; Willow Goldfinch 2; Savannah

(p. 259)

sparrow (anthinus 2, alaudinus 1); least Sandpiper, 1; Canvas-back 1; Greater Scaup, 1.

Meadowlarks and Killdeers were noted in flocks. Had never seen Killdeers in flocks before.

879 ♀ Song Sparrow
879 ♂ " "
880 ♂ " "
881 ♂ " "
882 ♂ " "
883 ♀ " "
884 ♀ " "
885 ♀ " "
886 ♀ " "
887 ♂ " "
888 ♂ Willow Goldfinch (for exchange)
889 ♂ " "
890 ♂ Marsh Wren (sestuarinus)
891 ♂ Least Sandpiper

892 ♀ Savannah Sparrow
893 ♂ " " for
894 ♂ " " exchange
895 ♂ Greater Scaup (skeleton only)
896 ♂ Canvas-back for exchange

(p. 260)

Dec. 21, 1934, Oroville, Butte Co., California.

Drove out a short distance S of the W. P. round house and hunted from about two hours: from 11:00 A.M. -- 1:00 P.M. The day was cloudy and cold with occasional glimpses of the sun.

The territory south of the round house is chiefly rolling "hog-wallow" land dotted here and there with clumps of valley oaks and an occasional live oak and "digger" pine. In the oaks the Ruby-crowned Kinglet was the commonest bird. One was taken while it was feeding on the outer branches.

Later in the P.M. I drove out to Morris Ravine, about three miles N of Oroville and in the area between the Feather River and the basalt-capped Tabel Mountain. Here Digger Pine, Ceanothus, Rhamnus and the Valley Oak were the chief cover.

Along a small stream where there was a mixed cover Bushtits were common and feeding in flocks. Also saw the

(p. 261)

following birds:

Pallid Wren-tit -- Several were heard in the clumps of Ceanothus, but only two were seen. I tried to collect these but when I could see them they were so close I couldn't shoot a and at other times they were either so well hidden I couldn't see them or got only an occasional glimpse of them.

Spotted Towhee. -- One of the commonest birds in the chapparal. Fully a hundred individuals were seen in the two hours I spent there.

Brown Towhee. -- Saw several but there were nowhere near as common as the Spotted Towhee.

California Jay. -- Saw only two.

Steller Jay. -- Saw one. This is the first time I have seen these Jays so low down. Tried to collect it, but missed.

Varied Thrush. -- Saw only one. It kept to the tops of the Digger Pines and out of gun reach.

Junco sp. -- Saw several.

Plain Tit-mouse. -- Several seen and took one, but a passenger

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in my car stepped on it and ruined it. They were confined to the Oak-pine belt along the stream.

Hutton Vireo sp? The peculiar call of this bird was heard from a pine along the stream. Took the bird.

3 mi. S Oroville, Butte Co., Calif., Dec. 21.

897 ♂ im. Ruby-crowned Kinglet.
898 ♂ im. " " "
899 ♀ im. Savannah Sparrow
900 ♀ im. Yellow-billed Magpie

Morris Ravine, 3 mi. N Oroville, Butte Co., Calif. Dec. 21.

901 ♂ im. ~~Cassin~~ Hutton Vireo

Feather River, 3 mi. SW Oroville, Butte Co., Calif. Dec. 22.

I hunted this area from about noon to 4:00 P.M. The day was sunny for the most part. The area is part of the dredged region near the rock crusher

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and is covered by piles of dredged, water-worn boulders and in suitable areas along the river bank groves of willows and cottonwoods. A large burned-over area near the river contained hundreds of dead cottonwood trees and appeared to be a special attraction to woodpeckers. At least three species were encountered, but only two taken. The large cottonwood trees offered forage for numerous Creepers, and ~~resting~~ places for Bluebirds, & Goldfinches etc. In the shrubbery near a dredged pond several Vigors Wrens were heard and one taken.

The following birds were taken:

902 ♀ im. Sierra Creeper
903 ♀ im. " "
904 ♀ im. " "
905 ♂ im. Vigors Wren
906 ♂ im. Western Blue Bird
907 ♂ im. " " "
908 ♂ ad. Hairy Woodpecker
909 ♀ ad. Downy Woodpecker
910 ♀ ad. " "

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911 ♀ ad. Downy Woodpecker
912 ♀ ad. " "

Inman Ranch, 7 mi. NW Oroville, Butte Co., Calif., Dec. 23

A typical riparian growth of willow, cotton tails, and

3 mi. S Oroville, Butte Co., Calif., Dec. 21.

897 ♂ 1m. Ruby-crowned Kinglet.
898 ♂ 1m. " " "
899 ♀ 1m. Savannah Sparrow
900 ♀ 1m. Yellow-billed Magpie

Morris Ravine, 3 mi. N Oroville, Butte Co., Calif. Dec. 21.

901 ♂ 1m. Gambel's Vireo

Feather River, 3 mi. SW Oroville, Butte Co., Calif. Dec. 22.
I hunted this area from about noon to 4:00 P.M. The day was sunny for the most part. The area is part of the dredged region near the rock crusher.

(p. 263)

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The following birds were taken:

902 ♀ 1m. Sierra Creeper
903 ♀ 1m. " "
904 ♀ 1m. " "
905 ♂ 1m. Vigors Wren
906 ♂ 1m. Western Blue Bird
907 ♂ 1m. " " "
908 ♂ ad. Hairy Woodpecker
909 ♀ ad. Downy Woodpecker
910 ♀ ad. " "

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911 ♀ ad. Downy Woodpecker
912 ♀ ad. " "

Lumen Ranch, 7 mi. NW Oroville, Butte Co., Calif., Dec. 23

A typical riparian growth of willow, cottonwood, and

cottonwood along a stream. Lower Sonoran Zone, I'd say.

The following birds were observed:

Black-crowned Night. -- A flock of about 25 had been roosting in the willows along the stream and flushed at my approach.

Western Crow. -- Flock of about fifty was feeding in the ploughed field.

Sparrow Hawk. -- one seen.

White-crowned Sparrow. -- Common

Junco sp. -- Common.

Mallard. -- Three, one ♂, 2 ♀♀.

Teal (sp? -- 6 flushed from the creek.)

Red-shafted Flicker. -- Several seen

Savannah Sparrow. -- Common

Red-winged Blackbird. -- Few

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Brewer Blackbird. -- Common

House Finch. -- About 50 kept in a flock and perched on the tops of the tallest cottonwoods.

Willow Goldfinch. -- Two were seen.

Vigors Wren. -- One seen. Tried to take it, but couldn't get a good shot at it.

Brown Towhee. -- Several seen, but they kept so well to cover that I couldn't get a shot. The sharp "chirp" was heeded by other birds who flocked to cover whenever it was given.

The following birds were taken.

913 ♂ ad. Nuttall Woodpecker. Kept as a rule to the higher branches of the cottonwoods.

914. ♂ ad. Western Meadowlark.

915 ♀ im. Western Bluebird.

916 ♂ im. Song Sparrow. Found in the tules as well as in the willow thickets along the stream. Very difficult to get because of their shyness and difficult territory.

917 ♀ im. Song Sparrow.

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918 ♀ ad. Dwarf Hermit Thrush. A distinct surprise for it was found in a decidedly marshy area and when I shot it I thought I had another Song Sparrow.

919 ♀ im. Marsh Wren. The hardest bird to get I ever hunted.

I could hear them constantly but could never see them nor could I flush them from their tule patches. They did most of their travelling along under the over hanging tules and rare indeed was the sight of them.

920 ♀ im. Ruby-crowned Kinglet. Very common. It was amazing to me how nearly the call of this bird resembles that of the Vigor's Wren. I was surprised several times by this call and finally concluded that the call of this bird was less harsh than the "telegraphic" calls of the Wren.

921 ♂ ad. Long-eared Owl. Flushed from its roosting place in a clump of small willows. This is the first time I have noted this bird here for several years. I found the egg of this species in a Cooper Hawk's

(p. 267)

nest at Dry Creek, but don't remember having ever seen the bird.

From 3:00 to 4:15 P.M. I hunted at Dry Creek, a strip of riparian growth following Dry Creek thru the "Hog-waller" country. Willows, oaks, cottonwoods, and Scotch Broom are the chief cover.

Took the following birds there:

922 ♀ ad. Nuttall Woodpecker
923 ♂ im. Slender-billed Nuthatch
924 ♀ im. Sierra Creeper
925 ♀ im. "

All four were taken from the large oak trees along the bluff of the low hills to the south of the creek.

Morris Ravine, 3 mi. N Oroville, Butte Co., Calif., Dec. 25.

Spent from 12:00 to 3:30 P.M. hunting in this ravine. The sky was heavily overcast with clouds and at times the fog was quite heavy. Even so

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the country side was teeming with bird life. The following specimens were taken:

926 ♂ Sciurus griseus 550 - 290 - 81 - 37
927 ♂ im. Western House Wren

I could hear them constantly but could never see them nor could I flush them from their tule patches. They did most of their travelling along under the over hanging tules and rare indeed was the sight of them.

930 ♀ im. Ruby-crowned Kinglet. Very common. It was amazing to me how nearly the call of this bird resembles that of the Vigor's Wren. I was surprised several times by this call and finally concluded that the call of this bird was less harsh than the "telegraphic" calls of the Wren.

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(p. 262)

nest at Dry Creek, but don't remember having ever seen the bird.

From 3:00 to 4:15 P.M. I hunted at Dry Creek, a strip of riparian growth following Dry Creek thru the "Bog-waller" country. Willows, oaks, cottonwoods, and Scotch Broom are the chief cover.

Took the following birds there:

922 ♂ ad. Nuttall Woodpecker
923 ♂ im. Blanket-billed Nuthatch
924 ♀ im. Sierra Creeper
925 ♀ im. " "

All four were taken from the large oak trees along the bluff of the low hills to the south of the creek.

Morris Ravine, 3 mi. N Oroville, Butte Co., Calif., Dec. 23.

Spent from 12:00 to 3:30 P.M. hunting in this ravine. The sky was heavily overcast with clouds and at times the fog was quite heavy. Even so

(p. 263)

the country side was teeming with bird life. The following specimens were taken:

926 ♂ Solitary Vireo 330 - 230 - 81 - 27
927 ♂ im. Western House Wren

928 ♀ ad. Hermit Thrush
929 ♀ ad. " "
930 ♀ im. Pallid Wren-tit
931 ♂ im. " " "
932 ♂ ad. Willow Downy Woodpecker
933 ♀ Juv. Spotted Towhee
934 ♂ im. " "

The following list of birds was noted:

Calif. Bushtit. -- Several flocks. 100+
Thurber Junco. -- In flocks. 100+
Gambel Sparrow. -- 100+
Plain Titmouse. -- Most widely spread of the birds. 50+
Calif. Jay. -- 3
Western House Wren -- 10+
Spotted Towhee. --300+
Brown Towhee. -- 50+
Calif. Woodpecker. -- 20+
Red-shafted Flicker. -- 10+
Western Bluebird. -- 8
Steller Jay. -- 2
Hermit Thrush. -- 3

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Pallid Wren-tit 10+
Ruby-crowned Kinglet 50+
Sierra Creeper 2
Cassin Vireo 1
Western Red-tail 1
Brewer Blackbird 40+
House Finch 20+
Varied Thrush 2
Audubon Warbler 5+

The mammals noted were three Lepus californicus and one Sciurus griseus; the latter was taken.

929 ♀ ad. Hermit Thrush
929 ♀ ad. " "
930 ♀ im. Pallid Wren-tit
931 ♂ im. " " "
932 ♂ ad. Willow Downy Woodpecker
933 ♀ juv. Spotted Towhee
934 ♂ im. " "

The following list of birds was noted:

Calif. Bushtit. -- Several flocks. 100+
Thurber Junco. -- In flocks. 100+
Gambel Sparrow. -- 100+
Plain Titmouse. -- Most widely spread of the birds. 50+
Calif. Jay. -- 3
Western House Wren -- 10+
Spotted Towhee. --300+
Brown Towhee. -- 50+
Calif. Woodpecker. -- 20+
Red-shafted Flicker. -- 10+
Western Bluebird. -- 8
Steller Jay. -- 2
Hermit Thrush. -- 3

(p. 229)

Pallid Wren-tit 10+
Ruby-crowned Kinglet 50+
Sierra Creeper 2
Cassin Vireo 1
Western Red-tail 1
Brewer Blackbird 40+
House Finch 20+
Varied Thrush 2
Audubon Warbler 5+

The mammals noted were three Lepus californicus and one Sciurus griseus; the latter was taken.

Catalogue

(p. 1)

4 mi. W Donner Summit, Calif., May 24, 1934

500 ♂ Cyanocitta stelleri
501 ♀ " "
513 ♀ Ochotona princeps 195- ? -31-25

6 mi. N Fernley, Nevada, May 25, 1934

			3 emb x 2
503 ♀	Dipodomys ordii		240-126-39-13
504 ♂	" "		237-135-36-13
505 ♂	" "		239-137-38-13
506 ♀	" "	3 emb x 30	252-138-37-13
507 ♀	" "	4 emb x 2	237-135-35-13
508 ♀	" "	4 emb x 2	236-135-36-13
509 ♂	Dipodomys desertii		365-212-58-17
510 ♂	" "		347-200-57-17
511 ♂	Onychomys		137- 48-19-16
512 ♀	Perognathus nevadensis		130- 70-17- 6
514	Crotalus		
515 ♂	Red-winged Blackbird		
516 ?	Perognathus nevadensis (Taken from stomach of #514)		

skull only

10 mi. N Elko, Nevada, May 26, 1934

517 ♂ Eutamias minimus 176- 80-27-12

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Jack Creek, 10 mi. S Deep Creek, Nevada, May 26, 1934

518 ♀ Citellus oregonus 240- 48- 44- 15
519 ♀ " " 255- 57- 40- 16
520 ♂ " " 255- 61- 46- 16

20 mi. S Owyhee, Nevada, May 27, 1934

521 ♂ Marmota flaviventer 443-140-68-29
522 ♀ " " 425-120-63-31 + skeleton
523 ♂ " " 442-126-70-30
524 ♂ Microtus montanus 161- 44-20-14
525 ♂ " " 175- 50-21-13
526 ♂ " " 155- 40-20-14

Catalogue

(p. 1)

4 mi. W Donner Summit, Calif., May 24, 1934

300 ♂	Cyanocitta stelleri		
301 ♀	"	"	
312 ♀	Oenotona pringeps		198- ? -31-25

6 mi. N Fernley, Nevada, May 25, 1934

		5 emb x 2	
303 ♀	Dipodomys ordii		240-126-39-13
304 ♂	"	"	237-135-36-13
305 ♂	"	"	239-137-38-13
306 ♀	"	" 3 emb x 2	232-138-37-13
307 ♀	"	" 4 emb x 2	237-135-35-13
308 ♀	"	" 4 emb x 2	236-138-36-13
309 ♂	Dipodomys deserti		365-212-38-17
310 ♂	"	"	347-200-37-17
311 ♂	Onychomys		137- 48-19-18
312 ♀	Peromyscus nevadensis		130- 70-17- 6
314	Crotalus		
315 ♂	Red-winged Blackbird		
316 ♀	Peromyscus nevadensis (Taken from stomach of #314)		

10 mi. N Elko, Nevada, May 28, 1934

317 ♂	Eutamias minimus	176- 80-27-12

(p. 2)

Jack Creek, 10 mi. S Deep Creek, Nevada, May 26, 1934

318 ♀	Citellus oregonus		240- 48- 44- 18
319 ♀	"	"	238- 37- 40- 18
320 ♂	"	"	238- 31- 46- 18

20 mi. S Owyhee, Nevada, May 27, 1934

321 ♂	Marmota flaviventer		443-140-68-29
322 ♀	"	"	428-120-83-31
323 ♂	"	"	442-138-70-30
324 ♂	Microtus montanus		161- 44-20-14
325 ♂	"	"	175- 80-21-13
326 ♂	"	"	158- 40-20-14

527 ♀ Microtus montanus 162-45-19-14
528 ♀ " " 154-40-20-13
529 ♂ Peromyscus maniculatus 141-60-19-17

Elko, Nevada, May 26, 1934

530 ♂ Arkansas Kingbird
531 ♂ Western Lark Sparrow
532 ♀ Mountain Bluebird (Brooding bird)
533 ♂ Western Meadowlark.

20 mi. S. Owyhee, Nevada, May 27, 1934

534 ♀ Microtus montanus 152-40-18-12 4 emb x 15
535 ♀ " " 145-28-18-14

(p. 3)

39 mi. N. Elko, Nevada, May 26, 1934

536 ♂ Macgillivray Warbler.

20 mi. S. Owyhee, Nevada, May 26, 1934

537 ♀ Redwing Blackbird
538 ♀ " "

20 mi. S Owyhee, Nevada, May 27, 1934

539 ♂ Poorwill
540 ♂ Chat
541 ♀ Redwing Blackbird
542 ♀ " "

20 mi. S Owyhee, Nevada, May 28, 1934

543 ♂ Chat (Looks like brooding bird)
544 ♀ Peromyscus m. sonoriensis 156-70-20-17
545 ♀ Microtus montanus 137-30-17-10
546 ♀ " " 153-37-18-10
547 Set of 4 eggs of Swainson Hawk (2 broken)

10 mi. S Owyhee, Nevada, May 28, 1934

548 ♂ Citellus mollis oregonus 205-40-42-16 +skel.

327 ♀ Microtus montanus 162-45-19-14
328 ♀ " " 154-40-20-13
329 ♂ Peromyscus maniculatus 141-80-19-17

Elko, Nevada, May 26, 1934

330 ♂ Arkansas Kingbird
331 ♂ Western Lark Sparrow
332 ♀ Mountain Bluebird (Brooding bird)
333 ♂ Western Meadowlark.

20 mi. S. Owyhee, Nevada, May 27, 1934

334 ♀ Microtus montanus 152-40-18-12 4 emb x 15
335 ♀ " " 145-28-18-14

(p. 3)

39 mi. N. Elko, Nevada, May 26, 1934

336 ♂ Mccgillivray Warbler.

20 mi. S. Owyhee, Nevada, May 26, 1934

337 ♀ Redwing Blackbird
338 ♀ " "

20 mi. S Owyhee, Nevada, May 27, 1934

339 ♂ Poorwill
340 ♂ Chat
341 ♀ Redwing Blackbird
342 ♀ " "

20 mi. S Owyhee, Nevada, May 28, 1934

343 ♂ Chat (Looks like brooding bird)
344 ♀ Peromyscus m. nonmiensis 188-70-20-17
345 ♀ Microtus montanus 137-30-17-10
346 ♀ " " 158-37-18-10
347 Set of 4 eggs of Swainson Hawk (2 broken)

10 mi. S Owyhee, Nevada, May 28, 1934

348 ♂ Ottelina mollis 202-40-42-16

Owyhee, Nevada, May 28, 1934

549 ♀ Citellus ~~mollis~~ oregonus 270-68-38-13

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6 mi. S Riddle, Owyhee Co., Idaho, May 28, 1934

550 ♂ Citellus oregonus 245-65-42-16

1 mi. S Riddle, Owyhee Co., Idaho, May 28, 1934

551 ♀ Citellus oregonus 280-85-42-16
552 ♀ " " 268-68-42-16
553 ♂ Eutamias minimus 180-80-28-14
554 ♀ Sylvilagus idahoensis 295-12-72-50 6 emb x 60
555 ♀ Wilson Phalarope
556 ♂ " "
557 ♀ " " (Skeleton only)
558 ♂ Citellus oregonus (very fat)
Skin only -- E.T. Hooper, Oct. 2, 1934

1 mi. S Riddle, Owyhee Co., Idaho, May 29, 1934

559 ♂ Wilson Phalarope
560 ♀ " "
561 ♀ " "
562 ♀ " "
563 ♀ " "
564 ♂ Cinnamon Teal

9 mi. S Riddle, Owyhee Co., Idaho, May 28, 1934

565 ♀ Black Tern
566 ♀ " "
567 ♂ Yellowheaded Blackbird (Skeleton only)

(p. 5)

9 mi. S Riddle, Owyhee Co., Idaho, May 28, 1934

568 ♀ Yellowheaded Blackbirds (Skeleton only)
569 ♀ Black-crowned Night Heron

Owyhee, Nevada, May 28, 1934

570 ♂ Sage Thrasher

8 mi. S Riddle, Owyhee Co., Idaho, May 28, 1934

571 ♂ Brewer Sparrow

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 30.

572 ♀ Western Willet
573 ♂ " "
574 ♂ " "
575 ♀ " "
576 ♂ Citellus oregonus ← (Plus skel)
577 ♀ Sylvilagus idahoensis 300-70-49-30 6 emb x 70

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 31.

578 ♂ Peromyscus maniculatus 164-70-19-17
579 ♂ " " 173-74-19-17
580 ♂ " " 172-73-19-17 (Flat skin)

(p. 6)

1 mi. S Riddle 5300 ft., Owyhee Co., Idaho, May 31

581 ♂ Peromyscus maniculatus 162-68-19-17
582 ♀ " " 165-75-20-17
583 ♀ " " 165-68-18-17
584 ♀ " " 173-76-19-19
585 ♀ Eutamias 195-90-29-14
586 ♀ " 190-85-29-14
587 ♀ Wilson Phalarope (Skeleton only)

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 30

588 ♀ Vesper Sparrow
589 ♂ Wilson Phalarope
590 ♂ Vesper Sparrow
591 ♂ " "
592 ♂ Savanna Sparrow
593 ♂ Wilson Phalarope (Skeleton only)
594 ♀ " " " "
595 ♂ Yellow Warbler
596 ? Sage Grouse (Juvenile)

Owyhee, Nevada, May 28, 1954

570 ♂ Sage Thrasher

8 mi. S Riddle, Owyhee Co., Idaho, May 28, 1954

571 ♂ Brewer Sparrow

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 30.

572 ♀ Western Willet
573 ♂ " "
574 ♂ " "
575 ♀ " "
576 ♂ Oitellus oreocnus ←(Pl. 5 Swal)
577 ♀ Sylvilagus idahoensis 300-70-49-30 6 emb x 70

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 31.

578 ♂ Peromyscus maniculatus 164-70-19-17
579 ♂ " " 173-74-19-17
580 ♂ " " 172-73-19-17 (Flat skin)

(p. 6)

1 mi. S Riddle 5300 ft., Owyhee Co., Idaho, May 31

581 ♂ Peromyscus maniculatus 162-68-19-17
582 ♀ " " 163-73-20-17
583 ♀ " " 165-68-18-17
584 ♀ " " 173-76-19-19
585 ♂ Eutamias 195-90-29-14
586 ♂ " 190-85-29-14
587 ♀ Wilson Phalarope (Skeleton only)

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 30

588 ♀ Vesper Sparrow
589 ♂ Wilson Phalarope
590 ♂ Vesper Sparrow
591 ♂ " "
592 ♂ Savanna Sparrow
593 ♂ Wilson Phalarope (Skeleton only)
594 ♀ " " " "
595 ♂ Yellow Warbler
596 Sage Grouse (Juvenile)

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, May 31

597 ♂ Rack Wren
598 ♀ Vesper Sparrow

(p. 7)

1 mi. S Riddle, 5300 ft., Owyhee Co., Idaho, June 1

599 ♀ Green-winged Teal (Brooding bird)
600 ♂ Redwing Blackbird
601 ♂ " "
602 ♂ " "
603 ♀ " "
604 ♀ " "
605 ♀ " "
606 ♀ " "
607 ♀ Vesper Sparrow
608 ♂ Green-tailed Towhee
609 ♂ Peromyscus maniculatus 175-72-19-17
610 ♀ Thomomys 178-60-26-4
611 "
612 "
613 Eutamias minimus
614 Tree Toad (Formalin)
615 Lower jaw of small carnivor (Pick up)
616 Broken skull of Marmot
617 Part of skull of some carnivor (2 pieces--same no.)

Indian Creek, 2 mi. SW Riddle, 5500 ft., Owyhee Co., Idaho, June 2, 1934

618 ♀ Vesper Sparrow (skel only)
619 ♂ Night hawk
620 ♂ Song Sparrow
621 ♂ " "

(p. 8)

622 ♀ Eutamias skin only 180-73-29-13
623 ♀ Citellus oregonus 281-60-42-17
624 ♀ " " 256-65-40-17
625 ♂ Fox Sparrow
626 ♀ West. Wood Pewee
627 ♂ Song Sparrow
628 Thamnophis

1 mi. S Middle, 5500 ft., Owyhee Co., Idaho, May 21

597 ♂ Black Tern
598 ♀ Vesper Sparrow

(p. 7)

1 mi. S Middle, 5500 ft., Owyhee Co., Idaho, May 1

599 ♂ Green-winged Teal (Broadbow Bird)
600 ♀ Redwing Blackbird
601 " "
602 " "
603 " "
604 " "
605 " "
606 " "
607 Vesper Sparrow
608 ♂ Green-tailed Towhee
609 Grasshopper Sandpiper 17b-W-Ap-17
610 Thrasher 17b-W-Ap-17
611 "
612 "
613 Western Meadow
614 Tree Toad (Pore-lim)
615 Lower jaw of small carnivor (Lick w.)
616 Broken skull of Marmot
617 Foot of adult or some carnivor (2 pieces--same no.)

Indian creek, 2 mi. SW Middle, 5500 ft., Owyhee Co., Idaho, June 5, 1924

618 Vesper Sparrow
619 Night hawk
620 Song Sparrow
621 " "

(p. 8)

622 Kingfisher 18b-W-K-12
623 ♂ Western Meadow 23b-Ap-W-17
624 " " 23b-Ap-W-17
625 Fox Sparrow
626 Wash. Wood Pewee
627 Song Sparrow
628 Dimorphia

Indian Creek, 2 mi. SE Riddle, 5500 ft., Owyhee Co., Idaho, June 2, 1934

629 ♂ Violet-green Swallow skel. only
630 ♂ Yellow Warbler
631 ♀ " "
632 ♂ Black-throated Gray Warbler
633 ♂ Cassin Purple Finch
634 ♀ Western Wood Pewee
635 ♂ Brewer Sparrow

1 mi. N. Riddle, 5300 ft., Owyhee Co., Idaho, June 3

636 ♂ Redwing Blackbird
637 ♂ " "

10 mi. N. Riddle, Owyhee Co., Idaho, June 3, 1934

638 ♀ Horned Lark

30 mi. N Riddle, Owyhee Co., Idaho, June 3, 1934

639 ♂ Horned Lark

34 mi. N Riddle, Owyhee Co., Idaho, June 3, 1934

640 ♂ Horned Lark

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7 mi. S Bruneau, Owyhee Co., Idaho, June 3, 1934

641 Crotophytus
642 ♀ Lepus californicus skull only

5 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

Skull only
643 ♀ Lepus californicus
644 ♀ " "
645 ♀ " "
646 ♀ " "
647 ♀ " "

Skin skel. E.T. Hooper - Oct. 3, 1934(?)
648 ♂ Citellus mollis idahoensis 193-33-33
649 ♂ " " " 231-38-38
650 ♂ " " " 231-44-37

Indian Creek, 2 mi. SE Riddle, 5500 ft., Owyhee Co.,
Idaho, June 2, 1934

629 ♂ Violet-green Swallow
630 ♂ Yellow Warbler
631 ♀ " "
632 ♂ Black-throated Gray Warbler
633 ♂ Cassin Purple Finch
634 ♀ Western Wood Pewee
635 ♂ Brewer Sparrow

1 mi. N. Riddle, 5500 ft., Owyhee Co., Idaho, June 3

636 ♂ Redwing Blackbird
637 ♂ " "

10 mi. N. Riddle, Owyhee Co., Idaho, June 3, 1934

638 ♀ Horned Lark

30 mi. N Riddle, Owyhee Co., Idaho, June 3, 1934

639 ♂ Horned Lark

34 mi. N Riddle, Owyhee Co., Idaho, June 3, 1934

640 ♂ Horned Lark

(p. 9)

7 mi. S Bruneau, Owyhee Co., Idaho, June 3, 1934

641 Crotophytus
642 ♀ Lepus californicus skull only

5 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

643 ♂ Lepus
644 ♀ Lepus californicus
645 ♀ " "
646 ♀ " "
647 ♀ " "
648 ♂ " "

Skin skel. E.T. Hooper - Oct. 3, 1934(?)

649 ♂ Citellus mollis idahoensis 193-33-33
650 ♂ " " " 231-39-38
651 ♂ " " " 231-44-37

5 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

651 ♀	Citellus mollis idahoensis	212-42-31
652 ♂	" " "	215-47-35
653 ♀	" " "	217-40-35
654 ♀	Eutamias	179-83-30-15
Skin only - E.T. Hooper - Oct. 2, 1934		
655 ♂	Eutamias	175-80-27-15
656 ♂	"	173-82-27-15
658 ♂	"	160-75-29-14
659 ♀	"	180-85-31-16

5 mi. N Bruneau, Owyhee Co., Idaho, June 3, 1934

657	Ammospermopholis	135-40-32- 9 (yg)

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4 mi. N Rupert, Minidoka Co., Idaho, June 4, 1934

Skull only		
660 ♂	Lepus californicus	
661 ♀	" "	
662 ♀	" "	
663 ♀	" "	517-80-116-120

4 mi. N Rupert, 4300 ft., Minidoka Co., Idaho, June 5

664 ♂	Dipodomys ordii	265-150-42-12
665 ♀	Perognathus parvus(5 emb x 5)	169- 86-21- 8
666 ♀	Eutamias	190- 90-28-15
667 ♂	Dipodomys ordii	247-139-41-13
668 ♂	Peromyscus maniculatus	162- 68-20-18
669 ♀	Citellus mollis	205-41-31

9 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

Skel. only

670 ♂ Western Red-tail (Skeleton only)

Crop & stomach filled with lizards. No other food found.

(p. 11)

5 mi. S Rupert, 4300 ft., Minidoka Co., Idaho, June 5

671 ♂ Song Sparrow

5 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

651 ♀	Citellus mollis idahoensis		212-42-31
652 ♂	"	"	218-47-35
653 ♀	"	"	217-40-35
654 ♀	Eutamias		179-83-30-15

Skin only - E.T. Hooper - Oct. 2, 1934

655 ♀	Eutamias	175-80-27-15
656 ♂	"	172-82-27-15
658 ♂	"	160-75-29-14
659 ♀	"	180-88-31-16

5 mi. N Bruneau, Owyhee Co., Idaho, June 3, 1934

657 Ammospermophilus 135-40-32- 9 (ve)

(p. 10)

4 mi. N Hubert, Minidoka Co., Idaho, June 4, 1934

Skull only

660 ♂	Lepus californicus	
661 ♀	"	"
662 ♀	"	"
663 ♀	"	" 517-80-116-120

4 mi. N Hubert, 4300 ft., Minidoka Co., Idaho, June 5

664 ♂	Dipodomys ordii	265-150-42-12
665 ♀	Perognathus parvus	(5 emb x 5)189- 86-21- 8
666 ♀	Eutamias	190- 90-22-15
667 ♂	Dipodomys ordii	247-139-41-13
668 ♂	Peromyscus maniculatus	182- 88-20-18
669 ♀	Citellus mollis	205-41-31

9 mi. S Mountain Home, Elmore Co., Idaho, June 3, 1934

Skel only

670 ♂ Western Red-tail (skeleton only)

Crop & stomach filled with lizards. No other food found.

(p. 11)

5 mi. S Hubert, 4300 ft., Minidoka Co., Idaho, June 5

671 ♂ Song Sparrow

6 mi. S Rupert, Cassia Co., Idaho, June 5, 1934

672 ♂ Song Sparrow
673 ♂ Citellus oregonus 246-68-43-15
674 " "
675 " "
Skel. only
676 ♀ Yellow-headed Blackbird
677 ♂ Recurvirostra americana

Acequia, Minidoka Co., June 5, 1934

Skull only
678 ♀ Lepus californicus 389-45-115-110
679 ♂ " " 500-80-130-122
680 ♀ " " 475-85-130-135
681 ♀ " " 470-85-135-130
682 ♀ " " 460-60-130-125
683 ♀ " " 465-80-135-120

Acequia, Minidoka Co., Idaho, June 6, 1934

684 ♂ Dipodomys ordii 258-144-41-13
685 ♀ Dipodomys ordii 260-146-40-13
686 ♂ " " 255-143-41-14
687 ♂ " " 238-139-39-13
688 ♂ " " 243-137-41-13

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689 ♀ " " 233-137-39-13
690 ♀ " " 236-137-40-13
691 ♀ " " 232-127-39-13
692 ♀ Citellus mollis 197-50-30
693 Scaphiotis

5 mi. N Rupert, Minidoka Co., Idaho, June 6, 1934

694 ♂ Citellus mollis 191-44-31
Skull only
695 Lepus californicus
696 " "
697 " "
698 " "
699 " "
700 " "

6 mi. S Rupert, Cassia Co., Idaho, June 5, 1934

672 ♂	Song Sparrow		
673 ♂	Otiellus oregonus		246-55-43-15
674	"	"	
675	"	"	
Skel. only			
676 ♀	Yellow-headed Blackbird		
677 ♂	Necnyritoeitra americana		

Acequia, Minidoka Co., June 5, 1934

Skull only			
678 ♀	Lepus californicus		389-45-115-110
679 ♂	"	"	300-80-130-122
680 ♀	"	"	475-85-130-135
681 ♀	"	"	470-85-135-130
682 ♀	"	"	460-60-130-125
683 ♀	"	"	465-80-125-120

Acequia, Minidoka Co., Idaho, June 5, 1934

684 ♂	Dipodomys ordii		258-144-41-13
685 ♀	Dipodomys ordii		260-146-40-13
686 ♂	"	"	255-142-41-14
687 ♂	"	"	258-139-39-13
688 ♂	"	"	243-137-41-13

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689 ♂	"	"	253-137-39-13
690 ♂	"	"	236-137-40-13
691 ♂	"	"	232-127-39-13
692 ♂	Citellus mollis		197-30-30
693	Scaphiotis		

5 mi. N Rupert, Minidoka Co., Idaho, June 6, 1934

694 ♂	Citellus mollis		191-44-31
Skull only			
695	Lepus californicus		
696	"	"	
697	"	"	
698	"	"	
699	"	"	
700	"	"	

6 mi. S Rupert, Cassia Co., Idaho, June 5, 1934

Skull only
701 ♀ Lepus californicus

2 mi. E Acequia, Minidoka Co., June 6, 1934.

702 ♂	Microtus	170-45-20-12
703 ?	"	140-44-20-10
704	Sylvilagus	
705	"	
706 ♀	"	330-35-88-65

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707 ♀	"	315-35-89-60
708 ♀	"	338-35-90-62

Skull only
709 ? Skunk (Skunk skull pick up)

2 mi. E Acequia, Minidoka Co., Idaho, June 7, 1934

710 ♀	Thomomys	188-59-24- 6
711 ♀	"	200-65-24- 6
712 ♂	Marmota	510-135-85-32
713 ♂	"	526-95-80-32
714 ♂	"	585-140-80-32

Skull only-E.T. Hooper Oct. 1, 1934
715 ♀ Microtus 141-43-19-13
Skull only
716 ♂ Marmota (Skull only)

2 mi. E Acequia, Minidoka Co., Idaho, June 8, 1934

717 ♀	Sylvilagus	350-35-90-60
718 ♂	"	352-35-95-65
719 ♀	Thomomys	183-58-23- 6
720 ♀	"	205-57-23- 7
721 ♀	"	198-60-21- 6

722 ♂ Shrike
723 ♂ Red-wing Blackbird
724 ♀ " "

6 mi. S Rupert, Cassia Co., Idaho, June 5, 1934

Skull only
701 ♀ Lepus californicus

2 mi. E Acequia, Minidoka Co., June 6, 1934.

702 ♂	Microtus	170-45-20-12
703 ♀	"	140-44-28-10
704	Sylvilagus	
705	"	
706 ♀	"	330-35-88-65

(p. 13)

707 ♀	"	315-35-89-60
708 ♀	"	338-38-90-62
Skull only		
709 ♀	Skunk (Skunk skull pick up)	

2 mi. E Acequia, Minidoka Co., Idaho, June 7, 1934

710 ♀	Thomomys	188-39-24- 6
711 ♀	"	200-45-24- 6
712 ♂	Marmota	610-138-85-32
713 ♂	"	628-98-80-32
714 ♂	"	585-140-80-32
Skull only-E.T. Hooper Oct. 1, 1934		
715 ♀	Microtus	141-43-19-13
Skull only		
716 ♂	Marmota (Skull only)	

2 mi. E Acequia, Minidoka Co., Idaho, June 8, 1934

717 ♀	Sylvilagus	350-35-90-60
718 ♂	"	352-35-95-65
719 ♀	Thomomys	183-39-23- 6
720 ♀	"	205-37-23- 7
721 ♀	"	198-40-21- 6
722 ♂	Shrike	
723 ♂	Red-wing Blackbird	
724 ♀	"	"

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2 mi. E Acequia, Minidoka Co., Idaho, June 8, 1934

725 ♀ Red-wing Blackbird
726 ♀ " "
727 ♂ " "
728 ♂ " "
729 ♂ " "
730 ♂ " "
Skull only
731 ♀ Marmota 535-145-70-29
732 ♂ " 565-140-74-30
734 ? Canis latrans (Pick up)

Yankee Hill, Butte Co., Calif., May 16, 1934

Skull only
733 ? Canis latrans (Pick up)

4 mi. NW Paul, Minidoka Co., Idaho, June 10, 1934

Skull only
735 ♀ Lepus californicus
736 ♀ " "
737 ♀ " "
738 ♀ " "
739 ♀ " "
740 ♀ " "
741 ♀ " "
742 ♀ " "
743 ♀ " "

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744 " "
745 " "
746 " "
747 " "

4 mi. SE Albion, Cassia Co., Idaho, June 11, 1934

748 ♀ Citellus oregonus 280-75-44-15
749 ♀ " " 282-72-43-16
750 ♂ " " 283-68-46-18
751 ♀ " " 280-65-42-16
752 ♀ " " + skel 280-72-40-17

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2 mi. E Acequia, Minidoka Co., Idaho, June 8, 1934

725 ♀	Red-wing Blackbird	
726 ♂	"	"
727 ♂	"	"
728 ♂	"	"
729 ♂	"	"
730 ♂	"	"
Skull only		
731 ♀	Marmota	335-145-70-29
732 ♂	"	385-140-74-30
734 ♀	Canis latrans	(Pick up)

Yankee Hill, Butte Co., Calif., May 16, 1934

Skull only		
733 ♀	Canis latrans	(Pick up)

4 mi. NW Paul, Minidoka Co., Idaho, June 10, 1934

Skull only		
735 ♀	Lepus californicus	
736	"	"
737	"	"
738	"	"
739	"	"
740	"	"
741	"	"
742	"	"
743	"	"

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744	"	"
745	"	"
746	"	"
747	"	"

4 mi. SE Albion, Cassia Co., Idaho, June 11, 1934

748 ♀	Citellus oregonus	280-75-44-15
749 ♀	"	" 282-72-45-16
750 ♂	"	" 283-68-48-18
751	"	" 280-65-42-16
752 ♀	"	" + small 280-72-40-17

4 mi. SE Albion, Cassia Co., Idaho, June 11, 1934

753 ♂ Citellus oregonus + skel 284-74-44-18
754 ♀ " " 272-65-42-15
755 ♀ " " 284-72-42-16
756 ♀ " " + skel 306-80-46-15

3½ mi. ENE Rupert, Minidoka Co., Idaho, June 13, 1934

757 ♂ Savannah Sparrow
758 ♂ " "

Snake River, 4 mi. E Rupert, Minidoka Co., Idaho, June 13

759 ♀ Red-winged Blackbird
760 ♀ " "
761 ♀ Flycatcher (Traill.) brewsteri
762 ♂ Red-winged Blackbird
763 ♂ " "

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3½ mi. S Declo, Cassia Co., Idaho, June 14, 1934

764 ♂ Horned Lark
765 ♀ " "
766 ♀ Citellus mollis mollis 195-40-30
Skin only 197-40-32
767 ♂ Citellus " "

4 mi. S Albion, Cassia Co., Idaho, June 14, 1934

768 ♂ Citellus 270-65-41-16

Elba, Cassia Co., Idaho, June 14

769 ♀ Redwing Blackbird
770 ♂ " "
771 ♂ Song Sparrow
772 ♂ Flycatcher
773 ♀ Yellow Warbler
774 ♂ Sylvilagus 378-50-100-65

Elba, Cassia Co., Idaho, June 15

775 ♂ Microtus M. nanus 160-45-19-13

4 mi. SE Albion, Cassia Co., Idaho, June 11, 1934

753 ♂	Otiellus oregonus	+ skel	284-74-44-18
754 ♀	"	"	272-65-42-15
755 ♀	"	"	284-72-42-16
756 ♀	"	"	306-80-46-15

3½ mi. ENE Rupert, Minidoka Co., Idaho, June 15, 1934

757 ♂	Savannah Sparrow
758 ♂	" "

Snake River, 4 mi. E Rupert, Minidoka Co., Idaho, June 15

759 ♀	Red-winged Blackbird
760 ♀	" "
761 ♀	Flycatcher (Traill.) brewsteri
762 ♂	Red-winged Blackbird
763 ♂	" "

(p. 16)

3½ mi. S Declo, Cassia Co., Idaho, June 14, 1934

764 ♂	Horned Lark		
765 ♀	" "		
766 ♀	Otiellus mollis mollis		195-40-30
skin only			197-40-32
767 ♂	Otiellus	" "	

4 mi. S Albion, Cassia Co., Idaho, June 14, 1934

768 ♂	Otiellus	270-65-41-16

Kilba, Cassia Co., Idaho, June 14

769 ♂	Redwing Blackbird
770 ♂	" "
771 ♂	Song Sparrow
772 ♂	Flycatcher
773 ♂	Yellow Warbler
774 ♂	Sylvilagus	378-50-100-65

Kilba, Cassia Co., Idaho, June 15

775 ♂	Microtus m. mansus	180-45-19-13

Elba, Cassia Co., Idaho, June 15

776 ♂ Microtus 160-45-19-13
777 ♀ Song Sparrow
778 ♂ " "
779 ♀ Bobolink
780 ♂ "
781 ♂ "
782 ♂ "
783 ♂ " Skel. only
784 ♀ Savannah Sparrow
785 ♀ Redwing Blackbird

(p. 17)

786 ♂ Savannah Sparrow
787 ♂ Redwing Blackbird
788 ♂ Wilson Phalarope
789 ♂
790 ♀
Skel only
791 ♂

Elba, Cassia Co., Idaho, June 16

792 ♀ Microtus 150-40-19-13
793 ♂ " 150-37-18-13
Skel.only
794 ♀ Sparrow Hawk
795 ♂ " "
796 Thamnophis
797 ♀ Myotis 1 emb x 10 mm.
Skel.only
798 ♀ Nighthawk (fully developed egg in uterus)

Elba, Cassia Co., Idaho, June 17

799 ♂ Microtus 155-44-18-11
800 ♂ West. Warbling Vireo
801 ♂ Flycatcher

4 mi. W Elba, Cassia Co., Idaho, June 17

802 ♂ Citellus 267-74-43-16
803 ♂ " 264-68-43-15

Kilp, Cassia Co., Idaho, June 15

776 ♂	Microtus	150-45-19-13
777 ♀	Song Sparrow	
778 ♂	" "	
779 ♂	Bobolink	
780 ♂	"	
781 ♂	"	
782 ♂	"	
783 ♂	" Skel. only	
784 ♀	Savannah Sparrow	
785 ♀	Redwing Blackbird	

(p. 17)

786 ♂	Savannah Sparrow
787 ♂	Redwing Blackbird
788 ♂	Wilson Phalarope
789 ♂	
790 ♀	
Skel only	
791 ♂	

Kilp, Cassia Co., Idaho, June 16

792 ♀	Microtus	150-40-19-13
793 ♂	"	150-37-18-13
Skel. only		
794 ♀	Sparrow Hawk	
795 ♂	" "	
796	Thamnophis	
797 ♀	Myotis 1 cmb x 10 mm.	
Skel. only		
798 ♂	Nighthawk (fully developed egg in uterus)	

Kilp, Cassia Co., Idaho, June 17

799 ♂	Microtus	155-44-18-11
800 ♂	West Warbling Vireo	
801 ♂	Flycatcher	

4 mi. W Kilp, Cassia Co., Idaho, June 17

802 ♂	Citellus	267-74-43-16
803 ♂	"	264-68-43-15

4 mi. W Elba, Cassia Co., Idaho, June 17, 1934

Skull only
804 ♀ Citellus 260-75-41-15
805 ♀ " 262-68-41-14
806 ♂ Lazuli Bunting
807 ♀ Vesper Sparrow

(p. 18)

8 mi. N Elba, Cassia Co., Idaho, June 17, 1934

808 Pituophis

Small, 8 mi. NW Dubois, Idaho, June 19, 1934

809 ♂ Citellus 265-70-43-15
810 ♂ " 285-75-41-15
811 ♀ " 266-75-38-13
Skull only
812 ♀ Lepus townsendii 600-110-150-110

Yellowstone River, 3 mi. below Fishing Bridge, Yellowstone Nat'l Park, June 21, 1934

813 ♀ Larus californicus (ovaries small ○)

Madison Junction, Yellowstone N.P., June 23, 1934

814 ♀ Citellus armatus 298-75-40-13

Swan Lake, Yellowstone N.P. Wyo. , July 23, 1934

815 Thamnophis

Elba, Cassia Co., Idaho, June 17, 1934

816 Rana

(p. 19)

13 mi. W Rupert, Minidoka Co., Ida. Sept 20

817 Crotalus

4 mi. W Elba, Cassia Co., Idaho, June 17, 1934

Small only

804 ♀ Oitellus 260-75-41-15

805 ♀ " 262-68-41-14

806 ♂ Lazuli Bunting

807 ♀ Vesper Sparrow

(p. 18)

8 mi. N Elba, Cassia Co., Idaho, June 17, 1934

808 Pitnophis

Small, 8 mi. NW Dubois, Idaho, June 19, 1934

809 ♀ Oitellus 265-70-43-15

810 ♂ " 285-75-41-15

811 ♀ " 266-75-38-15

Small only

812 ♀ Lepus townsendii 600-110-150-110

Yellowstone River, 3 mi. below Fishing Bridge, Yellowstone Nat'l Park, June 21, 1934

813 ♀ Larus californicus (overlies small ○)

Madison Junction, Yellowstone N.P., June 23, 1934

814 ♀ Oitellus armatus 298-75-40-15

Swan Lake, Yellowstone N.P. Wyo., July 23, 1934

815 Thamnophis

Elba, Cassia Co., Idaho, June 17, 1934

816 Rana

(p. 19)

13 mi. W Rupert, Minidoka Co., Ida. Sept 20

817 Crotalus

4 - 6 mi. N Idavada, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

818 ♀	Eutamias minimus scrutator	180-74-29-14	All three skin-
819 ♀	" " "	192-91-28-15	ned & kept in
820 ♂	" " "	174-74-27-14	30% alcohol 10 days.

Richmond, Contra Costa Co., Calif., Sept 30

821 ♂ Brown (California) Towhee

5 mi. N Idaho-Nevada Line, Highway #93, Twin Falls County, Idaho, Sept. 13, 1934

822 ♂ Eutamias minimus scrutator 190-93-28-15
(In 30% alcohol 23 days)

1 mi. N Fishing Bridge, Yellowstone Nat'l Park, Wyoming, June 30, 1934

823 ♀ Sciurus 330-124-51-25
824 ♀ Junco

East Oakland, Alameda Co., Calif., Oct. 7, 1934

825 ♂ Anna Hummingbird
826 ♂ Finch

El Cerrito, Contra Costa Co., Calif., Oct. 7, 1934

827 ♀ Spotted Towhee
828 ♂ Golden-crowned Sparrow

(p. 20)

Dwight Way Hill, Berkeley, Alameda Co., Calif., Oct 14

829 ♂ White-crowned Sparrow
830 ♂ Golden-crowned Sparrow

Claremont Canyon, Berkeley, Alameda Co., Calif., Oct. 14

831 ♀ Song Sparrow
832 ♂ Fox Sparrow

4 - 6 mi. N Idaveda, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

818 ♂ Butamiea minimus aeratator 180-74-29-14 All three skin-
819 ♀ " " " 192-91-28-15 med & kept in
820 ♂ " " " 174-74-27-14 30% alcohol 10 days.

Richmond, Contra Costa Co., Calif., Sept 30

821 ♂ Brown (California) Towhee

5 mi. N Idaho-Nevada Line, Highway #93, Twin Falls County, Idaho, Sept. 13, 1934

822 ♂ Butamiea minimus aeratator 190-93-28-15
(In 30% alcohol 23 days)

1 mi. N Fishing Bridge, Yellowstone Nat'l Park, Wyoming, June 30, 1934

823 ♀ Selurus 330-124-31-25
824 ♀ Junco

East Oakland, Alameda Co., Calif., Oct. 7, 1934

825 ♂ Anna Hummingbird
826 ♂ Finch

El Cerrito, Contra Costa Co., Calif., Oct. 7, 1934

827 ♀ Spotted Towhee
828 ♂ Golden-crowned Sparrow

(p. 20)

Dwight Way Hill, Berkeley, Alameda Co., Calif., Oct 14

829 ♂ White-crowned Sparrow
830 ♂ Golden-crowned Sparrow

Claremont Canyon, Berkeley, Alameda Co., Calif., Oct. 14

831 ♂ Song Sparrow
832 ♂ Fox Sparrow

6½ mi. N Idaho-Nevada Line, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

833 ♀ Eutamias m. scrutator 187-85-28-13
(Skinned & kept in 30% alchohol 36 days)

Strawberry Canyon, 1 mi. E Stadium, Berkeley, Alameda Co., Calif., Oct. 20, 1934

834 ♂ Pallid Wren-tit
835 ♂ Peromyscus truei gilberti 195-100-24-21
836 ♀ " " " 217-117-24-21
837 ♀ Reithrodontomys 137-71-16-12
838 ♂ " 134-70-16-12

Sage Desert, 6 mi. N Rupert, Minidoka Co., Idaho, El. 4500 ft., Sept. 16, 1934

839 ♂ Lepus californicus 560-98-135-126

S.F. Bay, Berkeley, Alameda Co., Calif., Oct. 28

840 ♀ Grebe (See notes p. 215)

(p. 21)

1 - 6 mi. N Nevada-Idaho Line, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

841 ♂ Eutamias minimus scrutator #8 183-83-28-14
842 ♀ " " " #1 165-73-27-15
843 ♂ " " " #7 182-85-28-14
844 ♂ " " " #4 182-83-28-15
845 ♂ " " " #6 187-91-28-15

Bolinas Bay, Marin Co., Calif., Nov. 3, 1934

846 ♂ West. Belted Kingfisher
847 ♀ Song Sparrow (Marin = gouldi)
848 ♂ Brown Towhee
849 ♂ White-winged Scoter
850 ♂ Pied-billed Grebe
851 ♀ Red Phalarope
852 ♀ " "
853 ♀ " "
854 ♂ " "

6½ mi. N Idaho-Nevada line, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

833 ♀ Eutamias m. scrutator 187-83-28-13
(Skinned & kept in 30% alcohol 36 days)

Strawberry Canyon, 1 mi. E Stadium, Berkeley, Alameda Co., Calif., Oct. 20, 1934

834 ♂ Pallid Wren-tit
835 ♂ Peromyscus truei gilberti 195-100-24-21
836 ♀ " " " 217-117-24-21
837 ♀ Neithrodontomys 137-71-16-12
838 ♂ " 134-70-16-12

Sage Desert, 6 mi. N Rupert, Minidoka Co., Idaho, El. 4500 ft., Sept. 16, 1934

839 ♂ Lepus californicus 560-98-135-128

S.F. Bay, Berkeley, Alameda Co., Calif., Oct. 28

840 ♀ Grebe (See notes p. 215)

(p. 21)

1 - 6 mi. N Nevada-Idaho Line, Highway #93, Twin Falls Co., Idaho, Sept. 13, 1934

841 ♂ Eutamias minimus scrutator #8 183-83-28-14
842 ♂ " " " #3 186-73-27-15
843 ♂ " " " #7 182-83-28-14
844 ♂ " " " #4 182-83-28-15
845 ♂ " " " #6 187-91-28-15

Holmes Bay, Marin Co., Calif., Nov. 3, 1934

846 ♂ West. Belted Kingfisher
847 ♀ Song Sparrow (Marin = Fonulai)
848 ♂ Brown Towhee
849 ♂ White-winged Scoter
850 ♀ Red-billed Grebe
851 ♂ Red Phalarope
852 ♂ " "
853 ♀ " "
854 ♂ " "

Strawberry Canyon, Berkeley, Alameda Co., Calif., Nov. 11

855 ♂ Perognathus c. californicus 220-118-28-13
856 ♂ " " " 212-110-27-12
Both these had been kept in captivity since Sept. 30,1932.

(p. 22)

Berkeley, Alameda Co., Calif., Nov. 19, 1934

857 ♂ Audubon Warbler. Found crippled after a heavy rain. The left eye had been unjured severely and, besides this the bird could not fly. Very emaciated. Perhaps the injury preventing flight was of long standing. No bones broken.

Dwight Way Hill, Berkeley, Alameda Co., Calif., Nov 25

858 ♂ Wren-tit (Intermediate) One call of this bird sounds much like that of the Vigors Wren.

S.F. Bay, 4 mi. N Richmond, Contra Costa Co., Calif., Nov. 29, 1934

859 ♀ Pipit
860 ♀ "
861 ♂ "
862 ♂ Savannah Sparrow (Bryant Marsh Sparrow)
863 ♀ " " (nevadensis)
Both pipits and Savannah Sparrows were abundant here. The pipits were feeding on plowed ground for the most part and went to roost in the salicornia. I was there from 4:15 to nearly dark. The Savannah Sparrows were in the dense vegetation.

(p. 23)

The stomach contents of the Pipits showed they were subsisting solely on weed seeds.

The marsh there appears to be alive with rails, judging from the vociferations heard about sun down. I should estimate the Pipit population at about 200 birds.

Strawberry Canyon, Berkeley, Alameda Co., Calif., Nov. 11

855 ♂ Peroegnathus c. californicus 220-118-28-13
856 ♂ " " " 212-110-27-12

Both these had been kept in captivity since Sept. 20, 1932.

(p. 22)

Berkeley, Alameda Co., Calif., Nov. 19, 1934

857 ♂ Audubon Warbler. Found crippled after a heavy rain. The left eye had been injured severely and besides this the bird could not fly. Very emaciated. Perhaps the injury preventing flight was of long standing. No bones broken.

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(p. 23)

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S.F. Bay, 4 mi. N Richmond, Contra Costa Co., Calif., Nov. 30

864 ♂ Samuels Song Sparrow
865 ♂ " " "
866 ♂ Least Sandpiper
Skel. only
867 ♀ Least "
868 ♂ " "
869 ♂ " "
870 ♀ " " (Skel. only)
871 ♀ Tule Marsh Wren (paludicola)
872 ♀ " " " "
873 ♀ " " " "
874 ♂ Nevada Savannah Sparrow
875 ♂ Bryant Marsh Sparrow
876 ♀ Pipit (Skel. only)

(p. 24)

1 mi. E. Guerneville, Sonoma Co., Calif. Mar. 19, 1931

877 ♂ Sciurus griseus 582-265-79-35
(Collected by Marie Gramberg)

S.E. Bay, 4 mi. N Richmond, Contra Costa Co., Calif.,
Nov. 20

864 Sammels Song Sparrow
865 " " "
866 Least Sandpiper
Skel. only
867 Least "
868 " "
869 " "
870 " " (Skel. only)
871 ♀ Tule Marsh Wren (palustricola)
872 ♀ " " "
873 ♀ " " "
874 Nevada Savannah Sparrow
875 Bryant Marsh Sparrow
876 ♀ Pipit (Skel. only)

(p. 24)

1 mi. E. Guerneville, Sonoma Co., Calif. Mar. 19, 1931

877 ♂ Selurus aurocapillus 582-265-79-35
(Collected by Marie Grambery)

N.B. pages, 256-259

and. 270-312 were turned over to M.V.Z. as part of the result of a field trip during the holidays of 1934-35 to Alviso & the Santa Cruz Mountains.

Last number used = 1100
Last page numbered - 312.

Birds no. 878-896
935-1100
form the specimens turned over to M.V.Z. as the result of this field trip.

UNIVERSITY OF CALIFORNIA

MUSEUM OF VERTEBRATE ZOOLOGY **CENSUS SHEET**

Locality Mt. Washburn

Date July 6, 1934

Observer W B Davis.

Time in field

Approximate no. miles

Nature of route (zone, fauna, associations) Hills E. & S. of summit. Grassy, rocky, alpines. Picea & Pinus albicaulis

Weather Clear, with few cumulus clouds.

SPECIES — HOURS →	8:30	9:30	10:30	1:00	2:00	TOTALS
Blue Grouse	..					
Robin	..					
Mt. Bluebird	.					
Raven		.				
Pipit		..	..	.		
Clark Nutcracker	...				.....	
Rock wren			.		.	
Wash. Redtail					..	

I was observing Mt. Sheep most of the day. Census is incidental.

TOTALS (hourly and grand)

1m-2,'20

Castilleja haydeni.

Polemonium viscosum = ~~sweet~~ musk.

" confertum = sweet.

Saxafraga rhomboidea = small.

Saxafraga cernua = tall, with reddish nutlets.

Sedum stenopetalum =

Penstemon Hallii =

Aragallus multiceps = Loco.

Vicia aculeatus = small, depressed vetch. (Sheepeating this) ?

Polygonum bistortoides linearifolium Knot

Achillea millefolium alpicola = Yarrow

Potentilla subjuga = Sheepeating this. N & W sl

Sieversia turbinata = S. slope.

Draba crassifolia

Stellaria longipes laeta.

Stellaria umbellata - no petals, small, weak

Saxifraga austromontana = Looks like sedum

Marion Mahnken
1506 N. Rose
Compton, Calif.

Henry Fitch.
Rt. 1,
Medford, Oregon.