

JOURNAL.

Vernon Bailey

1906.

March 15. Packed up and took midnight train on B. & O. for Opal Wyoming via St. Louis, Kansas City, Denver & Cheyenne to study methods of exterminating wolves. Acting in co-operation with Forest Service. A 3 days snow & rain storm has covered most of the U.S. Beginning to snow as I left Washington.

March 14. Woke up near Cumberland, train late. Snowing fast, about 3 inches on ground. About 6 inches at Deer Park. Only about 1 inch at Grafton & the rest of way to Cincinnati where it got dark.

March 17. Daylight as we came near St. Louis. Cold & clear, snow about one inch. Meteor ice in river. Arrived St. Louis 7:30 A.M. Left for Kansas City 9 A.M. Warming up, snow disappearing on warm slopes. A few Meadowlarks, flickers & robins seen. Two bobwhites were very conspicuous standing on snow among weeds under R.R. fence. stood very still as the train went by. Lots of ducks in Mo. R. but could not identify them. A few gulls seen. Lots of crows. One sparrow hawk. Sparrows in weeds not identified. Reached Kansas City at 5:15 & left at 6:20 on U.P. for Denver. Even dark.

March 18. Wake up on open plains - nothing but snow in sight on all sides. apparently 3 or 4 inches deep - cold. wind blowing, air full of fine snow, blown up from surface. Sun like cloud or fog.

3. Journal.

Reached Cheyenne Wells about 8 AM.
for breakfast. A few rabbit & coyote
tracks, lots of horned larks. Fences
full of tumble weeds. Cattle drifted
into humped-up bunches along
fence toward wind, hair full of snow,
tails to wind, heads down & backs up
look boney & sad.



Prairie Dog holes full of snow
but the wounds show plainly.

None of the P D's have been out since
the snow. No tracks or signs.

Lots of the Group hills & some pretty fresh
ones apparently made while I was away.

At Kit Carson saw one jack rabbit
but was not sure whether campstris or
melanotis. It was light but not white
& probably was melanotis. Ran into a
weed patch near a ranch & not far
from brushy bottom. Coyotes are
reported by the brakemen as common
along here.

Hugo - Colorado - Snow getting
deeper, 5 or 6 inches on a level &

4. Journal

drifted to top of snow fences in places. Air thick with snow. Can't tell whether it is snowing down or blowing up. Horned larks are the only live and happy things to be seen - they run over the snow or snuggle up behind a weed & puff their feathers till they look like snowballs. Lots of plovers, large & small, go bobbing along with a jolly swing to their plight. In every way they seem happy.

There is said to be a herd of antelope in the big pasture north of Hugo.

The train runs smoothly & noiselessly - with only a muffled purr, there is no dust or dirt - the air outside is purity itself, in the car clean but a little too warm. The car is only half filled, so I have a section to myself. I never enjoyed such luxurious travelling - Just for comfort travel in winter. If you have seen all the country in summer go over it again in winter & you will see a new world.

5. Journal.

Was Denver a fine old golden eagle
sat on the snow fence & quietly watched
the train go by.

Reached Denver at 1 P.M. an hour or half
late, train doesn't leave till 4:10.

Spent several hours trying to find Mr.
Woodard, game warden, & his attorney

Mr. Sackett, but only to find they were
both out of town for several days.

Was tired & wet from tramping in the
snow & snow drifting inside of my clothes
so went back to depot & waited for train.

Heard a flock of evening grosbeaks near
the capitol, saw lots of *Otocoris* &
english sparrows in town.

Still snowing & blowing when I
left Denver at dark

Ge. Journal.

March 19. Woke up at Hanna, west of Laramie. Clear & cold. Snow much blown but apparently 8 or 10 inches deep. covers the sage brush in places, all blown off from smooth ground, drifted over fences & roads.

Atocoris abundant & happy.

Cottontail tracks numerous

Rawlins - 7:30.

While at breakfast some herds of sheep were passed & many dead sheep seen along fences. Some had been partly eaten. Saw lots of coyote tracks & two coyotes standing 20 rods from R-R. They looked big & plump & well fed. One trotted over & began eating a dead sheep.

Cottontails seen happy, sitting on sunny slope in the snow nibbling bushes. They are plumped up in furry balls. Saw one Lepus campestris sitting by a sagebrush - looked like a snowball. Saw another running & a good many tracks.

Prairie dog mounds are all filled with snow.

78. Journal.

Creston - some sheep near station.

Wamsutter - About a 100 sheep skins in corral
+ sheds. Unloading baled hay for cars.

Sheep wagers out over valley + trans hauling
hay. In next 10 miles, to Red Desert,
a dozen bands of sheep ~~seen~~, apparently
1000 in each, usually a wagoner herds.
No shelter. open valley country, wading
in snow.

8. Journal

Rode Springs - Saw the first junipers, a few scrubby trees along high slope south of R.R. Saw Ephedra along base of cliff. Farther along saw several miles of junipers along high cliff on the north nearly to Green River. Eutamias minimus, lots of little tracks, evidence of this little chipmunk along cliffs & ledges between Rode Springs & Green River. Reached Green River at 11 & had to wait till 3 P.M. Went up to store and talked with freighters & sheep men & got some good notes. The river is frozen over & covered with snow. It was 10 below zero here ^{this morning} ~~last night~~, 17 below ~~night~~ ~~before~~ yesterday morning and 20 below the day before. Atocoris are very numerous all over town & you almost step on them in the streets. They are also abundant all along the way, often in flocks of 50 or more. Green River is as desolate in winter as in summer. It couldn't be more so.

9. Journal.

Between Green River & Granger saw 2 Falco mexicanus and an owl, apparently a short eared flying over the snow at 5 P.M. Near Granger saw 3 White tailed prairie dogs out on the snow near their holes & saw several other holes where they had been out. This was near 5 P.M. clear & still but no signs of thawing - temperature probably near zero, as was 18 below at Opal this morning. Saw dozens of cottontails sitting on the snow - all seemed to be long eared - probably L. baileyi.

Opal

Reached Opal at 6 P.M. and got my baggage over to little hotel & started for starting on stage trip at 8 A.M. tomorrow for Big Piney & Cora. Road said to be bad & it may take several days to get through. Said to have been 18 below zero here this morning. Clear & beautiful weather.

March 20. - Left Opal at 8 AM on the Big Piney stage. Clear and cold, 22 below below zero, snow varying from 4 to 12 inches, road scarcely broken & very poor. Climbed to top of mesa and then struck north over open desert slopes. Reached the Graham Ranch at 1:30 - 17 miles - got dinner, changed teams & went on to Fontenelle for the night, 30 miles north of Opal. Opal is 6675 feet, Graham's Ranch 6750, Fontenelle to 800. The snow has increased in depth to one and two feet, roads bad. Country barren & sheepled to death. Short sagebrush, no grass, no timber in sight except black patches said to be pines on the range of high hills to the west. A few willow bushes along creeks.

11. Journal -

Cynomys lucurus - ~~Common~~ out on the snow. Said to have been out all the time for 2 weeks & seen on coldest days. Not parking - very tame. 2 killed, both males in fine fur with big bushy pure white tails. Moderately fat, stomachs contained a little yellow vegetation that seems to be twigs of sage or *Artemisia* or some of the little bushes.

Peromyscus - One caught in road on 2 feet of snow. Tracks seen all day.

Citellus elegans - Said to be ~~common~~ but not out yet -

Citellus t. parvus - Said to be ~~common~~ but not out yet.

Eutamias minimus - Said to be ~~common~~ but not out yet.

Lepus bailys - Very abundant, hundreds seen sitting in the snow, often sit within 10 feet as we go by. seen nibbling bush & weed tips, one killed was very poor but very heavily furred. They sit near holes & tracks run into holes & rocks & under snow in sagebrush. *Bigelovia sativa*.

Lepus campestris. Very common & often seen sitting in the snow close by as we passed. Tracks numerous. Most of those seen are gray - One shot pure white. Usually sitting in deep depressions or back level with top of snow. They also have burrows deep into snow under the sagebrush.

Canis griseus - Packs of apparently 3 or 4 big wolves seen on the ridge a few miles north of Opal - no more seen. Said to be fairly common.

Canis latrans rufescens. Numerous all the way but most so near the ranches. About 12 seen and numerous tracks. One bunch of 4 seen together. In another place two seen together, one ^{seen} carrying something the size of a jack rabbit & its water trotting along at a respectful distance on our side.

Taxidea taxus. One mound of earth through which it burrowed - no fresh tracks. Said to kill some lambs & many lambs fall in their burrows & die.

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Lutra lutrocephala - Tracks of a large
mink are fresh in the snow along the creek
at Fontenelle. Mink are said to be common
here.

Lutra ludovicianae - Mr. Holden says he
has never known of one other here on
Fontenelle Creek but has seen their
tracks & slides over on Birch Creek,
a few miles north of here.

Lynx baileyi - Bobcats are said to be
common here and to kill a few sheep.

Aquila chrysaetos - At least 6 and probably more golden eagles were seen on the way from Opat to Fontinella sitting on rocks, bare peaks, telephone poles ~~on~~ on the snow or flying overhead. They were usually seen in the neighbourhood of prairie dogs and one was eating something on the ground (or snow) that probably was a P.S. Jack rabbits & cottontails & sage grouse were also numerous but the sage grouse seemed to pay no attention to the eagles, which were stupid & seemed to be stuffed full of something. Several let us come close enough for a shot but I only cut a bunch of feathers off of one.

15 Journal.

Archibuteo s. ferrugineus - Rough legged hawks were about as common as the eagles & were usually seen in the prairie dog towns. One ♀ shot that at 6 P.M. had both stomach & crop stuffed with Cynomys leucurus & Lepus baileyi in about equal quantities. I saw a bunch of sage hens fly up as one of the hawks passed over them, but the hawk paid no attention to them.

Centrocercus urophasianus - Sage grouse are numerous all the way in flocks of 5 to 20. They walk about on top of the snow and can be seen nearly a mile away, look almost as big as coyotes. They are very tame & twice let me photograph them at 40 feet distant. A boy got out of the sleigh & threw stones into the midst of one bunch. But as the stones

16. Journal

struck close to them they would raise + spread their tails but would not fly. They were often seen picking leaves from the bushes + apparently feed exclusively on leaves of sage bush. The excrement lying on the snow is apparently all of one material + smells strongly of sage. The old cocks are in fine plumage.

Anas boschas - Mallards were seen flying out of + into holes in the snow at Grabane where a little spring brook keeps open. They are said to stay there all winter. I saw only 3 at a time. Part of the time they were sitting on the snow.

Otocoris A few seen at each of the two ranches, none between.

Agelaius phoeniceus - Half a dozen red-wings are singing around the ranch at Fortunells + roosting in the willows.

17 Journal. Warmer, 32 above at 8 AM.
minimum thermometer read 18 above.

Remained at the ranch, Made a pair of skis, skinned back & prairie dog & Prompous, Talked wolves & other animals with the ranch men & got lots of good notes. In P.M. went 5 or 6 miles over ridges on skis, saw two coyotes together but the snow has settled & they could run on the crust, so I did not follow them. They kept close together & evidently were a pair. A warm west wind has cut the snow down rapidly today & made a fairly good crust.

March 22. 30° above zero at 8 A.M. 10 above
 by minimum. Clear + pleasant.
 Started about 8 + reached La Barge at
 12 + stopped for dinner, photographed the
 ranch - valley + a wolf scarecrow
 on the fence. Several scarecrows
 of old clothes on a cross pole were
~~put~~ on the fence and one on the
 house to keep wolves from the cattle
 in the pasture. Had a good dinner
 with a nice Mormon family + started
 on at 1 o'clock. Snowed for an hour or
 so, leaving a half inch of fine tracking
 snow on the crust. Made leather
 + wooden glasses to protect my eyes
 from the glare. Saw no game except
 one P.S. Reached Midway at 5 P.M.
 + stopped for the night. Have come 24
 miles + it is 17 from here to Big Piney.
 Stopped with Mr. Bird, who runs the stage line.

Had been in the house only a few minutes when a rose finch flew in the open door. Mrs. Bird & a boy caught it and put it out the door before I could get more than a glimpse of it. I was provoked that they were in such a hurry, but afterwards Mrs. Bird said they had heard that I was collecting specimens and were afraid I would want to kill it.

It sat on the bare earth roof of the bank house & I watched it through the glass at 20 feet as long as I wanted to.

Then went out to the barn & found 2 more, male & female, sitting on the poles of the shed roof with feathers fluffed up sunning themselves. The boy said there were big flocks of them down at the straw stack in the pasture where the cattle were fed, & that flocks came around the barn & house.

(Next morning found 6 sitting out of hay in stack yard. Another on barn at Big Piney, same later in day - 28th)

I am not sure of the species but the males have dark brown breast blackish forehead and a broad hood of ashy gray covering top + back of head and sides down onto cheeks. The bill is light, whitish or gray. The female is paler. Horned larks are also abundant at the ranches, but not one have we seen between ranches. They are unusually tame here, hardly get out of the path for you to pass.

Mrs. Bird is daughter of the Holdens, whom I staid yesterday + is typical of the ranch women - probably 30, naturally strong + fine looking, but tired + worn. Has 5 bouncing children, the eldest a girl of 7 + the youngest about a year. Does all the work + has been washing today. Have 2 or 3 hired

men + kups stage stations with usually one or two or three or more ~~to~~ passengers to meals + to stay over night.

The snow has settled so the sage brush comes up through it in places. Both Artemisia tridentata and cana are fully evergreen as also Atriplex confertifolia. The tips of Bigelovia _____ are covered with evergreen bark that the rabbits eat extensively.

March 23. A moderately cold morning, probably about zero. Drove on to Big Piney - 18 miles - and located at hotel. Got mail, wrote letters. Warmed up and thawed through middle of day. Saw coyote tracks in pairs 3 or 4 pairs. A big dog at ranch caught a coyote, an old ♀ containing 9 half developed embryos. Snow about 2 feet deep.

March 24 - Warm + snowing in morning.

Bubo hooting, Otocoris ~~come~~,
 a snow bunting on fence, 2 longspurs,
 Golden eagle down in pasture +
 later a rough legged hawk.

Started on skis for the hills
 east of Big Piney, followed 2
 coyotes onto the hills + found
 an old lobo on top of butte,
 He barked and howled till I
 was near enough to see his
 eyes, then I sat on the snow
 + watched him for half an hour.
 Saw lots of tracks. Shot 5
 Jack rabbits for bait. Saw
 one prairie dog. Cleared off
 about 10 + warmed up so the
 snow stuck to my skis + nearly
 wore out.

March 25. Sunday, Took a run on skis before breakfast but it was snowing so fast I could not see anything and all the tracks were covered up. Came back and staid in house the rest of day to let my face get well. My nose, ears & lips are badly blistered and swollen from the sun on the snow.

Most of the men here wear black oils and all are now or less burned. The stage driver's faces are in bad shape.

Saw a ^{great northern} shrike & 3 juncos, the first I've seen of either.

March 24. Crust hard enough to hold me most of the way. Good for skins. Started right after breakfast + did not get back till 5 P.M. Went over the buttes east of Piney, then across Green River and back several miles over the high mesa.

Found my lobo at his old quarters and followed him around for some time at moderate rifle range. He trotted around, watching me + following me when I got out of sight. I left him on the next ridge but found his track with that of a wate going to the butte where he started, which probably means

a pair and a litter of pups.

~~Saw one coyote~~ Found fresh droppings on their trail made up of jack rabbit fur & bones & teeth.

Saw one coyote & many tracks, mostly in pairs. Followed 4 fresh coyote tracks & a Lynx track as long as they went my way, then as I turned back homeward saw the lynx under a tree & shot him.

He had eaten a jack rabbit and I found the fur of a cottontail that he had made a previous meal on. Saw one Lepus sylvaticus

& lots of campestris. Lots of old & one fresh Thompson hills on the mesa, where the snow has blown off. Saw old but no fresh porcupine gnawings on the Pinus flexilis,

26.

which is common along the high cliffs across Green River.

Saw 9 roughlegged hawks, that were feeding on the jackrabbits I had shot for coyote bait. Saw 2 golden eagles, heard sparrow hawks in the cottonwoods, lots of magpies, saw 2 ravens, lots of bluebirds (arctica) 2 redwing blackbirds at ranch, lots of Otocoris. Found plenty of sage grouse tracks & one sage grouse that had been eaten all but its feathers & crop had the crop enormously distended with leaves of *Artemisia tridentata* & nothing else, was as large as my two fists.

Saw numerous badger tracks, the first I have seen on the snow. Saw plenty of prairie dogs and heard them bark as usual.

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March 27. - Went up to Mr. Blades place & got some wolf bait for scenting traps, then to Mr. Swans & got the forequarters of a dead horse & hauled it over east of Piney where the wolves are & left it on the mesa & a piece on the river flats.

Saw fresh wolf tracks & 3 coyotes if they were not wolves.

Saw 5 meadow larks & heard them sing - the first. Saw plenty of roughleg hawks. Did no hunting.

28. March 28 - Went on skis to my
wolf bait and found where both
Coyotes & lobos had crept
around it at a distance
but of course had not touched it.
Went quarter of a mile from it
& began putting out poisoned
baits, along general runways
where the coyotes & wolves pass
from one ridge to another or
along the crest of the highest
ridge. Carried ⁴⁴ slices of the
bass's heart & without touching
it cut a hole into each piece &
put a curse death capsule into
it, then buried it in the snow.
Put Galloway's wolf decoy on
sagebrush, not near but
between the poisoned baits.

Put out 6 poisons along a line of a mile in length. Where the 2 lobes cross the ridge I put 2 poisons about 20 rods apart so each can have one.

Didn't set any traps. One experiment at a time is enough & this is the best one. Didn't mark my baits but can find them all if it doesn't snow. Didn't have any red cloth along to mark them with - but have some in my pocket now.

One of the lobe tracks is much larger than the other. Most of the pairs of coyote tracks are too.

I kept well back & did not peep up the lobe, but heard him howl. Saw 2 big coyotes & heard others

30. Killed only a cottontail, L. baileyi which I intended to make up, but a cat got it in my room & spoiled it, I skinned it to eat and was going to save the skull, but laid it down while I carried in the meat & as I turned around a stray gray bowel grabbed the head & ran. Got back at 1 P.M. & didn't go out again - Wrote on my reports which I keep bringing up to date as fast as I can.

Got my poison & bait from the Northwestern Hides & Fur Co. but my castoreum from Sp. Lewis has not come. A cold morning but warm day & thawing fast in P.M. Snow about a foot deep. Bare patches coming through on ridges & sidehills.

March 29. Found one of my baits gone and coyote tracks around where it had been but no dead coyotes. This was one of M. C. Call's Sure death capsules in a piece of horse heart. The coyotes dug up and ate the remains of a sage grouse + cottontail that had been partly eaten before, and came to about 20 feet of my horse nest. Saw 4 sitting on the side hill + saw when my friend the lobo trotted into the bunch they scattered + gave him plenty of room but barked + howled at him and in concert with him.

Found an old dead horse that the coyotes + lobos have been feeding on for a long time.

31. The coyotes had eaten some of my jack rabbits and scattered the fur around. Shot another jack & left him on the ice.

The creeks are all running and the water spreads out over the flats, making a good deal of ice. The river has not yet begun to rise over the ice & the best roads are on the river.

March 30 - Got up early & started to my baits before daylight while the crust was hard & the glare on the snow was severe on the eyes. Got back at 8 o'clock for breakfast after an 8 mile run. Found only one bait gone & it was taken by a hawk or raven. Plenty of fresh wolf & coyote tracks. One of my eyes has become inflamed so I have to stay in during the day & can not write or read much!

March 31 - Started before daylight for my line of wolf baits but found none of them touched. Put out more and used McCalls Seey. Found my old lobo at his regular stand on the point of mesa above the gulch where the den is. He looped away & howled to get me to follow him off.

Found lots of coyote tracks but they had not been nears than 10 feet of my horse bait.

Heard wild geese - the first, and killdeer. Saw redtailed hawk, the first I have seen but one was killed 2 days ago & brought in. Meadowlarks are abundant & singing over the bare patches where the cattle have been fed.

Sage grouse were strutting & crowing
 on the crest soon after sunrise.
 I could hear only a chuckle, somewhat
 like that of the sharp tailed grouse,
 but suspect they have not yet
 fairly started, as this is the first
 time I have seen them even strutting.
 About an hour after sunrise I saw
 ten on top of a ridge against the
 sky & thought it was a drove of
 horses, but the glass showed
 sage grouse. These were part
 cocks & part hens and on another
 ridge not far away was one
 old cock with 2 hens. He was
 spreading & strutting to "bust" but
 the 2 hens paid no attention to him.
 He would stand up straight, erect
 - spread his tail to a wheel, ^{drag his wings,} raise



his side crests, puff out his big white muffs, bring his head back till nearly touching his tail, then make a pumping motion with his neck - emit a chuckling sound. His strutting was much like that of a gobbler.



This one with the 2 hens was the best, but several in the other flock were going through the same antics.

I have found when 2 sage hens were eaten by coyotes - Both had crops stuffed with leaves of A. tridentata.

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April 1 - Started before daylight in a snowstorm, but warm & no crust & bad snowshoeing. Went to my wolf den for the first time and for the first time saw Mrs. Lobo as she sneaked out and glided over the ridges out of sight. Mr. Lobo was as usual on his butt, doing picket duty & he evidently warned her as she was out watching & they sneaked off in the same line, around the sides of the badland slope, not over the top of the mesa as he usually does. I found the baby wolves in a little cave back 4 or 5 feet under a shelf of sandstone & in easy reach of my arm by poking my head into the cave. They were

Whimpering & crying at being left by their mother, or else at the sound of my footsteps which they mistook for their mother's. They were in plain view and ~~there~~ were piled up, about half a bushel of them, of the size of prairie dogs. There were nine - as nearly as I could count, ~~fully~~ funny little puppers with their eyes just open, almost black in color tho both parents are light gray. I left them undisturbed and set traps for the old wolves. Photographed the den & the gulch & tracks.

Well worn trails follow the ridges out onto the mesa & the place could easily ~~be~~ be found even if there was no snow.

April 3. Started at daylight taking E. C. Carrington, a forest ranger with me. Went to the wolf den about the old wolves had not gone to the den or near the traps.

Stationed Carrington on a line of buttes with a rifle - tried to drive the wolves to him but they evidently knew he was there & would not drive. I followed them for miles but they kept well out of reach. Would stop and sit down and howl when they got well ahead. They went our way so we followed them on over to the antelope country about 6 miles east of their den & then gave

Remains of food, mainly jack rabbits & cottontails are scattered over the snow banks in front of the den and half a cottontail was in the den with the cubs. A piece of skull of a young ^{calf} animal, freshly killed was lying just below. It ~~seems~~ to be a young sheep or antelope, & in ~~this~~ case must have been brought ~~in~~ 8 miles. The question comes up whether the male has been bringing food to his wife while the pups were small and I am inclined to believe he has. He has certainly for the past 9 days that I have known him been a very watchful parent & has risked his life many times to draw me away and has even thought strongly

of eating me up to get rid of me.
 I hate to kill them, but may not
 be able to, as they have refused
 all of my baits so far, & paid
 little attention to the scents used.
 Will probably catch the female but
 have little expectation of getting
 the male.

Mr. Charles Budd telephoned
 down yesterday that he had caught
 10 young wolves & had 4 of them
 alive. I heard that there were 2
 old wolves which they did not get.
 but will find out the details
 later.

April 2 The wolves came back near the
 den but did not go to it. Will leave
 the traps out another night & see if I
 do not catch one or both.

then up and followed the trails of about 20 or 30 antelope for a long distance over the ridges to see if any had been killed by the wolves. Found no signs of dead antelope, but a skull piece of skull picked up at the wolf den looks like that of a very young antelope but proves to be a calf.

The antelope follow bare slopes of ridges, but go across snow country, wading when it is thawed or going on the crust when it is frozen. They can get plenty of grass.

Saw two very large coyotes & lots of tracks. Saw 3 ravens, one eagle, lots of sage grouse, some jackrabbits & many Cynomys.

Brought home 7 of the wolf pups, left 2 in den to try and catch the old one. Photographed them all at den. The old one had not been to them for 2 days & nights & they were very hungry. We fed them milk & they ate ravenously & went to sleep in this barrel with a gunny-sack for a bed.

We were pretty tired after a 20 mile run on skis, but for most of the time the crust was good. Stopped at noon & built a fire of sage brush & melted the candle grease on the skis to make them slip. They ran much easier for it.

Had some good long slides.

Saw the first Eutamias minimus I have seen. It was on the road near the wolf den.

40. April 4. Went to my wolf den
but the old wolves had not come
to the young, the tracks were all
around near the den. Fed the
young with ~~from~~ a bottle & put
them back. Put strychnine in 6
pieces of cottontail & placed them
around when the wolves came.

Photographed tracks of lobo, coyote,
jack rabbit & sage grouse. Saw
the first tracks of a Citellus (probably
elegans) that I have been sure of.

Saw a fine male marsh hawk & a rough leg.

Saw a tiny weasel track that must
be of a P. rivosus -

Sent expense account & wrote Pinchot &
other letters - A cold morning & bright
warm day, thawing fast.

April 9 - Took up my line of poisoned baits and put them on the creek so they will wash away as soon as the ice breaks. Meanwhile they may get a coyote. The boys had not been back to their den.

Saw a few Citellus elegans out on the snow. Caught one and made it up. Made up the ^{northern} shrike I killed yesterday & found a promyscus in its stomach. It was shot soon after sunrise in the morning & had eaten nothing else.

Packed up some specimens & got ready to leave on stage in morning for Coza & Pinedale.

A cold morning & hard crust. Thawed rapidly during day.

April 7. Left Big Piney on the stage about 11 a.m. and reached Cara at dusk. Then drove down to Pinedale and had a 10 o'clock supper. A very chilly wind blew most of P.M. - it was cold in evening. Roads bad most of way and slow travelling. Saw little sign of game, some old wolf tracks, plenty of Sage grouse in fine long plumes, lots of prairie dogs & some *C. elegans*. Saw some sharp-tailed Grouse along the creek at Burns, lots of old hawk & blue heron nests in the cottonwood trees along the river ~~at~~ where we crossed at Burns.

The snow was soft and thawing part most of the way and fresh tracks did not show. Some old wolf tracks seen.

Snow about a foot deep on starting but full 2 feet deep on an average between Burns & Cara and down the New York valley to Pinedale. This is a broad willow valley with numerous ranches & lots of hay. Burns is a miserable little ranch.

April 8 - Woke up late Sunday morning ^{at Pinedale} & had breakfast at 8, after refusing a cordial invitation to go over to the saloon & take a drink with the proprietor, Mr. Rich, and chief ranger Geo. Glover. Took a walk the whole length of Main St., instead and sized up the town - On one side of the street a log residence, the hotel (part boards), the printing office, Woodmans Hall (both log) and school house.

On the other side of the street a saloon, a residence & the store. But the log houses are well built, & the town has a beautiful location at edge of broad valley close to Pine Creek and at edge of a long strip of musyppine that follows down the creek bottom from the Mts.

The creek is a beautiful stream, draining Fremont lake with unlimited supply of water and power. It has apparently more than 100 feet fall in the 3 miles from the lake to town. Large ditches have been taken out & carried over beautiful sage brush meadows of good soil. Good grass &

hardy crops do well but it is close to edge of Canadian zone, as shown by *P. murrayana*, & *Papulus tremuloides* along the stream.

The barometer read only a hundred feet higher than at Big Piney, making it approximately 7200 feet. The ranches depend mainly on cattle & these have to be fed hay for a large part of the winter. Still enormous quantities of good wild hay is cut along the valley & cattle look well. Just back of Pinedale the foot-hill ridges begin, steep boulder heaped moraines with 2 lines of direction, the lower parallel with the valley, the higher plowed out of the canyons at right angles to it. Back of these the Wind River Mts. rise steep and grand, far above timberline with a broad black belt of timber along the middle slope. Fremont Peak, the highest in the range is a little to the north.

Had a talk with Mr. Brandon, secretary of the wolf bounty association & Geo. Glover, chairman. Then went over & talked with Zeph Jones.

Supervisor, who wants the Forest Service to pay a bounty on wolves on the reserves.

Geo. Glover knows where young wolves were caught last year in Soda Lake basin so I persuaded him to go there with us tomorrow + secured a team to take us to his ranch tonight, a mile N.E. of Cora. Got to the ranch a little before dark + planned for an early start in the morning.

April 9. - Had breakfast at 4 and started

before daylight with skis + snowshoes, on a hard crust that held us perfectly.

Stenck a fresh wolf track about a mile from the ranch heading for Soda Lake basin.

~~and~~ ~~car~~ The wolf was carrying something that dragged on the snow, and making a fine line. We followed the track past Soda Lake into a rough basin of glacial dump near the N.E. corner of Fremont Lake + found the den of 8 pups under a huge boulder ^{half way up} a steep, warm, south slope ^{in Butard Basin} where the

snow had been gone for some time & the ground was dry & grass starting. We had no trouble in locating the den by the numerous tracks on bare ground, but both old wolves had seen us come over the ridge and slipped out before we saw them. Their tracks went off side by side over the snow toward the head of Trout Lake.

The den was a natural cavity under two rocks as big as small houses. It was a flat & wide cavity but not deep enough for me to crawl in until we dug a new entrance at back of rock & enlarged it by scraping out dirt till I could squeeze in flat way.

The pups were back in the far corner packed in a shallow place & with the candle I could see their eyes shine - & ~~to~~ could hear them growl & snarl.

By stretching I reached the hind foot of one & pulled him out till I could let go & grab his neck, then passed him

out to gloves who killed him. The next one was a scrapper + got me by the thumb + nearly made holes through my buckskin glove before I could get him by the neck. Two others got hold of my hand + bit pretty hard but did not get through the glove. Their little teeth are very sharp + pretty long, but the muscles of their jaws are not very strong. They were the size of big cats + later were found to weigh $6\frac{1}{4}$ lbs to about 7 lbs apiece. Were probably 6 weeks old at least.

- We each took 4 on our backs + started for Pinedale. Had ~~come~~ about 8 miles in finding the den + it was about 11 to Pinedale, so we started west there with them. Struck out from lake + made sledge of my skins + trotted down the lake on the ice about 6 miles, then had 3 miles of rough ridges, soft snow + slow hard work to town. Got in at 3 P.M., skinned 4 of the wolves + started back to ranch with mail carrier halfway, walked about 2 miles.

Fremont lake is a glacial trough out to 2 miles wide + 12 miles long, reaching back into the mts. between great lateral moraines 1000 feet high in places + farther back into rock walls. It offers superb camping grounds toward the upper end.

Elk tracks were fresh all around the wolf den and Glover showed me ~~two~~ steep rocky slopes on both sides of the lake where elk winter and find good feed out of reach of stock. The grass on these steep slopes of moraines was abundant and is ~~already~~ ^{becoming} green from this years growth. A few bones in the wolf den may have been of elk, but the trail ~~comprising~~ the old wolf droppings seemed all to be of horses + cattle. The old wolf caught + ate a rough grouse on her way in to the den. She had eaten a jack rabbit on the trail at a previous meal. Some old feathers of a blue grouse were found in the den.

As we came near Pinedale, very tired from our loads of wolves + sat down on a stone to rest. Glover remarked that he was sorry I didn't drink, because if I did we'd have a "hell of a drink of whiskey when we got in". He did have with the rest of the boys while I was skinning my wolves.

April 10 - Started for Glover's ranch, near Coia, at sunrise on a hard crust (too hard for good tracking), picked up Mr. Borum, another ranger at Bennings ranch - 3 miles above - + went up to the sawmill 15 miles north of Coia on Willow Creek. Here the rangers have a cabin in the aspens + Murray pines on the side of the mts. with a beautiful body of timber around them. The cabin is just within the lower edge of the timber which extends back up the slope in a dense growth of Murray pine, scattered *P. flexilis*, *Pseudotsuga*, *Picea pungens*, *Abies concolor*? + aspens.

The snow measured 29 inches in the woods at the cabin and the crust held all day under the trees. Found lots of pine squirrels but no chipmunks or porcupines had gnawed and seriously injured or killed thousands of trees of *P. murryana*.

Snowshoe rabbit tracks were common.

Old beaver dams were numerous, we counted 12 dams in succession within 300 yards along Willow Creek. Flying squirrels are said to be common. Several *Peromyscus leucopus* were caught in the camp bed where they had cut the blankets into neat beds cutting a big hole in the flour sack. A *Lynx canadensis* had crossed the meadow just above camp the day before. Coyote tracks were common & the coyotes were howling above camp in evening, a fine serenade. Mr. Glover estimates 125 to 150 Martens caught in the range during the winter & Mr. Perkins at Cara says he has sold about 2000 dollars worth of Martens fur this season, also a few cross & red foxes.

Went to bed under a load of blankets after a good camp supper of potatoes, beans, bacon biscuits & coffee.

April 11 - Got up before daylight & found half an inch of fresh snow, but much to our disappointment found ~~that~~ it had not frozen & the old snow was ^{two} soft for good snowshoeing. The rangers decided not to leave camp so I started alone for Alexander's ranch, over on Green River, 6 miles N.W. Found it slow travelling & reached the ranch about 10 A.M., Staid to dinner & talked wolves & examined 3 beautiful skins the boys had taken during the winter. They had followed them up & shot them, but at Charles & Frank Alexander's ranches lower down the valley I found 5 more ~~wolf~~ skins of wolves shot or run down on horses. Unlike most of the ranchers the Alexander boys are energetic, intelligent fellows & they get more wolves than any one else in the country. The old people at the upper ranch, are fine types of intelligent frontier people. Their youngest son, Will, is still with them. The boys have lots of fine photos & many interesting specimens of heads & skins.

Bought 2 wolf + a panther skin of Frank Alexander + started from his place to Cora - 7 miles - on foot with about 40 lbs on my back besides gun + skis. The snow was so soft I could scarcely use the skis + followed an old slight track on foot most of the way down to Clark's ranch. Then got a boy to take me the remaining 5 miles to Cora - horseback with my packs. Reached Cora at 8 P.M. tired + chilly + went to bed at the little ranch hotel.

A hard day's work, but I learned much of wolves + wolf hunting, got some good specimens, saw a lot of interesting country, met several well informed people and consider the day well spent.

April 12 - Took stage at 7 A.M. for Big Piney + arrived there at 4 P.M. Roads bad, Green river high, a cold wind blew all day. Got chilly. Used wagon for last 8 miles. Found lots of mail at Big Piney.

April 12 - Visited my wolf den and found fresh tracks near it but the den had not been entered nor the trap touched.

The snow is nearly gone here now so I go on horseback instead of skis. Ducks & geese are numerous.

Saw a pair of Mountain Hares killed one.

April 13 - Toke horse & went over into dry Piney Basin but found no tracks of wolves.

Saw 118 antelope in one bunch and another small herd of 6 or 8.

Saw a big Lynx baileyi & got 3

Eutamias minimus. Ground

wet & muddy except on dry south slopes. Travelling slow & hard.

Grass starting on warm slopes & stock is being turned out.

April 15 - Sunday - Wrote reports and packed up part of my specimens.

April 16 - Finished packing and my annual report. Took stage for Opal at 3 P.M. and came as far as Birds ranch near Midway - 12 miles.

Ground drying off rapidly & roads good. Snow on north slopes only.

Lots of *Citellus elegans* out. Shot 3 for the wolf pups, also shot a big white Jackrabbit.

April 17 - Reached La Barge at 9:30 but the trapper I wanted to see, Hal Gibbs, was 8 miles up the creek so I decided to lay over a day & try to get beaver castor from him. Got a varner started

for Gibb's camp but met him about a mile from the ranch. He was on his way down to a beaver trap and agreed to send me the castor if he caught it and sent it up before dark. In afternoon I went back 3 miles on the stage road to try and get photograph of a flock of about a dozen sage grouse seen crowing on a flat as we came by in the morning, but they had gone.

It was interesting to watch the old males puff up their big white muffer, spread their tail and drag their wings and then get down on their crop & slide. I could hear no sound at a distance of 40 rods.

Saw lots of sawbills & wallards & 3 female buffleheads - La Barge.

Saw two antelope halfway from Midway to La Barge.

Gibbs says there are more beavers on South Piney than on La Barge Creek. He is catching them - right along and is going to South Piney soon to trap for them.

Found a few *Betula occidentalis* among the willows on La Barge Cr. *Artemisia tridentata* - *cava*, *cruscata* & *pedatifida* are common. *Tetradymia spinescens*, *Atriplex confertifolia*, *nuttallii*, and *Grayia*? grow on south slopes. *Sarcobatus* is the principal alkali valley plant. The meadows are largely salt grass & tules.

April 18 - Stage came along at 9 and put me at Fontenelle at 12. Shot 2 chipmunks & a *Lepus baileyi* & a prairie dog. Left Fontenelle at 1 P.M. & reached Opel at sundown. Roads good but a chilly wind blowing. Got 3 prairie dogs & killed others that slid down the burrows.

Country alive with sheep, saw numerous large herds and sheep wagons dot the valleys. The ground is eaten and trampled bare and most of the bushes eaten except sagebrush. Grass is just beginning to start. About 10 percent of the sheep were lost during the late storm. Hay or grain was fed where ever it could be procured.

57. Used up the forenoon boxing and shipping my young wolves + other specimens, writing a few letters + talking with the ranchmen.

In P.M. got a saddle horse and followed the long mesa east of Opal, looking for wolf tracks.

Found none but found two dens of young coyotes, which I did not disturb as I had no shovel.

Saw both old coyotes at one den and fresh tracks of both at the other.

One was carrying a muskrat which it dropped + I skinned. It was

a ♀, not yet with young + must have been caught in Hans Fork, 2 or 3 miles distant. Could tell long before I reached a den by the abundance of tracks of coyotes.

Found fresh tracks of 5 or 6 deer along the foot of the mesa slope. Saw lots of lynx tracks & some in cover, where the lynx are probably breeding. The slope is steep and full of holes & hollows and caves. It is a typical badland slope, bare & either adobe or sandstone. The mesa is 200 or 300 feet high and extends for many miles. I followed about 5 miles and hope to go farther tomorrow.

Saw one jack rabbit, still nearly white, but turning yellow to match the soil. Saw great numbers of *Lepus arizonae*, both along the cliff and out in the sagebrush, where they run to badger holes.

Saw lots of *Eutamias minimus* & a few *Citellus elegans*, some prairie dog holes, lots of gopher hills, plenty of *Zeonora* nests in cliffs. Saw 4 *Sayornis*, the first.

59. Journal

April 20. Took a team and driver
+ went after my Coyotes. Crawled into
the first den without digging at
all but found only 2 young. They
were back about 12 feet in a hole
washed out of the side of a bad-
land butte, were on a bed of soft
~~sand~~. Their eyes were not yet
open + they probably were a week old.
I think the old coyote had taken
away the rest of the pups after
I scared her out of the den
the night before. Photographed
the den + the pups + the side hill.
Then went to the other den and
had to dig a hole through the side
of the bank to get in.

46.

Found 5 pups back at end of a
badger hole in a sand bed.

Opened the hole so I could crawl
in my length and reach them.

They did not try to bite tho
probably a month old, with teeth
coming through + bright eyes.

I photographed them + the den

Made specimens of the two

little ones + 2 of the larger litter.

Kept 3 alive to send to the zoo.

Got back at 1 P.M. + then hunted
chipmunks - killed a few + also found
a colony of Citellus arizonae on the
meadow. C. elegans is abundant on
the uplands, just as I found them
at H. Bridges in 1888.

61.

April 21. Shipping my young coyotes and made up skins. In P.M. went down by the river & shot a muskrat & caught a Thomomys, both good specimens to have.

April 22 - Packed up box of 20 Coyote skulls, box of specimens, roll of skins, box of cactus & mailed reports & 2 doz negatives. Packed my baggage & took train at 12:40 for Green River. Got there at 3 & started after topotypes of *Eutamias minimus* - Got 5, but found them scarce & wild. Country very barren & eaten up by sheep. nothing left for chipmunks.

62, Journal

April 23 Woke up in the Ferris Hotel at Rawlins & found myself in very comfortable quarters. Made up my 5 chipmunks, pinned them down in a box and mailed them. Wrote Green River valley kid report, letters and journal notes up to date, got ammunition, negatives, and supplies for the trip, sorted ^{baggage} and packed my duffle bag ready to take the stage for Lander in the morning.

April 24 Left Rawlins at 7:30 A.M. on a cold, wet, windy morning and drove 45 miles over sage plains long ridges and alkaline lake basins to Lost Soldier, the stage station at the base of the Lost Soldier Mts., or Green Mts., at 5 o'clock. Changed horses twice and got dinner at a stage station. Passed only one poor ranch, but many sheep wagons with herds of sheep.

At Fast Eddie we changed horses & started without waiting for supper, climbed up a long slope & in about 9 miles crossed the summit of the ~~divide~~ range in a low pass not 1000 feet above the plain. No timber except a few scrubby junipers and on rock rims a few Pinus flexilis, but the Ferris & Smihals Mts., to the east are covered with black, solid forest that ought to be worked. Went through Crooks Pass. Changed horses and got a cold supper at Burnt Ranch (Rongis) at 10 P.M. Continued down grade till we struck the Sweetwater River and followed up it to Myersville where we changed horses & drivers. the next morning at daylight. A chilly nights ride. Frosty morning.

64. April 25. Left Myersville at sunrise on a frosty, cold, raw, windy morning and after crossing the river climbed steadily up grade till we reached the top of Beaver Hill, where a fierce wind swept ~~up~~ from the snow covered Wind River Mts. and where patches of old snow were still lying on cold or drifted slopes. Then down a steep slope of 300 or 400 feet to warmer valleys below and at 8 AM reached Haily, on Beaver creek where we got breakfast at the ranch post office & "road house" a good breakfast & a good ranch. Thence crossed ridge after ridge & valley after valley till we reached Lander at 5 P.M., each valley getting lower and greener as we descend into the Wind River Valley, and occupied by good little ranches.

65.

From Hailey to Fawcett junipers cover the rocky rims of the valleys in places mixed with Pinus flexilis - north rim. A few cottonwoods & many willows grow along the streams and good crops are raised including grains, vegetables and some varieties of apples on ranches where trees have been put out. Grass & alfalfa are getting well up so the meadows are green & the wild buck grass is up big enough for a good bite by cows or horses. A few flowers are out, mainly Phlox anglica in little white cushions, a little yellow Corydalis a few Viola nuttallii, and that is about all. Sage brush is almost a tree along the creek valleys, often 8 feet high. The soil is good and streams for irrigation numerous & full of snow water.

66.

I should place the valleys around Lander as transition, with probably a trace of Upper Sonoran on warm slopes, but our notes for 1894 will give a better index to zones & plants than I can get now.

Went to Fremont Hotel and spent the evening discussing wolf and game problems with Mr. S. C. Nowlin, state game warden.

April 24 - Snowing fast when I woke up at 7, & snowed most of forenoon till 2 inches lay on the ground. Then got warmer & all melted, leaving mud & slush. Was hoping for a tracking snow but did not get it. Wrote notes & letters & talked wolves & game protection with Mr. Nowlin & arranged for team to start for Circle in morning.

67. Journal -

April 27, Got a team & van and left
Lander at 7 A.M. for Circle - 75 miles up
the Wind River. Found the roads so muddy
and sticky that we could only walk the team
and did not reach H. Waskie's till noon.
14 miles. Lunched by the river & went on
with better roads, patches of sandy
soil, and the mud drying up. Crossed
several broad, smooth meadows and
intervening valleys of scattered sage
brush, good soil and abundant grass.
Much country that is really put
under irrigation, while the water
supply is going to waste.

Finally pitched down a long hill into
Wind River Valley just below Bull Lake,
and instead of stopping at the Stagner
Ranch on the river, followed 10 miles
farther up the valley to the T.K. Ranch for night.

68. Found a nice place to stay with
the Kirklands - Came 45 miles, over
open country with little of interest to be
seen. Was pleased to find that only
the part of the Eboahone Ind. Res. north
of Wind River is to be opened for settlement
This is the poorest part, including the
Owl Mts. and rough country generally
while that remaining is beautiful grazing
& farming land - Far more than the Indians
can use. The broad valley at Washakie
is scattered over with tepees, and some
Indian or halfbreed ranches occupy the best
parts of the Wind River valley. The J K Ranch
where we stop for the night is leased
from the son of old Chief Washakie -
is one of the best ranches on the river,
with extensive meadowland, good flats
for irrigation, and the best of grazing
"benchland" on both sides of the river.

69.

Zones - Apparently the whole country travelled from Lander to the J. K. Ranch is Transition zone. Sagebrush & Sarcobatus are the dominant plains plants while along the streams *Populus angustifolia*, *Salix* (of many species), *Betula occidentalis*, *Shepherdia argentea*, *Ribes divaricatum?*, *Clematis*, *Rosa*, etc. are the ~~common~~ vegetation. Near Lander there seems to be nothing to suggest Upper Sonoran except junipers along the cliffs and these are mixed with *Pinus flexilis* and farther up the river extend to and among the aspens, indicating a Transition zone species. Nor do any Canadian zone species come down into this part of the valley, even on north slopes.

At Lander most of the ordinary garden vegetables are raised and there is at least one good bearing apple orchard.

Birds - Parus a. septentrionalis, saw two in
 the willows near Lander, Peucaea hudsonica, common
 along all the streams. Agelaius phoeniceus,
~~common~~ at Lander & Ft. Washakie. Near
 the fort a thick bunch of Bull berry bushes
 was alive and squawking with redwings,
yellowheads, brewers, and cowbirds.
Sturnella m. neglecta, meadowlarks are abundant
 on the bottom lands and often seen a heard
 out in the sagebrush. Pooecetes g. confinis,
 a few grasspeckers seen all along. Junco
~~common~~ in brushy places. Corvus
americanus, a few crows were seen at Ft.
 Washakie and others along Wind River.
Falco sparverius, common all along.
Ceryle alcyon, one seen by the creek at
 Ft. Washakie, ^{the first seen.} Anthus ludovicianus, two
 were seen at Ft. Washakie, the first I have seen
 this year. Colaptes c. collaris, a few seen along
 Wind River. Merula m. propinqua, common
 along Wind River. Myadestes townsendi, one seen
 at Wind River - the first of the season.

Mammals:- Eutamias minimus - One seen at
 Bull Lake Creek was the pale, yellowtailed
 form, quite different from the Green River City
 specimens. Citellus t. pallidus, a little striped
 ground squirrel on the flat near Lander was
 very pale and small. - possibly a parvus.
Thomomys _____, Gopher hills are
 scattered here & there all along, both on
 the mesa & on the creek bottoms.
Lepus bailyi - a few long eared cottontails
 were seen. Cynomys leucurus, a few
 prairie dogs were seen but they are
 rather scarce. Citellus elegans, a few
 seen near Lander & Washakie.
Fiber zibethicus - a muskrat house stands in
 a pond near the Indian Agency.

72. April 28 - Left the J K Ranch at 6:30
and reached the Circle Ranch, 30 miles
above, at noon. In afternoon went
6 miles farther up to Mr. Carson's ranch
and talked wolves with the nephew of
Kit Carson, who has had considerable
experience in finding wolf dens. He showed
me a strip of rocky foothills back of his
ranch where he had found 11 wolf dens.
I photographed the sections of mountains &
foothills and also the badlands across
the Wind River - his house, yellow &
bricked walls, curiously carved by
the water. Mr. Carson says he has
found from 5 to 9 wolf pups in a den,
usually in natural cavities under
ledges or big boulders, but some in
burrows he thinks the wolves have dug.
Some of the dens were up at the edge of
the timber on the mountain slopes.

73.

On the Circle ranch Mr. Landis says considerable stock is lost by wolves & a few wolves are killed each year. Mr. Beck, his foreman, knows of 8 that have been caught on the ranch the past year, mainly in traps. On the

J.K. ranch Mr. ^{A.P.} Kirkland says 5 wolves have been killed during the past year, all but one poisoned & this one killed by an Indian & he does not know how it was secured. The number of cattle killed in a year is not easily estimated as the calves are picked up on the range and rarely seen the remains found. Mr. Carson thinks the wolves kill a great many deer & elk & mountain sheep but he seems to have no data to back his assumption.

He also says the bear kill many cattle for him. He says the mountain sheep are now on the ridges down close to his ranch & showed me a point where one was shot. Some old horns seen

Saw a few wolf tracks - several coyote tracks on the flat at fork of river below Circle. Eutamias minimus, saw one near the J K ranch and one above Circle. Cynomys leucurus, a few seen up to Forks of Wind River & some holes above Circle. Thomomys hills seen all along, both on mesa & on flats. Lepus bairdii a few seen all along to Circle. Neotoma Woodrats nests were seen in the rocks wherever we were near enough to see them.

The Wind river valley narrows as we go up to a narrow canyon below the forks, then widens out again into good flats for farms. The Circle ranch is the best of all, with a fine bottom land expanse for hay & grain - and excellent ranges on the benches both sides of the river.

After having the indian reservation
 then we found the range overstocked & the
 grass badly eaten off, especially from
 steep slopes. The tops of mesas have
 better grass. At Circle Mr. Favelle
 says he raises good potatoes and
 most hardy vegetables with no trouble
 from frost.

Zone - As far up the valley as
 we went, 60 miles below Dubois, Transition
 zone predominated, with *Populus angustifolia*
 along the rivers, *Juniperus* & *Pinus*
flexilis on the ridges. Near Torrey
 Lake where a N.E. slope reaches to
 the river bottom, Canadian zone
 comes down with aspens & a few
Picea purges, but the *Juniperus* reaches
 to and mingles with the aspens.

Saw a fish hawk catch a first trout and
 later saw one at a huge nest on a cliff.

76. April 29. Left the Circle ranch at 6:45
& reached the J.K. at noon, returning
over the same road we went up.
Just below the fork of Wind River is a
flat where Larkspur is unusually
abundant & where cattle are often
poisoned by it. Three old carcasses,
one cow almost dead and another
evidently sick were lying on this
flat. Many cattle are lost each
spring by the larkspur and were
one said to die each summer in the
lts. from larkspur poison, but I
suspect really from *Aconitum*.

Windy & cloudy & began to rain
just as we reached the ranch at noon.
Gave up the way west & staid indoors
writing up notes. Set a few traps,
Rained by spells all of P.M.

Crowheart Butte is just across the river,
east of J.K. Ranch. Chief Washakie is said to have
killed a Crow Indian there & eaten his heart.

77. April 30 - a warm, damp night
but no tracking snow in morning, so we
gave up the wolf hunt & came back to Lander.
Roads fairly good and we reached Lander
at 5 P.M. - 45 miles. Damp & raw
with squalls of rain & snow all day.
in our faces. Took a few photographs
but in poor light. Could not get a clear
view of Crowheart Butte, so did not take it.
Took the Wind River & Washoe valleys.

Shot a swainson's hawk that had
eaten a prairie dog, saw 2 more,
Saw several kingfishers & plenty of
Otocoris & a Myiadestes & 4 Zenaidura, ^{the best}

Caught one Thomomys talpoides & 6
Peromyscus nebrascensis at the J.K.
Ranch. Peromyscus sprung out of my
Molona traps. Saw a few wolf tracks.

78. May 1. Worked all of forenoon making out my April expense account - \$102.

In afternoon got a saddle horse & rode a or 8 miles east to row of rocky hills and followed crests of ridges for wolf tracks. Found none nor any signs of wolves, but drove an old coyote from his den & could have found it if I had taken time to hunt for it. ~~It was~~

Country all shepherded over, on a section leased for Indian Reserve. Grass good. Sagebrush plains & ridges.

Found a Golden eagle, dead, shot or poisoned. Saw lots of ~~Salpinctes~~ - the first for this spring. A few *Sialia arctica*, mourning doves and *Sayornis*.

79. May 2. Got a saddle horse & went with Mr. Nowlin for an all days wolf hunt toward head of North Fork, and on Sorel Creek, in the foothills 15 miles N.W. of Larches. Found lots of snow up along edge of timber where many old wolf dens were located, but found no wolf tracks. A 17 year old son of Mr. Meredith went with us & showed us all the old dens he knew and then we found the forest ranger Arthur Roberts, who has taken many wolf pups & who told us where the dens were and all about each. He is a keen, reliable observer & has lived among the wolves for all or most of his life. I got much valuable information from him & see how he can be used to advantage by the Forest Service in destroying wolves.

79. Journal

May 3. Work upsets till midnight last night and again from 5:30 to 9 this morning & mailed bird & named reports, packed up & took stage for Rawlins at 10. Roads bad and we lost time all day, reaching Hairy for supper. Then over Beaver hill with a 4 horse team and down to Myersville at midnight. Had Bob Hayes for driver from Hairy to Myersville. "Deaf Bob" - one of the best drivers on the line. Clear & mild with a good moon.

May 4 Left Myersville soon after midnight with 4 horse stage & young Lester for a driver. Made good time & reached Burnt Ranch at sunrise. Fur-bers on load only 2 poor horses & lost time, reaching Last Soldier at 9:30 for breakfast. There got a better team & a good driver - Fiddy Jones, & made good time into Rawlins at 5:15. Little game or animal life seen.

T 9. Journal

May 5 - Left Rawlins at 8:30, & got to Laramie for dinner at 12. The cottonwood valleys of the North Platte & Laramie Rivers ought to be worked for upper Sonoran species. Laramie plains are probably transition, tho there is little but grass to go by.

At Sherman we found a little snow on the ground from the storm in the night and on the east slope of the Laramie Mts. it increased to a good tracking snow. Just at the lower edge of the snow the prairie mounds were very numerous & conspicuous where the snow had melted off the warm sides. They are the typical prairie mounds, one to two feet high & 20 to 30 feet wide. We saw most numerous about 15 miles before we reached Cheyenne, but a few are scattered all along.

At Cheyenne went to the Inter Ocean
 Hotel & then to the Capitol. Called first
 on Gov. Brooks & talked over the wolf
 problems - Found him well informed on
 the subject & greatly interested. He has a
 cattle and sheep ranch near Casper &
 says he has paid one trapper \$60.00 apiece
 for catching 50 wolves on his ranch -
 the trapper used scent, rancid fish oil
 & probably other things. Had a team wolf
 & it would hunt for a bit of this scent &
 chew & paw & roll on it. The man had
 done a great deal to clean out wolves
 from Montana ranches & had a wide
 reputation, but was a very low down,
 disreputable character - a noxious fiend,
 & all that was disgusting.
 The governor was very not to get hold
 of a newspaper man as he thought
 the people ought to know what we were
 doing. Said it would do much to
 remove prejudice against forest rangers
 & game protection. Personally the
 Gov. is genial and entertaining.

I now have mapped 19 wolf dens and their distribution around the borders of the mountain ranges is very instructive.

My visit with Mr. Nowlin, state game warden, was very pleasant and we had time to talk over many matters of mutual interest regarding game & animals in general. He is a native of Texas, and familiar with much of west Texas & of New Mexico. Was once a Texas Ranger, a sheriff in N. M., has been in the Wyo. state legislature and is a surveyor & engineer by profession, a ranchman by choice and very earnestly interested in preservation of Wyoming game.

Called on State auditor Grant next
 + got records of bounties paid by the state
 back to 1892. While waiting for these
 Prof. Niswinder came in and greeted
 me like a long lost brother + we staid
 and talked till 5 o'clock, an hour after
 closing time for the office.

On the way down town we met Tom
 Cooper, one of Hayden's guides on the
 early surveys. He knows a lot of the survey
 men + says ship Wadera is on the
 pier here at Boulder.

Then I went to the famous old saddle
 maker - Meaneu - + bought a pair of spurs
 + priced saddles at 25 to 50 dollars.
 He outfitted the Hayden party in 1872
 + is said to sell 40,000 worth of saddles
 a year now. They are famous from
 Montana to Texas + are fine saddles.

Went back to hotel + enjoyed a
 good meal with plenty of time to
 eat it.

82. May 4 -

Left Denver at 8 AM. for Denver.
A clear morning with frost on the sidewalk
& mountains hidden in clouds.
Smooth plains with short grass & only
prairie logs to be seen until we reach
Sweeten. Then farms all along with
green fields of alfalfa & grain &
many freshly plowed fields. At Greeley
Plum trees in blossom, willows green
& cottonwoods in blossom & showing
a trace of green. Thorny hills
abundant all along. Yucca common,
tumble weeds abundant.

Reached Denver at 11:30 after P. had closed
couldn't get my mail. Rode out to City Park
& back & waited till 8 P.M. for train
to Silver City, N.M.

Lots of Carpodacus frontalis singing in park
& among houses in town - a few English
sparrows, Melospiza & Robins
in park. Saw the first barn swallows near
Greeley.
Left Denver at 8 P.M.

83, Journal

May 7, 1906.

Woke up an hour before reaching Trinidad
on the Santa Fe on grass plains scattered over
with *Opuntia arborescens* just leaving out.
Near Trinidad the valley is green with fields
of alfalfa & grass & grain. Apple, plum &
peach trees in blossom - hives well set
on *Populus pennsylvanica*, *Asa* *abundant* *angustifolia*
Juniperus & nut pines cover the hills around
Trinidad. Got a good honey breakfast at
the Gardiner's. Up canyon to edge
of transition zone about Morley - where
Pinus ponderosa, *Pseudotsuga*, *Quercus*
gambelii begin with *Populus angustifolia*
following the streams. Transition continues
over the pass & down half way to Paton.
Then, nut pines & *Juniperus* begin & the valley
below Paton is open & grassy.
On the mesa west of Heron yellow pines
are close enough to be recognized as also
on the Tinaja Hills east of Dorsey.
Yellow pines appear again on the Gougeon Mesa
on the Canadian Hills, Turkey Mts, and along
both sides of the canyon at Watrous.

along the canyons + edges near the pine
follows outcrops of rock, + you lower on
the limestone than on the lava.

Wagon road is a series of low buttes
+ ridges. The valleys are covered with
short grass + a few yucca glauca.

There are very few flowers + vegetation looks
dry except in irrigated fields on bottom.
Got dinner at Las Vegas at 1:30.

Was sorry to see new farms opening
up in the beautiful juniper orchards near
Bernal Hill - for dry farming.

At Ribera the peaks of the Peasaplan Mts.
began to show, Santa Fe Baldy + behind
it Pecos Baldy - well capped with snow
which extends south over Lobo Peak and
a little beyond but does not reach
to Glorieta Peak. The cottonwoods ^(P. angustifolia) at
Glorieta were only beginning to bare
out + not as beautiful as usual -

The Populus fremontii in the canyon near
Canyoncito were much farther advanced
and along the Rio Grande Valley in full leaf.
Bosquillas were in blossom at Canyoncito
and in fruit + nearly full leaf at Lamy.

When we reached the Rio Grande river vegetation was well advanced. The Indians were planting & hoeing in their fields. Most of the trees are in full leaf, the grass on the bottom lands was a foot high & above the arroyos. In places Plantago patagonica grows in fuzzy white carpets over the dry slopes. Reached Albuquerque just at dark & had to wait till 12 o'clock for train south -

84. Journal

May 8 - Wake up at sunrise at
Cutler, on the midst of the Torvalda
Del Muerta with creosote bushes,
mesquites, + yuccas all around.

the creosote full of flowers & the mesquite
in full leaf & with ~~buds~~ unopened
catkins. Several yellow flowers are common.

Reached Rincon for breakfast
at 6:45 + found vegetation still
farther advanced. The cottonwoods
are in full leaf + many of the trees
loaded with *Platanus* flowers
(with the) creosote in full flower.

Prosopis juliflora almost in flower,
P. pubescens leaved out. In the hotel
yard a few trees of *Rhodi mullberry*
are loaded with fruit, much of which
is now ripe -

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87. River, N.M. May 8, 1906.

Populus fremontii & *Platanus* abn.
Salix nigra along river & ditches
Prosopis juliflora in bud & nearly in flower
 " *pubescens* in leaf
Coultia tridentata in flower
Atriplex canescens in flower or bud -
Rhus microphylla
Baccharis salicifolia? abn. on flats
Ephedra viridis? com on dry ground.
Yucca rostrata - with flower stalks & bud
Morus rubra - with ripe fruit at station.

Peach trees } - full leaf & post flowering
 Apple trees }
 + all prunus }

rip area West of Rio Grande

Chilopsis saligna com. in wash.
Zizania paradoxa - in flower -
Rumex crispus? abn.
Cercobites neqariza
Koeleria spinescens - com.
Baccharis glutinosa? - abn. on high flats -

Nutt

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 FOREST SERVICE

88.

Near Grange I saw a white necked
raven near the train. It lit on the stem
of a Yucca Radiosa. Doves are
common. At Riverton a Sayornis saya
was calling. Saw a quail, a California
or Arizona - on the Rio Grande flats
and a cottontop on mesa west of
valley. Saw two more cottontops
near the Rio Mimbres north of Deming.
Barn swallows have nests all
along the edge of depot porch at
Deming. Otocoris ~~com~~ at
Deming & north. Two turkey buzzards
seen near Spalding.

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BLISSVILLE
MAY 1951

Dipodomys spectabilis vounds are common on the mesa west of Rincon.

Neotoma - Woodrat houses

are numerous in mesquite bushes up slope west of Rincon. In places half or more of the surrounding bushes have been stripped of bark & killed. Mesquite, creosote, *Rhus microphylla*, & many other bushes are pulled.

Cynomys - Prairie dogs are abundant over the grassy plains an hour west of Rincon.

Lepus arizonae - Several seen up the slope west of Rincon

Lepus texianus - One seen near Granada.

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20.

At Nutt most of the shrubby
vegetation has disappeared & the
covering is mainly grass & in places
a robe of golden composites, of mainly
2 species - the one wrongly called "*Bigelvia*
hendersoniana"? & a smaller Helianthus
like plant. But across the wide
valley to the north I can see stretches
of bushes - apparently mesquite &
creosote where the slope dips to the
south. We seem to be on the edge
of Upper & Lower Sonoran zones
where a tilt to the north throws
it - Upper - to the south in Lower.
West of Nutt we cross a wide plain
and as we again strike a slope
tilted slightly to the south mesquite,
creosote, & *Barbary* beans abundant
also *Yucca rostrata* & *Ephedra*

At Denning the whole set of
Lower Sonoran plants, abundant,
and on to Faywood, then they grow

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Faint handwritten text at the bottom of the page, possibly a signature or date.

91.

scarcely and mainly disappears before we reach Whitewater and are replaced by *Opuntia arborescens*, grass + various small plants. A few *Yucca radiosa* still scatter along, + cling to south slopes up nearly to Silver City.

Holcus and *Juniperus peabodyi* and oaks appear on the north slopes of the ridges.

The break between Lower to Upper Sonoran comes between Jaywood + White Water in the open valley, though the steep south slopes above carry traces of lower Sonoran higher up.

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FOREST SERVICE

Reached Silver City at noon
 + went to the Broadway Hotel.
 The town is in a barren gulch between
 barren hills, but with a south slope.

Populus fremontii is full of ripe &
 bursting fruit, ~~yellow~~ Juglans esportis
 are in blossom. China berries in leaf.
 Populus in nearly ripe fruit, Lilacs in
 fruit, ^{+ peach} Apple trees ^{+ with fruit string as warble,} past flowering,
 yellow + red roses + Iris in full
 flower.

From the hill back of town the
 black timber of the Forest Reserve
 shows not far to the north.

Tyrannos are singing in the trees
 + house finches are numerous + eating seed
 of cottonwood. Sayornis saya + Tyrannus
 vociferans ^{+ salpinctes} are common on the hill.
 Also Spizella atrigularis + singing
 a pleasing little song ^{o o o} ^{o o o o o o} of
 three parts ending in a real spizella trill.

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FOREST SERVICE

100 Journal

a gap in pages - forgot the rest - 100

May 11 - Left Silver City for the G.O.S. Ranch at 7:30, Raining & squally. Came through Central, which is close to Ft. Baird, then through Santa Rita, then over the ridge and down onto the Miembres at the old town of Miembres, then about 11 miles up the river and over onto the head of Sappelo creek and down at a few miles to the G.O.S. Ranch, a beautiful place in wide, park like valley. The Sappelo is a branch of the Gila. Came 40 miles from Silver City, but in a round about way. The country is rough and woods are scarce, steep and stony in places. Most of the country is dry but there is a little water in the creeks of Silver, Central and Santa Rita and the Miembres is a pretty little river too wide to jump across.

Most of the country is Upper Sonoran hills + ridges with a trace of Lower Sonoran (Yucca radiosa: Sarcobatus + one little bunch of dwarf mesquite) up as far as Silver on steep hot slopes. Also a trace of Transition zone (in yellow pine and Agave aplousata) down ^{nearly} as low as Silver on steep north slopes. From near Santa Rita, up over the ridge and half way down the slope toward Mimbres Transition zone with yellow pine and Agave in abundance prevails. Then the Mimbres valley is Upper Sonoran as far as we followed it and farther on south slopes. Over the ridge to Sappeto Creek to the G O S Ranch is mainly yellow pine ~~and~~ Transition. While the ranch valley is open, grassy park + beautiful yellow pine groves. On the north side of the valley the steep

South slope is mainly Upper Sonoran with juniper & Nut pine & Cercocarpus parvifolius. Water begins to run in the creek about 3 miles below the GOS ranch, but at the ranch a big, shallow well furnishes an abundance of good water.

No attempt to raise crops or even garden is made but the cattle range is ideal, with abundance of grass for both winter & summer and rarely any snow. Most of the cattle are shipped when 2 & 3 years old to be fed on "beef range" in Colo. or Kansas, within easy reach of market. The distance & country between here & shipping points under shipment of beef cattle is unprofitable.

Found the GOS a typical well to do ranch. Was taken in charge by the bookkeeper, Mr. Leavenworth, and made to feel at home.

103 May 12.

With Mr. Leavenworth, I rode down the canyon 4 or 5 miles to ~~the~~ look for wolf tracks, but found only old tracks. Then returned & packed my outfit on Bughouse & with a nice little saddle horse we started for a camp on the Minbras, at Lat 33, Lon. 108, some 10 miles from the actual source of the river & 7 miles from the GOS home ranch. Followed up a dry canyon, then a long ridge onto the mesa separating the waters of the Gila & Minbras, a little way up the mesa & then down into the Minbras canyon where we found an unoccupied adobe house, used as a round up camp & here I unloaded bed, grub, traps & outfit. Mr. Leavenworth returned, leaving me and my saddle horse in camp.

104. The canyon is here narrow,
with steep slopes probably 700
feet up on each side. The river
is a beautiful stream of pure
sparkling water rushing over
a stony bed, now small enough
to cross on a pole or jump
from one stone to another in
the rapids, but showing evidence
of fierce torrents at times that
tear up the banks & pile cords
of wood and logs against trees.
The flats are narrow strips on
one side & then the other,
covered with beautiful *Populus*
angustifolia fine old yellow pines.
The whole bottom of the canyon
is pure Transition zone as
the frosty nights & cold canyon
air would suggest. The side slopes
are mainly transition except where
they face the south & are then Upper Sonoran.

105. The clean open forests of yellow pines,
the orchard like growths of junipers, nut-
pines and oaks - the graceful cottonwoods
along the river make as delightful
a combination as one could wish.
The little roar of the creek, the
numerous bird songs and abundance
of animal life makes the spot
a veritable campus paradise.
Still few campers ever come this
way - owing evidently to lack of
trout in the streams. There is
abundance of other game -
deer tracks all around, turkeys,
coon, ~~some~~ bears & wolves,
and abundance of abert squirrels.
Spent the rest of the day fixing
my gun, which some - had snapped
& driven the plunger in, cleaning
up the cabin, getting my outfit in
shape for work and setting a few
small traps around camp.

104 - May 13 - Sunday morning - alone
in camp except for my horse, a drove
of 5 about squirrels in my dooryard,
a black phoebe's nest under my roof,
lots of chipmunks & mice & birds
all around.

Made up my wolf scents, took
a bag of traps, some old beef
bones and climbed the hill to
top of mesa. Found a big,
fresh wolf track along the road
made since we came down.

Made a drag of my old bones
& set traps along the drag
and beside the road, using
several kinds of scent, castoreum
with assapotide & salmon oil,
castoreum with assapotide ~~scent~~
in alcohol, castoreum straight
and some of Galloway's wolf bait.
Set five wolf traps and in
afternoon set 2 fox traps near
the cabin.

107. May 14 - Found a Urocyon in each of my fox traps, which were baited with jack rabbit & scented with castoreum & assafetida.

No wolves had been along the road or near my traps.

Made up a few mammal skins

May 15 - Caught a skunk in one of my fox traps. Found where a wolf had followed the road to near one of my traps & then turned & followed the scent back and forth along my drag marks & trapped all around the traps which the cattle had previously stepped in & sprung. The cattle insist on pawing up my traps tho I run them off the ridge every day.

My man, Hotchkiss, came this evening so I will now have all my time for work. Have lived alone & cooked for 3 days - long enough.

107. the cabin.

108 May 14 - No wolf tracks on
the mesa this morning.
Started for my traps just as
the sun touched the hill tops &
got back at 7 A.M. Did not
have to get breakfast.

Afternoon went down the river about
3 miles and set 3 wolf traps,
two in the main canyon and one
up in Powderhorn Canyon. A wolf
had followed the trail right before
last. Found a *Comspatus* -
saved skull. Juglans rupestris
trees come up to a mile below the
cabin - Yellow pines go down
below where we were.

The canyon walls are lava
down as far as we went, but
sandstone & conglomerate come
in below the lava sheets.

Canyon bottom mainly transition,
south slopes upper coveran.

109 - May 17 - Sent Hatchkiss down
the canyon to the way traps while
I went to those on mesa & then
on down Terry Canyon to
the Y.O.S. Ranch. Got my mail
& another saddle and got back
to camp at 5 P.M. Caught
only a gray fox. No wolves
had been along either line of
traps -

Found a beautiful Crews
in blossom on canyon walls &
humming birds around it. Saw
Aimophila in the canyon -
one pair - A lot of good yellow
pine timber has been cut and
sawed in Terra canyon, long ago,
but much young pine is coming
up in its place. There is a
little running water high up in the
canyon & a windmill near its mouth,
just below the Y.O.S. Ranch.

110; Journal.

May 18 Two wolves, one very large
+ one smaller followed the road
past one of my traps that was
baited only with dry castoreum.
The wolves followed out along the
Crag and stepped on both jaws
of trap but missed the pan.
Did not stay + tramp around
enough. Then struck into
the river valley + went along
the trail past 2 other traps,
both of which had been tramped
out by the cattle and one spring.
Walked by without stopping +
went on down the canyon.

Reset some of my traps +
brought some in closer to road
+ trails, as the wolves stick to
roads + trails almost entirely.

111 - May 19

Nothing had been along the trap lines & the traps were not disturbed.

May 20 - No wolf tracks, but Hetchkiss found a fresh porcupine track in canyon 3 miles below ranch.

He saw 3 mule deer & I saw a little white tail - O. couesi - up in the canyon above camp - Rained a little in the night & a shower about noon.

May 21 - Nothing doing along the trap lines, so we had dinner early & I started up the mt. on foot just after. Followed the ridge east of river until up where the aspens begin & then went down into the canyon

112 on both sides - Found a big
bear track in one to east,
among the aspens, Abies, Pseudotsuga,
& Pinus flexilis. Beautiful canyon
bottoms with cold streams &
mountain plants of Canadian zone.
steep, rocky slopes on both
sides, Canadian timber on
cold & upper Sonoran on hot
slopes opposite. Mesa tops
very stony & not much grazed.
Good short grass except
where cattle can get along
open slopes readily. Some
of these grazed bare.
Had no barometer but went up
probably 2000 feet above camp.
Got back before dark very tired.
Came down side canyon - paddled.

113 Found a pair of Cyrtomys merri on
the high mesa - They had scratched
up a lot of ground + I found Cyperus
bulbs + the coats of worn they had
eaten. saved bulbs but could not
find the grass they belonged to -
Ate one + found it good, crisp
+ starchy + pleasant.

Heard thrushes sing in canyon.

Saw a few juncos.

Saw Cooper's tanager catching
the nothos in the cottonwoods.

Found Hornys hills as high
up as I went. Also Signodes
+ Microtus runways. saw one
Lepus punctatus? on top of mesa but
failed to get it. saw lots of
tracks of deer, little white tails
apparently + found a fine skull
with horns near a salt lick.

114 May 22. No wolf tracks &
traps undisturbed, so I went over
into Rocky Canyon - a beautiful
Canyon full of fine timber Pinus
ponderosa & flexilis, Abies,
Pseudotsuga - Populus angustifolia
& trunculoides, Quercus gambelii?
& on hot slopes all the upper Sonoran
trees. Fine water in pools &
running part way. Beautiful
camp spots & rough country to
explore above & below. Thrushes
& juncos & pigmy nuthatches,
blue jays, warblers & tanagers
in canyon - ^{white bellied swallows} Mertens nesting in
old pines - Aberts squirrels &
gramineus, & Callospermophilus,
Eutamias dorsalis & cinereocollis
abundant - saw one little white tailed
& picked up a skull.

115. May 23 - The same old pair of
wolves, one very large & one small
followed the road & trails past my
whole line of traps. At the first
trap, scented with Galloways wolf bait,
the smaller wolf stopped, followed the
drag mark across the road & a few feet to the
side and stepped all over my traps
except on the pan. The big one walked
right on looking neither to right nor
left. At the next trap the both
walked straight across the scented
drag without stopping - This was
also scented with Galloways.

The next trap had a gray fox in it
& the wolves stopped and tramped all
around it, bit out a tuft bunch of
hair from the fox & then went on.

The next scent line they missed
by about 10 feet, after turning out of
the road to an old house I had used

for a drag - This was Hatchkins' scent, but they were ~~close~~ enough to have found it if they had cared to. They missed the next trap by 20 feet, turning out on a trail & then ~~just~~ missed the scent line of the kind given me by Mr. Culberson, but close enough to either, to have found them if they cared for the scent. The trap was scented with Galloways. The next line was straight mud, commercial - they crossed it without stopping. They missed the next two traps by turning out of the road for a dead cow on one side and a piece of old meat I had used for a drag on the other. Still they were not very far from either trap,

one of which was baited with dry castoreum, the other with, castoreum, assafoetida + oil of rodamum.

On the line down the river Hatchless says they came in below the first trap, passed close to 2 baited with galloways without stopping + then past one baited with the scent given me by Mr. Culberson without a pause. These three were set close to the trail + all in good condition, freshly scented yesterday + a fair test.

Hatchless found a calf they had bitten a ham out of but had not killed. It would undoubtedly die. He also found an old cow bawling + refusing to be comforted because her calf was missing. She was also bawling in the same place the next day.

118, May 24 - Went to my upper
line of traps early ~~over~~ foot & brought
in the hares on my return.

Packed our beds & 2 days grub on
old Sundown and Hitchhiss on
John & I on Shorty went down
the Minbras about 3 miles to the
Mouth of Powderhorn Canyon,
past all but one of the lower lines
of wolf traps, then up Powderhorn
to near the head and not far from
the main ridge of the Minbras Mts.
& camped.

None of the wolf traps had been
touched but a half grown
mountain lion had dragged a
calf that had been killed apparently
a week ago across the river valley

and well up into a rocky canyon and left it. The calf must have weighed 100 lbs. & very little had been eaten. I set a No 3 trap with stone drag by it in hopes the cat would return.

Traveled fast & reached our camp place at 2 P.M. Had lunch & set out my traps & then started up the ridge for the summit of the range. With an easy climb of about 3 miles I was on the main summit, tho there were higher peaks to the south & north of me. The Mimbros circles around to the north & actually heads south of the head of the Powderhorn

120. So far - the crest I looked down into the head basin of the Minbras on the east & the head of Powderhorn on the west, two heavily timbered canyons, that of the Minbras as rough & steep & jagged as the Seven Devils range, with a mixture of bare rocky & densely wooded slopes. I had no aneroid but should guess our camp to be 6000, lower end of powderhorn 5700, camp above at 8200, highest point reached 9500, highest in sight 10000.

A fine little stream runs west of the way down Powderhorn, sinking in its stony bed & reappearing at intervals. The bottom is generally narrow, sometimes only a gulch, again a timbered valley.

with steep timbered, grassy or barren slopes 300 to 1000 feet high along each side.

From our upper camp to the summits all the cold slopes are covered with Canadian zone timber. These are densely wooded with spruce & fir & aspens, & in many places have deep, mellow, rich soil.

Just over the crest aspens grow in clear forests of trees one, two & three feet in diameter & 70 to 80 feet high. Douglas spruce is often 5 feet in diameter & 100 feet high. *Pinus flexilis?* is abundant & often of good trunks 2 or 3 feet through & 80 feet high. Gooseberry bushes, *Acer glabrum* & willows grow along the streams & canyons.

Transition zone runs up on south slopes to within a few hundred feet of where I went, with yellow pine + bur oak (Q. gambelii?) on the slopes and Populus angustifolia nearly up to our camp in the canyon bottoms. It also runs down on cold slopes and in the canyon bottom to below the mouth of Powderhorn, with much fine yellow pine timber in the wider parts of the canyons, both old, big trees ready for harvest, young timber & seedlings. It is generally open, clear forest, too closely grazed beneath + with many of the young trees bitten off by cattle.

123

Upper Sarran zone runs up
on steep, hot slopes as high
as our camp, with Juniperus
pachyphloea & monosperma, Pinus edulis,
Quercus grisea & Cercocarpus parvifolius.
Actually capping part transition
to a level with lower edge of
Canadian on the cold slopes.

Much of the mesa tops is Sarran
with scattered timber & snotgrass.

Saw bear track & sign,
lots of Deer tracks & 2 old does
of the blacktail, but none of the tracks
were of the little cooperi. Saw
plenty of Sciurus aberti & Citellus
gramurus on the way up.

Saw 5 turkeys & heard them
gobbling in evening, lots of tracks.

124, May 25

Caught *Neotoma mexicana*, *Microtus*
m. vorticosa, *Peromyscus rufinus*,
Sturnus vulgaris + got
one *Eutamias cinereocollis*.

Got 2 little red faced warblers
that I do not know even the genus
of. heard lots more. Thrushes
were singing + nesting, juncos
also, + *Zonotrichia*, Humming birds,
(*palpestris*) were numerous on the
gooseberry bushes. A spotted
owl hooted most of the night.
An old gobbler woke us up before
daylight + gobbled frequently
from the spruce slope opposite our
camp for half an hour. Blue
jays were common. *Dryobates* heard

I took a tramp up gulch above camp about 2 miles, nearly to crest of ridge + found water all the way in places + good camp spots.

Packed up + started at 9 A.M. for camp on the Minibus, again, arriving at 2 P.M. Got lunch + went to my wolf traps on mesa + found that another wolf had been along. He is in size between the big one + small one of the pair that went along before. Is probably a last years male without a mate as he is not wary + takes any kind of scent readily. He came up the road from the south past my

line of traps & scents as follows:

1. Muskrat scent (spoiled by alcohol), not noticed.
2. Assafoetida - not noticed.
3. Oil of Rhodium - " "
4. " Anise - " "
5. Trap scented with castoreum, assafoetida, & oil of Rhodium - Tramped up and down trail & all around trap, dug up paper & tore it to bits & left trap pan bare & untouched.
6. Musk - commercial - Followed up the trail & tramped around scented place.
7. O'Brien's bait from the GOS Ranch - followed up the trail to baited end.
8. Trap, baited with both Galloway's & N. Wn. Hides & Fur Co. Wolf bait, but a calf had got into trap & gone with it. The wolf tramped all over place where it had been. Wish he had killed the calf.

9. Hotchkiss bait - the wolf turned out of road & went straight to scented end of trail & walked across it.
10. Trap baited with galloways scent, had caught a *Urocyon* the day ^{past} before & been reset. The wolf went around it.
11. Trap baited with galloway & staked down. No. 3 with flat, lapped, steel chain. The wolf went past, then returned & got in the trap, bit the chain into about 5 inches from stake & went away with trap. The ~~the~~ end of chain had been wet in his mouth & was stuck over with sand, was dented & bent from his teeth & had evidently been chewed till a link broke. Couldn't follow him far.

128 - The last trap of the line was not visited except by the cattle, who had pawed it out.

The big, branded calf in a $4\frac{1}{2}$ trap with stone drag had gone some 20 rods & I found him in a gulch. Was following the drag mark & expecting every minute a wolf to bounce up but the calf was a more difficult & less satisfactory subject to handle. I caught him by the chain of the trap & then by the ear when he began to bawl in terror. His terror was no greater than mine for there were some 20 cows & 2 old bulls just out on the mesa & my life

129 depended on keeping that
calf still till I could get the
trap off. I grabbed his nose
with both hands + threw my
whole weight against him + got
him down, one knee on his neck,
one hand held of his nose +
choked him till he gasped for
just enough breath to keep alive
without ^{wasting any} bawling, then I worked at
the trap with the other hand, but
found one of the springs jammed
down ^{+ fast} over the cross bar. I
couldn't budge it, so got a stone
+ hammered till it came loose.
Then found I couldn't open the trap
with the calf down as his legs
held it on the sides + I had to
get both feet on the two springs to open it.

Had to get the calf up, still holding his nose & mouth shut, & finally got the springs down & pulled out his foot. He was not much hurt & ran off to hunt his mother while I hustled for the nearest timber, more scratched & kicked & battered & scared than the calf.

I felt in sympathy with my cook & trapper, ^{Hank} Hatchkiss, who comes back from his line of traps after the cattle have tramped out the traps just before the wolves came along, cursing & growling & says he wishes the wolves would eat up all the d— cattle in the country.

131 May 26 - No wolves along the
line & nothing doing.

May 27 - Sunday morning, according
to Mr. Leavenworth who came over from
the G O S Ranch to see how we were
getting along. The first white man
besides ourselves were seen for a week.

The old pair of big wolf &
& smaller bitch came up the road
from the south, but not along the
river valley. They went past
two traps and two scout lines
without much interest in any.

1. The G O S scouted trail was followed
by the smaller track but the big
fellow went straight past it.
2. The next ^{was the} trap that caught the calf
& was too flushy set for them to
go near.

3. They both turned out & went around Hatchkiss' scented line,
4. The trap that had a gray fox in when these wolves came along last stopped them & they tramped all around but not on the pan. The tracks seemed to be mainly of the smaller wolf. I could not be sure that the big one had even turned out of the road.
5. At the place where the wolf took the trap they turned out of the road & did not go to the scent nor come back to the road again.

Hatchkiss caught a gray fox near camp. I took some photographs & a bath. Much warmer today, no frost in morning.

133 May 28 - Nothing doing along the trap line. No wolf tracks & not even a calf in sight.

May 29 - Packed up my stuff while Hatchkiss went down to the lower traps. He got a mosey on his trap baited with his scent. A wolf had gone past 3 of the traps without stopping at any of them. He thinks it is a new wolf, not quite so big as the one with the small bitch.

The track of the big one measures, front foot, $4\frac{1}{4}$ by $3\frac{1}{2}$.

Ate an early lunch, broke camp, packed up & went over to the G. O. S. Ranch. Found the same way had followed road on mesa past two of the traps without

134 stopping to investigate them.
It is large & probably the big one
of the pair that go by regularly.

May 30 - Packed over for 905
to Santa Rita - 25 miles.

Found a fresh wolf track in road
where we struck the Minibus just
below Circle Ranch.

Found cherries nearly ripe
at Minibus and also excellent
apples of last years crop.

The valley is good for fruit -
apples, peaches, pears, apricots,
plums, cherries & grapes.

The floods last year & year before
carried away some of the best
orchards & many good fields
having boulder strewn washes
in this place.

135 May 31 - Got the stage for Silver City at 8, passed through Central in full view of old Ft. Baird, then on open ridges to Silver City, at noon - 25 miles - Got mail, sent packages, Wrote on reports till 11 P.M.

June 1 - Packed up baggage & wrote reports till train time & left for Deming at 6:45 P.M. Arrived at Deming about 9 P.M. & got a lovely chair room at The Wilder.

June 2 - Took a tramp around Deming & got notes on plants, birds etc - & took a few photographs. The town has grown & spreads over a lot of country, is a forest of windmills which yield good pure water. Yards full of trees & bushes. Mesquites abundant & good sized, also Yucca radiosa. Lots of lizards & small mammals - even in town. Prosopis trees along streets,

136. Left Deming at 11:30 on Rock Island
over S. P. track. The vegetation around
Deming is strongly lower Sonoran
but after crossing the sandy bed of
the Rio Grande we cross open plains
with mainly grass, *Gutierrezia* & weeds
that would indicate upper Sonoran if
any thing until we begin to go down
near the Rio Grande valley, where for
the first time we strike creosote &
abundance of mesquite & other plants
again. Lower Sonoran is much more
evident along the Santa Fe track along
the S. P. from the Rio Grande to Deming.
It must come all the way up the Rio
Grande however for Lake Guzman.
Grass is good & new fields & ranches
being opened near Deming.
Reached El Paso at 1 P.M.
Rio Grande high - New Mexico Dept.
Yucca rostrata in flower -

137 Up through the Tularosa Valley the
mesquits, creosote, *Atriplex canescens*,
& *Yucca radiosa* are dominant plants
as far as Oscura or on south slopes
a little beyond, then it is open
grassy plains with nothing taller
than *Gutierrezia*, post *Caragana*
& the *Capitan* bits. Broken country
with junipers & rattles continued
to nearly Larrevere where I
went to bed & asleep.

June 3 - Woke up at Dalhart, Tex.,
a rain has freshened the air & earth
the plains are green & grassy &
constantly growing more green &
grassy as we go west.