Aug. 1, 1906.

Left Washington at 4:30 C+O for Wichita, Mrs. Oklahoma via St.


Golden rods + stickflowers in Holden + show leaves of sweetgrass turning red.

Aug. 2. Wake up near Huntington, W. Va. and followed the Ohio River to Cincinnati, then via Indianapolis reached St. Louis at 9:30 P.M. About 3 hours late. Took trains line out of St. Louis at 10:16 for Oklahoma. Good crops across Indiana and Ill. A cloudy day, cool + comfortable. South wind.

Aug. 3. Breakfast at Springfield, Ill., fine farming country, slightly rolling, nearly all cultivated. Small timber lots, rich soil, strong and fine land in places. Good crops of corn, clover + timothy, wheat all harvested.
shuttle fields being plowed.
Apple orchards numerous and large
and woodland with beautiful fruit.
Apple trees very thrifty & healthy.
Pear and peach orchards among
but less extensive or thrifty than
the apple. Some plum & cherry
trees. Garden vegetables good.

After passing Aurora we
descended rapidly to a small
river valley & stopped half an
hour at Missouri, a small town in
a good farming district, hilly
timber largely deciduous, black
jacks, over the ridges, red elms
& maples along creeks. Corn fields
& apple orchards predominating.

After crossing Grand River we saw
the first good wildflower packets & beyond
the river bottom came to big prairie
with such plants as Pratia, Astragalus
consecens, Petalethus, Echiptiaria,
& prairie grasses. The crops
are mainly corn, wheat & hay.
From this on to Oklahoma City the
country is largely prairie with
timber along the stream bottoms.
of over some long ridges. It is all a settled region with large farms and much of the land under cultivation. In a few sections considerably stock is raised, but generally it is a farming region. Much wild prairie hay is cut or talot and shipped. Corn is the common crop on uplands and on the bottom lands cotton was first seen after crossing the Verdigris River and then was common all the way. It is best in blossom and in fine condition, 2 to 4 feet high. Considerable millet, coffee, cotton, corn is raised and on occasional field of alfalfa is seen and large fields of broomcorn are seen near Oklahoma City. The grain has been harvested long ago and is in stacks or fashion. Threshed or only straw sheets remain and the stubble is being plowed. In places considerably has been raised, apparently mostly wheat. Fruit trees are seen at many of the farms but rarely
in small orchards for home use. Some apples are like thistler than in the Ozark region, but peaches are more abundant and are usually loaded with fine fruit. At Chehalis they were loading loads of peaches to the station for shipping in cars. We tried them and found them delicious. They sold at 80 cents a basket.

A good many young orchards were seen of peaches planted in cottonfields.

The soil is mainly heavy red clay, very rich and productive but of crops' vegetation but not of mammals. No signs of any wild species were seen until a sandy strip of bottom was crossed at 10:00 when some hills were first seen. Not a dead rabbit or even a cottontail was seen.

The first quail that was seen was Red-tailed. They were common the rest of the way. For other field notes see note book.

Reached Oklahoma city at 7:15, went to Hotel Robach, a very satisfactory place.
Aug. 4. Oklahoma City is a very substantial town of 40,000 people. Good stores - hotels - and 200 blocks of buildings. Did some shopping & tools train at 9:30 A.M. for Cache. The country is mainly open and not notably hilly or arid as we go west. The trees are dwarfed & restricted to creek & river bottoms. They are mainly Ulmus crassifolia, Juglans, Populus fremontii, Quercus imbricata, (Black) Magnolia, plum & grape. On the wide sandy flats of the Canadian River & along the Cottonwood & willows are the principal timber, but the 2nd species form strips of dense, low forest along the sides of the valley & on the creek benches. The first Missquitoes and Cacti were seen just before reaching Cache. Prairie dogs were first seen near cache, a 20 acre colony a mile west of station, a few more east of Elgin and others at H. Hill & Cache. Groups hills were common in many places from Oklahoma to Cache, and two colts were seen near Cache.
Corn & cotton are the principal crops, but some grain & considerable tobacco, milo, maize, millet & hay are raised. Cotton is generally small & neglected. Much of the land is not cultivated - much that is is rented to Indians - poorly cultivated. At several stations freight cars were being loaded with melons & some young orchards are promising.

At Cache we found Mr. Morrison in town, hired a team & started for his place on the Forest Reserve, 12 miles north of town. Started at 3 PM & reached there at 7. Rained most of the way, roads slippery but not bad. Found his place in a beautiful valley on Cache Creek, close to Elk Mountain.
Aug. 5 Sunday. Rained nearly all day & my man did not come to get wolves. Staid indoors most of day. Climbed to top of Elk Mtn. & collected plants. Went 550 feet above ranch & not 8 top. Elevation probably 150 feet higher. The rocks are mainly rough, coarse granite, in rounded masses, a great boulders.

Aug. 6. Mr. Morrissey, Mr. Wells 

his crew & I went over to the place where they killed the wolves July 4. Yet piles of the two of the pups I found other 

of the bodies of the old ones which they shot but did not find. There were 8 pups. Six were killed 

and the old male & female. Two pups got away. Found no signs of wolves when these were killed & went to another creek & shot traps. Mr. Wells tells me of his shooting with slings & grass & 25 miles above Kundoo & 7 miles N. of Cloudcroft. It was just like 


Aug. 7 Nothing in traps, nothing came along but one small jackass. Rained hard.

Aug. 8 & 9. Nothing in traps and no tracks except of one trap where a coyote caught the dirt off the cycling. Took them up.

Went up top of Elk Mountain with Mr. Morrison. The highest peak is a great boulder 100 feet high that we couldn’t git up on. It is 750 feet higher than the ranch and the ranch is 750 feet higher than the Cañon, which is 1275 feet. The mountain is of coarse granite, great masses of boulders & ledges & cliffs, very rough & picturesque! Cold streams & springs come out of crags in the rocks, Oak brush & junipers fill in the crags between the rocks & grassy meadows & prairies come. Looked over buffalo pasturing along crags for their pastures.
Unique — Picked up tender for caboose but the train was late so we did not get away from there till 4 P.M. Reached Snyder's by 7 o'clock & stayed over night.

Lots of cotton all along, also corn & popcorn & hillbrowize and grain weeds & stubble.

Some hills of grain spoiled in the stockyard, and there were washed the roads & the railroad is so rough and uneven the train nearly jumps the track.

Snyder was blown to bits by a cyclone 2 years ago & 114 people killed but they built up again to a village of 1500. There are several cotton gins & a compress is being built.
Arrived left Snyder at 8:30 AM
and reached Enid at 3:30 PM.
The principal interest of the trip
was in passing out of Muskito
and venturing into the humid
division of the plain just before reaching
Hobart and again crossing a
strip of mesquite and cactus country
down the south side of the Cimarron
Valley from near Cherokee to just
beyond Chandler.

From Cherokee to Snyder and
from Snyder to near Hobart the
country is very similar, mainly
open plains with much short grass
and scattered mesquite, some
prickly pear, yucca, grama and
Euphorbia mesquitae, Pagoza taquina
and dalia covesos. The numerous
rocky buttes and ridges are surrounded
by small brushy pastures, black joaks,
and cactus, while along its streams
Narrow lines of Ulna crassijolia
Juglans nigra (almond), P. glandis
Prairie, Rgavads, Spaal nigra
and quina scrub form lines of
timber across the plains.

On going from Snyder to Hobart we
pass through several groups in the
western extension of the Wichita Mts.
and see scattered ranges and buttes
stretching as far as the roof as the Eye
can reach. These hills are
almost continuous with the north
line of the

The crops from Cache to Snyder
are mainly cotton, corn, milo, wheat,
barley, sugar, some milo, alfalfa fields,
dairies, and
Fields are common and in many
fields the grain has rotted in the

Cotton is said to be the best crop
and cotton gins are found at most
of the towns but some bales left
over from last year's crops.
Cotton is now in blossom and
looks promising when well fertilized.
Corn is good and nearly ripe.
Grain has been heavy and all crops look well. This has been just too much rain this season, but usually the climate is dry. The country is well settled and largely under cultivation or pasture. Good sized towns are of frequent occurrence.

Wheat sellers accompany most of the houses. The corn leaves are generally torn by hail.

From north west to the Canadian River, the country is mainly open prairie, or tall grass plains with small lines of timber along the streams. North of the Canadian River a long stretch of level land extends west of the way to Carthage, north of the North Fork. Then at the prairie again to Enid. Timber along the streams is much the same but the prairie grass is of the tall coarse kinds with rarely short grass patches.

Crops are good and cotton continued as far north as Custer City. Then only a few small fields were seen north to Enid City, then no more on the way to Enid. Corn and small grains are the principal crops with lots of teff corn, sorghum, milo maize, alfalfa, abundance of peaches and other North western good apples.

The country is fairly well settled and good farms are numerous.

Enid is quite a town with many substantial buildings, probably 5000 or 6000 people. Had to wait for 3:30 to 18:25 for train to Shattuck.

Received Shatten at 3:30 P.M. went upwing after a刷新 night's ride.
Aug. 12.

Drove out to Mr. W. T. Abbott's place at Ivantoe Lake, 5 miles west of Stull near B. Found a delightful place to stay. The beaver have dammed up Ivantoe Creek and made a long narrow lake that is full of fish. The river flats are covered in places with fine old cottonwoods and below the lake with a grove of young cottonwoods and willows. Walf river is a weak bottomed sandy stream that spreads a little water over a great deal of sand. The valley is sandy and ridged by water wash and wind drift. The prairie grass is a yellow coarse butt and broke at this is most pleasing covered with fine grass. The country is all taken up ad seems no scatter. A small part of it is cultivated and good crops are raised this year. Grass has been too much rain and much grain spoiled in the stack.
We smoo' cotton, but we tell that considerable is raised so that it does well. We can cotton from at Shattuck, Woodward, Canadian, Gage and several other towns along the R.R. 

Bison corn is the best crop and is raised in great quantities it sells at $50 & 100 dollars a ton for陕筑. As high as 250 ears of bison corn have been shipped in a season from Shattuck.

Good corn is raised in considerable quantities and lots of wheat roots. The wheat in stored in fall, and the plowing is now well along.

Mutton and vegetables are raised in considerable abundance and good peach orchards are seen. Wild goose-plums are abundant on.

The scrub ridges and mustang grapes form thickets 2 to 4 feet high. Stubby bushes loaded with slips grapes. Another species of smooth leaved grape grows on the trees and almost shoots them in red or blue with its load of slips.

May 21, 1885
Aug. 13 - Set a beaver coral trap big enough to hold a bunch of cottonwood trees they had been cutting with wire cutting and putting a drop gate across the rill attached to supported by a

[Sketch of a beaver trap]

Coral 20 ft. across & 8 ft. high, staked to trees & stapled to ground at edges.

Aug. 14 - 76 beavers came to the trap last night so we left it set and returned to E3ntucka in coming. Mr. Adams is to keep the trap set for a week or two or if it does not work will try a box trap across a water run way with entrance doors at both sides. He is anxious to get the beaver if it can be done as we want to clean the others. He has many offers of $50 and $100 dollars a pair for beavers to stock with, mainly from ranchers in the country west of him.
Aug. 15 Left Fortitude at 3 a.m. and reached Amador at 7. "Had to wait till 11 a.m. for train to Salt Lake on 7.40."

The Staked Plains are big and beautiful as ever. With their rich carpet of short green grass. There has been lots of rain in the numerous basins on full of water, making the wide, wavy, trapper's roads and the principal ruts raised at the ranches and looking well. Some peach orchards of ranchers are bearing fruit, but many trees show dead tops.

Fairy rings on the plains are abundant & large and full of big mushrooms. Some of the rings are 50 or 100 feet across. Some of the mushrooms look too big to be a foot across. On some of the rings there are apparently 100 or more mushrooms & in all the circles of dark grass is very strongly marked.

On leaving Amador we follow for a gulf and soon strike mountains which continue in considerable abundance to and well up the slope beyond the Cañon River. If it were more abundant and larger than it was 7 years ago when I was over the ground last. Even the little bushes 2 feet high are loaded with conspicuous redطة leaves.

In wide, red sand bed of the Cañon River and scattered groves of old, gnarled cottonwoods along its banks from a strong contrast to the deserted, bald, red banks & buttes along the sides of the valley. This valley is still inhabited by cattle mainly.

On the high plains south of the river valley farms are increasing in number & grazing is still the main industry. Fields of milo, maize & kaffir corn as at last year's ranches are doing well this year and some fields of corn.

On leaving Amador we follow for a gulf and soon strike mountains which continue in considerable abundance to and well up the slope beyond the Cañon River. If it were more abundant and larger than it was 7 years ago when I was over the ground last. Even the little bushes 2 feet high are loaded with conspicuous red leaves.

In wide, red sand bed of the Cañon River and scattered groves of old, gnarled cottonwoods along its banks from a strong contrast to the deserted, bald, red banks & buttes along the sides of the valley. This valley is still inhabited by cattle mainly.

On the high plains south of the river valley farms are increasing in number & grazing is still the main industry. Fields of milo, maize & kaffir corn as at last year's ranches are doing well this year and some fields of corn.
Calamůrizás are abundant in flocks of 10 & 100; in this plain the Baldarst is in the night we heard crows over the tops of Baldarst.

Aug. 14

Left Baldarst at 2 A.M. and woke up by the echo, its rain and vegetation thrives. Reached Alma Raba about 6 P.M. followed slowly up west slope of Pecora Valley to top of plain. Healthy undisturbed elms on south slopes all the way up this slope but wasn’t very young.

The top of this pasture plain is almost as level as the Elbad Plain but was evenly carpeted with grass. Aterizás and other plants take now of the ground. The Pintado and Zonquita were on the north and covered with junipers but the grass and blue tall timbers until yellow pines are seen over the top at south slopes of the buttes. West of Senan.

It is then common along the top north slope of a long ridge S.E. of the R.R. Here we reach Torrence on buttes S.E. & S.W. of Torrence on the river yallines to the west. Juniper & juniper covers the lower slopes of Senator the
bases of the Buttes & Ridges.
A dryland life role of a few high
forb; thinkers - Narrow Pine
and Prickly Pear cactus is common.
The upper rook is generally
limestone with numerous large pink
balds occur from Denio to Imlay.
These should be extension creases.
Cattle raisers - lots of sheep
& few goats will roam.

At Las Vegas we change to
the Central & Truck north
past the Gallina hills, a high
timber covered range with lots
of tall timber, yellow pine or
probably other trunks. Then
the Mesa furnaces follows down
our left but on its highest North
slope are tall trees of familiar
yellow pine but rather distant.

The Aminos & Redman hills
wrapped in ever 1000 feet high
are the contours towards us an
important range as the land offis
may do not exist. In their
place is a level plain sloping
down to the Salt Basin.

The Salt Basin is a vast
alkaline valley bounded on the west
by the Manganese Hills, high and barren.
Grasslands are slow, white
salt basins were seen
of much of the ground was white
with alkali. The alkaline causes
influent on the valley also
Guzmara, Schizothylla salt grass.

At Willard the new line of the
Salt Lake or Salt River
between the Manganese Hills & Manganese.
At Estancia we stopped for dinner
yet a poor buy-off at a good price.
Grass is poor, cattle are scarce
and a few poor ranches have little
grazing or other visible property.
Few cattle & few goats been seen.
New ranches are being started, people
seem to have faith in farming but
by dry farming methods. Much of the
soil is hard, quick & dry farming
very much. The valley is level -
very extensive.

At Moccado the branch road
is over the Altoque, gnx,
open valley continues.
On the west the Sandia and Zentis W.W., and a branch north of the junction show tall timbers & their lower slopes which are covered with but few & pinions & junipers.

At the north end of the valley openita vegetation is abundant & juniper & nut pines follow the bend over which we pass to descent the slope to Alamosita Valley, which again is deeper. Crossed the Santa Fe R.R. at Namoki & thence up through juniper & open valleys to Santa Fe.

Aug. 17. Left Santa Fe at 11 AM & reached Edgarpola at Noon or a little after. The valley is in fine condition, but much grass, but there has been no rain for about 6 weeks. The sand is dry & baking.

Aug. 15. Busy getting outfit in shape to start, getting supplies etc.

Aug. 14. Had leave started today but as it was Sunday decided to wait till noon & finish up our reports & letters.
### Canadian Plants

**Santa Clara Co., in January 1923**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Distance</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picea engelmanni</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Abies concolor</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td><em>elegantissima</em></td>
<td>22 mi.</td>
<td></td>
</tr>
<tr>
<td>Pseudotsuga</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Populus tremuloides</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Acer ginnala</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Alnus</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Betula occidentalis</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Sambucus</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Amelanchier canadensis</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Ribes d. irriguen</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Oxalis viridacea</td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td><em>Vida canadensis</em></td>
<td>18 mi.</td>
<td></td>
</tr>
<tr>
<td>Ribes (acutol)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ribes oxyacanthoides</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potentilla fendleriana</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Varetum</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Transition Plants

(Habitat of Grays)

Santana Clara Canyon, James M.D.

Pineus pendula - 1500 ft. 1000 ft. 10 mi.

Pseudotofagus - 8000 ft. 9000 ft.

Pineus flexilis - 8-1000 ft. 10000 ft.

Pileinus angustifolia - 10 mi. 19 - 6500 - 8100

Ericula asiatica - 10 mi. 20. 6500 - 8100

Alnus - 28

Quercus gambelli - 4500 - 9000 ft.

Pseudocacia monogyna - 15 mi. 20. 7000 ft. 9000 ft.

Pineus - chalybea - 8000 - 9000 - 18 mi. 20.

Corinus chephis - 15 - 20. 7000 - 8000 ft.

Coevatesmun

Rubes (in Hand) 7 - 19

Hedyscaucus - 18 8000 - 9000 ft.

Berberis "fjotulata" - 12 mi. 19 - 7000 - 8000

Salix cordata - 87 mi. - 6000

Gilia cyanzota - 12 mi. 19 - 7000 - 8000

Pentstemon - 8000

Solanum tuberosum - 8000

Hofa - 8000
Upper Sonoran Plants.

Espanola to Santa Clara Canyon.

Populus fremontii - along Rio Grande.

Salix nigra - +12 mi. to S.C.

Rhododendron - Throughout upper Sonoran.

Fothergilla paradoxa -

Pinus edulis - 7000 ft., 12 mi. of canyon.

Juniperus occidentalis -

Pseudotsuga -

Aucuba (6000) 12 mi. to 8500 ft. 18 mi.

Cercocarpus gambeli - 12 mi.

Negundos - up to 7 to 12 mi.

Ribes cuneum - 7 mi. to 8000 ft. 5 mi.

Ribes (6000) 7 mi. to 18 mi., in bottom.

Phyllocladus mexicana - up to 5000 ft.

Opuntia utahensis - Rio Grande & 5000 ft., 15 mi.

Opuntia (Big) - Valley

Opuntia (small) - 11 mi. to 5000 ft. 15 mi.

Yucca glauca - Valley to 7000 ft. - 15 mi.

B. polyacantha - 7000 ft. - Green - Valley up 7 mi. +

grey -

B. polyacantha concinna - Valley up 15 mi. +

Caraton (6000) up 15 mi. in bottom 5 steps.

Elionera (1000)
2. Upper Cornish Plants

Scirpus horridus - Espanola, en.

Zostera (big)

Cercocepus perifera - at 17 mi.
Aug 20. Started up and started up the Santa Clara Canyon but found the roads rather heavy
and sandy in places. One of the team horses balked so we
made slow progress. Came about 15 miles and camped
under beautiful yellow pines about 4 miles above where the
first were seen on the cold slopes
and in the creek bottoms.

At Esparza the country is all
upper Sonora with Populus fremontii
Sally nigra along the streams. Bignonia
distichyla covering over the valley
and Juniperus & nut pines on the ridge.
Up the Santa Clara Canyon about 5 miles
the pines begin to strike a few alders, high
and together & sally cordata. While
the sides slopes are mainly clothed with
nut pine, Thuja plicata and a
few J. occidentale. About 11
miles up the canyon the first yellow pines
were seen in a good stand along
the bottom of the valley & on a
few on N. slopes. Andrews gambel
became common near the same
place where the pines began to a blue live oak (Q.) also became common but kept on hot slopes with metoxys & junipers. Camped about 5 PM, under beautiful tall pines close to the creek, started the horses and turned them out on short but good grassy grass.

Shot a few squirrels and a varmint.


Continued up the canyon about 2 miles, the team broke a cord but started again so we camped. I went the team back for another horse. Have a beautiful camp ground on a high bank of the creek with yellow pines & poplars. Many thistles have good grass for the horses & Repepper Senotia South elks come down on one side while Vaccinium bushes cover the bottom of the narrow valley & the steep slope south of it.

The creek is clear cold & rapid -- usually 2 in. wide & to be jumped across. Shot three new camp.

Found plenty of signs of Seinuss cattle but saw none of the squirrels.

Rained hard in afternoon.
Aug. 22. - Caught only 2 Mules. Saw lots of birds. Rode a mile or two up canyon & when Pseudotaxus, Abies & Picea begin on cold slope. Rained all night & every little while all day.

Went cutting with a new hose about noon, but decided not to make camp today.

Aug. 23. Moved camp about 2 miles up canyon when the team balked again. Tried to block wagon down hill & smashed a wheel, so we camped & sent man back to get wheel filled & get a new hose. We are here a mile below where Santa Clara Canyon narrows up & just at the extreme lower point of Canadian pass on the cold N.E. slope, Abies, Pseudotaxus & Acer glabrum aspens begin just before the canyon.

Found a bee tree lots of bear sign, saw deer tracks & got a few traps in the patches of wild potatoes that grow
in abundance on the little rich, soilless plots along the crick, and evidently served as minding gardners in prehistoric times.

The potato vines stand 6 inches to a foot high—have white flowers. Yew largest in hollow black, boiled plaits—have new potatoes as large as sparrows' eggs. At the base of each vine is a little flat potato from which the plant started. The new tubers are full grown, pure white, not covered with brown speckle. They have several eyes but one plant only grows from a tuber. When boiled they have a real potato taste but are rather solid.

Chomomps, fulins are numerous to one caught in the patch. Black flowers, leaves. The white tubers stems in its pockets.

Aug. 24. John did not come back but we leave camp and go where we please. Went up the canyon 3 or 4 miles through the narrow part & found it beautiful, cold, razor, & full of carved gay tubs. The crick roars & rumbles down it. The road is stony but not very bad. The sides of the canyon are steep, one on the north cliffy, one to two thousand feet high, back to the main plate.
Aug. 25. John came back in afternoon with a new horse - the wheel fixed. I have a good line of troops cut & so decided not to make camp at once.

In evening went over old cut into big tree, but the bees were cross - stung us so we gave it up till morning.

Found an old rock house, an airy site; if camp not more camps, evidently prehistoric, but used mostly for camps in.

The ruins of an old fort was still strong, but now only the open cave part is used.

Aug. 26. Took a saddle horse & rode up canyon about 10 miles nearly to the divide & by a mile beyond the last water.

Found bigger mountains than I expected; good camp spots & lots of country we want to work - extensive rock shelves on cold slopes that are tall & suggest Hudsonian - almost a Telephone. Picked many bunches that are abandoned, fences thrown down - are probably on buffalo land.

Got good notes on range of trees, plants & some birds & mammals.

Returned to camp at 2 P.M. & made up skins & full cut plant lists & wrote up notes for rest of day. Didn't get time for any letter.

Took honey out of bee tree before daylight, got eating a few times though gloves. Got all the honey we wanted, about a quart, & left the rest for bats.
Aug. 27. Moved camps about 4 0.7 miles up the canyon about the narrow part of camped in old field that has been thrown open at about 8 000 ft.

Yellow pines and transition zone ephemer continue on both slopes, but the valley is mainly Canadian aspens and spruces. The canyon is rough but not very steep. I hiked up this far. Outside the road I sent John back after the rest in afternoon.

Aug. 28. Had breakfast by a stop with the heads of camps with a blood of tepees. About 500 feet from camp struck great fields of slick rocks of broken lava extending nearly to the top of the peak which is mapped as 10400 ft. The top of the smoothed peak is covered with timbers and the south slope is often grassy pasture.

Canadian pine covers the top & north slope of the peak except for a few of hardwoods. Canadian pine & lodgepole are the only ever hardwoods plant seen but the aspen disappears at the upper 200 feet if NE aspect is somewhat
Dwarfed Picea engelmannii — this species might be called Heminor. Aspens near Picea apparently reach the top on the southern slope.

The view from the peak showed the Die Grande Valley, Santa Fe, almost to contestant, but nothing west of the range. North of the Santa, Clari is still higher: peaks rise with open grassy slopes on the south; thick along the chest.

Found rockslides, but no signs of climbers. Saw several deer tracks and one fawn track. Chipmunks go nearly to the top. There they quit the top on grassy slopes. Pine squirrels very numerous, busy transplanted. Other trees are very numerous, busy.”

Found no water about loose dirt, rock slides and birds in cedars.
Aug. 29, Went to traps & got only a few of importance. Microtus bordelay, Eutamias & Prolagus rpibus filled the rest. Found fresh bear bed & signs in the next gulch below camp.

Aug. 30, Worked all day on Euphrates art.

Aug. 31, Went to Esperola to write a report & got supplies. Started at 6 A.M. & got back about 8 P.M.

Sept. 1, Brought traps down into woods for Eutamias. Shot birds & made up supplies. Rained most of day.

Sept. 2, Caught Eutamias, Microtus, Sour, Prolagus, Nama-gu, 2 species of Entominae, Calocephalus & Pine squirrels.

Sept. 3, Caught 2 more Eutamias but both were young with broken skulls. Intended to move camp in morning but the horses hid in a long gully & we did not find them till 11 A.M. Then moved 3 miles up the canyon to last water & camped at last kace of yellow pine & arrow-tail.
Sept 4

Climbed from camp at 9,000 feet to top of peak N.E. of Camp about 11,000. This we call Santa Clara Peak as it is distinctly the sun mountains if the Santa Clara Indians and is the highest peak in the Jemez Range next to Cibolla Peak which is nearly equal in height. Found to walk on the mountain above the head of Santa Clara Creek, but its south-west exposures are largely grassy slopes covered with tall ungrazed grasses full of seeds. The first 1,000 feet of my climb was through beautiful woods of spruce and fir aspens, then over the grassy slopes to the top. Patches of silver firs are scattered over the slopes and on the N-E. side come up to the summit where they are much dwarfed. Fire has swept most of the timber from the mountain and probably the firs on the N.E. side were burned as the pioneers did. Found bluegrouse on top mountains. Octobers were abundant in rock slides.
S.P.K. Bede camp 1 020 followed up Santa Clara Canyon 3 04 miles to its headland over a low, directly and down to Jara Creek to its junction with the San Antonio. Turned up half a mile into Santa Rosa and camped by a big spring under the first shelter the at 8150 feet by the census map. Came about 15 miles. Camped at noon.

The head of Santa Clara Valley is a beautiful valley, narrow, grassy without water, between a wide slope and on the south an shallow side of hills on the north. Jara Creek begins a mile below the summit and flows down a steep, crooked gully for a few miles, then widens into a wider, grassy and meadow valley, then into the big San tan grass. Valley Santa Rosa great before joining the larger San Antonio.

The Valley Santa Rosa is a park-like basin about 2 by 4 miles in extent, well watered and covered with bunch grass. A few cattle and sheep do not keep the grass eaten down noticeably. It stands one to 2 feet high, of the best variety.
No one lives in the valley, as it is on the Beca Grant and is too high for farming. Yellow pines and other hardy timber plants grow on the slopes only. The cold slopes are covered with snows and deserts. The bottom of the valley is marked by Canadian yam plants, especially in the west while most of the grasses are such as go up to 100 feet. In some hills there is little growth of plants. Feisty rosin of sagebrush would indicate a Canadian yam climate.

Numerous old craters nearly surround the valley; some old, flat and others steep and debris cones. The ridges are mainly lava streams split up and broken up generally overgrown. A few trout in the streams do not bite readily but John caught a lot of little fish that he likes better than very good. Set muskrats traps 2 for Coyote 3 or 10 and towel.

Gophers gopher the winter. But furnish vitality in the host slopes.
Sept. 6 Took saddle horses & went about 10 miles south to top of Pelado Peak & back, crossing an arm of San Antonio Valley & ascending through Vale Grade. This is a superb park like valley 4.5 miles in extent, surrounded by high mountains & craters, well watered by numerous streams & springs, covered with luxuriant grass not over stocked. It also seems to be mainly evergreen forest with a thin layer of scrub on the steeper slopes. No wild lives in it.

Pelado Mountain is a quaint dome shaped crater 11,200 feet high, mainly covered with Canadian Zone forest of Sperms, aspens & firs. We found several streams on its sides, one starting at about 10,500 feet. There are numerous grayish pines throughout the forest & the upper slopes of the mountain are well myself with strips of timber & patches of burney grass. Rock cliffs of broken lava cover extensive areas high up & the top is stony, but covered with grassy...
This is no timberline & the Pika
penguins & Alaska argonias are not
diverted at the top as the Picas are
in Santa Clara Peak, which by the
level seems to be 200 ft higher
than Picas.  The rest of pinnies on
top is not so.

Octotomies were common in the rocks
& we saw lots of deer tracks & at about
11000 ft 4 old sick blacktailes, all of
a slug, very large with full grown
horns in the velvet. They kept in
the red coat & as they stood 100 pds
distant looking at us they acted
like elk & I looked carefully at the
horns to make sure that they were not.
The glass showed the velvet in the horns.

Counted 10 old male blacktailes
& saw several fresh turkey tracks.
Saw a panther track & some fresh
deer tracks - stones turned over.
Shot a lupine pbeath at 10000 ft
& saw signs evidently of getting
higher up. On the way home killed
a large male parsonkin & got lots
to sleep after dark.
Sept. 7 - Made a short trip west of camp, collected a few plants and took up notes in evening. Had prairie dog, roast jerking, fried owl (Bubo) & brisket for supper and both pretty good. The prairie dog better than the owl. The lobsht better than the D.

Sept. 8 - Broke camp & followed down through the beautiful, glassy park like Vale San Antonio. Then down the narrow James Canyon to Sulfur Springs & below to the north of the creek where Sulphur Springs are camped in yellow pines at 7,750 feet. The canyon is rough and steep and picturesque and is filled with Canadian geese. Swooped down to about 4,000 feet to below San Antonio Springs. Then transition yellow pines begins and fills it as it opens out more & down south. It is full of pine timber till the way & sudden yellow pines below. Road pretty tough & steep.
Sept. 9. Said to be Sunday, when we inquired at James Springs. Continued down the canyon which grows steep and narrower about 4 miles to the open wall of junction of South Fork with the main channel. Here on hot, steep, barren S.W. slope the junipers, white firs, & blue oak begin and mark the extreme upper point of Upper Sorran. Then continues the cold slopes and top of mesa walls to James Hot Springs. Then the valley opens out into all Upper Sorran, with a mixture of juniper, nut pine, blue oak, & full set of Sorran plants. Little farms appear of small fields of corn, potatoes, melons, squash, figs, and fruits as peaches, pears, melonies, apples, & grapes are common & good.

Camped among junipers about 5 miles above James Pritchard.
Sept. 10. Caught Oxybelus pulex, Psephenus, Heliophorus, and Mecotoma albiceps, or flour. Shot
Anassephillus, Heliophorus, and
Entanea quadricincta. Saw Citrella
grammata, Diptera arizonae, and
Eristalis. Packed up and continued
towards about 4 miles to Juneau Rubble and then on to Sanpeks, 4 miles
further - camped for the rest of the
day to make up specimens.

Found ruins of an old pueblo on a
sandstone mesa a mile or two above
James. It had afforded a very good
position but is now a heap of rubbish.

Fields of corn, wheat, oats, and
peppers dot the valley.

The pueblo ruins are mainly one story
with some in irregular grouping.
There is a poor store, and a few
new buildings seem to be for a hotel
or some official purpose. The fields
are not in common ownership.

Below the creek widens out in
a great sand flat with a shallow
stream of water.
Sept. 11 - Left sandheads and turned west up the sandy valley of the Salado. Passed many mineral and soda springs, some of sparkling soda water, others of sulphur, iron, mud or other minerals. Some have built up five cones of carbonaceous moundings and a wide strip of country seems to be largely calcareous formations. Left the Salado and followed up a long, dry, sandy draw till noon, then crossed a ridge and beyond found a great bank of fairly good water. Chumac tank. About 2 miles from Cogehon. Here we bivouacked, then decided to stay all night as there was no more water until we should reach Cogehon, and we had made a hard pull through sand and up hills over bad roads.

Found Amsinothaphila axonora, also Entamia, & Cactius grammus and several Dipodiums sceptablis. Saw a few dymano ornitoro, several flocks of blue quails & doves were plentiful in patches of Chomea & Cotton
Sept. 12. Continued over dry mesa to Cabezon, a chocolate blue color. Town on the Pecos, where we limbed then turned south about 4 miles and camped by a good cool tank at the south base of Cabezon Peak. This peak is a volcanic neck and the valley town only larger and higher but with less prospect of water columns. It is one of about 20 such necks along the Pecos Valley but most of which have swells but range from 400 to 1600 feet high on, all extremely interesting. They are on a trip with the Pecos Valley to the east + the Sierra Chiricahua to the west & have been left standing in the valley eroded out by the Pecos. The edges of west side if others are seen still half reddled in the mesa. Grass is good + water is scarce. The folks here think in the end of the Pecos are very delightful Mexican ranches along the valley and poor, but little crops of ore + few vegetables.
Sept. 13 - Followed down the Pasco, then crossed at Salazar; then struck S.W. up a gradual slope and over a ridge at point of the Mesa of the sickly Chiricahua. Fell down to a Juan Tafoya creek a mile below the little town of the same name. Here we camped under a bush of Laurens gambelii, just at the edge of Jasper Sonoran Transition zones, but among mainly Sonoran species.

Sept. 14 - Rained a little in the night and kept snowing all the forenoon, but we packed up and went to Juan Tafoya and then on toward Bajada, through a gap in the mesa. Lunched by a rain tank out on open plains, then by following the directions of a man who did know the roads took the upper one and missed Pajita & Cibollleta and struck the creek lower down, and camped on Cibolleta Creek. Came close to Water Gigante, which is all rippli...
Sept. 15 - Reached Laguna Sefworn and camped at edge of town to read mail and answer letters which took the rest of day.

Sept. 16 - Pack ed up leaving all of provisions in RM, went west a couple of miles up the valley and found a good place to camp on a clean salt-grass meadow by an alkaline spring on flat. Brought good water from RR tank in town. Water too cold at ditch halfway to river.

Sept. 17-18/19 - Remained at this camp writing reports, trapping and trying to catch up in back work.

Sept. 20 - Loaded up with supplies and left Laguna at noon. Followed mostly to Cutters and then up to base of San Matrux 4 miles north of Cutters and camped where the creek comes out of canyon. Fine water, grass and plenty of wood.
Sept. 21.

Took a saddle horse and started at 6:30 up the canyon of the San Matos. Followed old road about 6 miles up beautiful canyon and good trail about 4 miles further to base of old crags, where I left my horse and went to the top of the highest peak, about 1200 ft. on foot. The slope was gradual so I could pass middle to the top but for hitting my horse rest.

From the top of the peak I looked a superb view of the country all around. The whole west slope of the Jemez Mt. & Gallinas north of that of the Chama Mt. & country with Mt. 8. the two round range of western Colorado, the long black range to the N.W., on the Navajo Res., the whole great mass of Gold forested Zuni Mts., the Black range & Mogollon to the S.W., the Pecos & Will division to the S. of The Rio grande Valley to W. East of it. Looking down on the various trenches around the San Matos in the Sierra Chiritos I could with the glass distinguish yellow fields.
The Junipers and many conifers and additions to my zone make a rich color in the stiff needle Canadian zone area of the San Matres with considerable necessity. This was the easier as the seasons river turned a golden yellow and their limits correspond with that of the oaks. The green was of this region now consider fairly clear.

The San Matres are one enormous old crater with the rim complete 2/3 of the way around all inclining at about 45°. The cone is 1875 feet in height. The rim of the old crater is probably circular of nearly uniform height, the highest peak reaching 11585 feet as shown by the contour map. Both inner and outer slopes are well wooded over covered with good timber or grass. There is comparatively little exposed rock until the lower canyons or mesa cliffs are reached some 4000 feet lower down, where the lava cliffs break off and show...
The sandstone formation below.
The Dierka Chiricos are a
great lava field just east of
Dierka Chiricos in part derived
from the Small crater. Over
the surface of this plateau have
also contributed to its formation.
Its top is poor yellow stone
transition; briefly forested around
the edges but likely bare sandy
plains in the central part where the
lakes are.
The Central Canadian area is
area of the W. comes down to
about 9000 ft. on SW. slopes and 6
8000 ft. on NW. slopes. It
is mainly forested with a dense
growth of heroic pines. This
region is rich in birds and
wildlife and has abundance of
willows and alders along its streams
and glaciers in the forest.
In other words, the plants
dominate the forest. The forest is in
its prime and is covered
with considerable of the upper slopes
covered with fine glaciers.


Transitional zone covers the
pine tops and runs down in tongues
along cold slopes to 7000 feet.
It is mainly characterized by Pines
ponderosa, & Quercus gambelii but
also by such plants as Arctostaphylos
Berberis "potulata", Ceanothus
Anemone, Gilia rigida, Pseudotsuga
(lodge), Picea (spruce), Poplar,
Juniperus, 4000 ft. & others.

There is much valuable
lumber timber in the Yellow
pines & Douglas fir among, one of
which has been cut at 120 ft. square.

The trees are often large, 15 to
20 ft. in diameter & 50 to 80 ft. high.

Around the north base of the mountains
are few farms, very near among
the yellow pines but generally
they are uninhabited.

Upper Serrano valley covers
the surrounding valleys running
up on the first hills, it cuts slopes
to a height of sometimes 3000 ft.
in such 5000 ft. slopes, or about 7000
on cold slopes. In this
are Pines, Cedrus, Junipers
nonsperma + pachypylles = Aenescs
riccia. Its flowers are Rhoe arenaria,
Falacia parodia, Atriplex canescens,
Sarcobatus, Erythia sparsa, Blyxox
Putrenia, Opuntia eboracensis, O.
Choristota + longsoni "ninae."
Many Mexican ranches are located
in the upper Soconee valleys and
gulchels around the edges of the
mesas where coro waters can be
had for irrigation. Some for stock
+ horse use.
Corn, beans, peppers + melons are
the principal crops & a little fruit is
raised.
Sept. 22. Remained all day at camp writing reports for San Mateo, making a few observations etc.

Sept. 23. Broke camp and came down through Cubera, where we mailed letters, reports and a package. Then crossed the R.R. of Cubera station and struck the wagon road from Jaguar to Acorna. Followed it a wide flat valley past the Enchanted Mesa to Acorna. Next past about 2 miles the pond there was no water. So turned back and camped on the flat just east of the precipice cliff by the reservoir where the cattle, horses & burros drink. A spring at one end gave us good water. But the reservoir water was green and the reservoir is deep, with an island in the middle to keep stock from crossing. The island is covered with tall weeds & grass blades, which shade the water & keep it cool.

The Acorna valley is extensive, very flat, with pebbles and an abundance of grass, grasses on the...
side slopes of easements over the
plats in great abundance for winter
food. The more moist areas are
covered with fine corn, squash
and melons. This year the crops
have been unusually good without
irrigation. Fields are scattered high
there where any patch of moist ground
is available, as unfenced and irregular
form. The corn is generally planted
on way and worked some with the key
hoss which they use.

Timbers and pines broadly the valley
and the ridges and mesas. The valley
is but Upper Sonoran with firm soil
and sandy root irrigation. The key
turning methods would apply here to
great advantage. But the Indians
seem to raise enough in this favorite
way to eate content.

As we pressed closer to the base of the
Encantada Valley it lowered some 600 to 1500
foot above the plain in a steep, yellow
sandstone butte with sheer walls on
all sides, caves here and there where
ravens cut out gorges. We didn't
know to get up by ladders or ropes.
A few small trees, impeding our path, grow near the top of the vegetation. It is simply a mass of leaves of the vegetation of the valley and but one of many similar ad rent.

elaborate mesas. Another west of the Pipe is very similar and probably not climbable - just beyond it is a giant Chimney Rock of the same structure, 280 feet high and slender. The sides of the valley are all mesa cliffs of the same depth and apparently scale as far as high. A few old cliff dwellings were seen in these as we passed. A good bust of not fires or spumpers covers them.
Sept. 24. In one way past the pueblo.

We walked or climbed up the stairway on the north wall up the 200 foot cliff (by the cave) to the pueblo on top. A long steep stairway or trail leads up the other side, where the church is in the cave. Come up and apparently there are the only ways to this most inaccessible of the pueblos.

The view is beautiful, very valley or mesa or mountain.

This or that rock is still held rain washed, the old & dirty.

The pueblo is extremely picturesque & interesting. The only about 50 of the people out there clearing away.

The most earnest or famers or one at restivity, but the return here in winter, where our friend Christ Dixon said- "It is so fresh & clean. No smells, no dirt, and such fresh air". The people are evidently fond of their old pueblo, but it is only a matter of time till they will come down & leave it.

On the side of the cliff near the
Packs we saw Eustonias probably brought in, as others were seen killed just for Reynolds, and at the base of the cliff I killed a Crotalus confluentus.

Yesterday I also collected a Seriopus and a little Uta in the valley near the Eveclawed Mesa.

Continuing up the valley, a branch of it to the south, we entered a rich canyon, a few miles up this turned up a pitchfork road, steep and rocky along to the mesa top some hot last above the bottom. Had to unload 5 people most of the baggage up on the horses 900 feet, difficult in getting the wagons up. Camped on the top of mesa as soon as we reached the top and were thankful for a hard snow that simplified our needs and saved us walking a very dry camp.

The mesa top is beautiful plain country with abundance of open grass. The view over Alamosa to the San Mateo Range is superb.
Sept. 25—Continued S.W., about 10 miles. One open grassy valley between pinyon + nut pine ridges, past one Western rangeland and camped by an arroyo. There is nothing to boast. Up camp by except Broomfield, a flat table away 3.04 miles S.W. of S.H. but we are some 15 miles S.W. of Broom.
The valley we are now in seems to be one of the best waters of the arroyo called on the land office map his Edwards. A deep dry gulch cuts through the valley, but we found water in old channel below at red side, muddy but good inclination. The valley is wide and covered with grass & weeds, lots of asterland + catrilex, but is not much alkaline. Both side ridges are covered with nut pines + junipers + a little blue oak + occasionally a few Annie gambelii. In several places are passed strips of yellow pines on cold slopes and on the higher ridges to the west we see remains of tall yellow pines. We are close to the slope edge of Hesperomia but mostly the plants & shrubs belong to the zone.
Sept. 26. Strained hard in night
and as we are in a gummy valley the
rocks are bad, so remained in
camp, eating wood and traps
Caught Kestors. Coyotes, but
the rain spoiled my night	
hunting. Found wolf sign made up of bits
This in Westmor's house and heard
Coyote howl all around. Saw
Wapiti tracks in Arizona. Shot
Estamins. Not a solitary sandhill

Sept. 27. Caught Kestors
Shooting and Herings. Just
so Horses, scrub and Shanty &
Longtails, all of which we
Came back. Not a Bear in
night. Made up skins and did not
move camp till after noon. Then
followed up the valley some 8 miles
with very gently slope & a ranch
and about 4 miles beyond to a river

near the mouth. This river was camped
down stream of a reservoir

at reservoir camp 7700. Followed open
valley all the way into camp.

but fin
Lodge and yellow pines on top. The ridges and on cold slopes. Fine grass all along. Beautiful country to Very few people in it. A few old reservoirs that filled up and the old tunnels were generally abandoned. A few sheep and cattle range over the country but not enough to affect the grass.

**Sept 28.** Leaving the reservoir camp we turned north over low flat plain. Ridges with a few pines. ponderosa scattered along and on cold slopes nearly solid ponderosa. Lots of blue junipers. deerbrush in here scattered in with the ponderosa. Came down into deep gulch to Buffle Spring in a small valley. Then down this valley N.W. for about 4 or 5 miles then went along the edge of the road beds to Paul Melfaie, a Mormon camp out on the edge of the great plain following the lave flow. Reached the camp after dark & camped as we found no water after leaving the Buffle Dr. To the ranch windmill.
Sept 29

Started from Runita Malpais SW. across a dry, thick bed of old lava beds, full of crickes and dry lakes and a few pools of water. This seems to be the old lake bed 25-30 miles across and located at the Runita Malpais at 4900 ft. with juniper and pinyon timber, encircling it on slopes down to 7200 ft. Below what seems to be a pretty uniform level there is no timber, but the broken malpais is well covered & blanked in until 4 quarts except along the tops of rockey ridges that are bare & black. The whole great basin plain is gray brown and light green from the various desert plants & dry weeds. Bigelowia  a small gray species, gollusia, the town Enriquillo & a gray & dried up Kriytilia give the general tones to the landscape. The grass is getting brown & patches of wild sunflower (Helianthus lanistata) are dark brown while fields of Helianthella show light gray from their dry stems. We saw no permanent water or signs of habitation.
Soon after we reached the end of the double crisis peak just at sundown we crossed a low ridge at 730 feet in the Indian Creek watershed, and found a few pines, deer, and a bear. We climbed along a trail and a log across a rock. We found an old prospector, E. J. Young, camped, and we tried to talk to him, but he showed us the old well. We got nearly a point of water and got supper but not very much water for the horses. We made about 28 miles out west of it and camped several miles away.

Saw lots of prairie dogs and several coyotes and looked for antelope but saw none. The old prospector said he saw a bunch of 50 on his way across the Prarie. He also says there are 25-35 on the San Augustine plains, south of here. He showed us a fine thing of a bISON. He killed in the battle a few miles ago. It is in good form.
Sept. 30. As we could get no water for our horses we pulsed out early and after following west down a dry arroyo on the road to the Salt Fork; for a mile or two we turned south and ridges on an old trail road and in about 10 miles came to a big spring & camped for the night last of the day. This may be Luthrop's or other on the trail after route of wagons.
Camp in morning 7000, down valley to 4900, then up our ridge, at 7100 old camped at spring at 7200.
Followed our, dry valleys with good grass, big bush yucca, heliophyllum s. arizonicum, epilobium, phlox cancerous, wild pears by Pat brin's fences, ridges. Saw a fine yellow flower on cold slope of rock bed & others on distant peaks. No water or room living in the country. The thinking of two large old pears was seen. One where we camped last night & one on 7000.
Saw antelope tracks & lots of coyote tracks.
Oct. 1. Left the spring camp and in about 2 miles crossed a ridge and then went down hill to the bottom of a big valley running east - west. Turned east 20 3/4 miles to Rita Quemado, P.O. 3rd stop. Got supplies sent out went and then turned west up the valley 2 miles to the Largo Valley and followed up it due north about 5 miles and camped at a Mexican Ranch. I got good water for the well. The Largo is dead up this far but remaining farther above. Camped at the first good grove of cottonwoods, *P. angustifolia*. Came about 20 miles all together. The Rita Quemado and Largo valleys are continuous. Broad, open plain like valley. The Pecos is alkaline and generally bare of grass, mostly covered in part with Sesfoptes, Attillex, Sueda, and various weeds. It seems to be overstocked as a winter range. There are scattered Mexican ranches along, mainly vacant. The American Valley is near the valley from the region. There is a lake at the mouth of Largo.
which seems to be the source of the valley. The Pito Cr. flows west a mile or two from a spring but soon dries up and is pretty alkaline to start with. The talus valley is sandy and free from alkaline. The water of the large is fresh and pure. The soil is rich for vegetation, and grass is abundant, mainly grass and cottonwood groves along the river channel are beautiful, of the graceful angosturilia and river golden. The fall autumn colors.

Mat pine and junipers cover the ridges of the valleys and over rim to the north. The whole country around isuppe soman but a high peak is close to the south are covered with aspens high up on their cold slopes.

Oct. 2
Oct. 2. Caught only Pompomus menticris.

Nedirma albipalma. P. protogipes +

Pomomatus + Thomius + were abundant but refused to get in my traps.

Sloot a coyote just as we started on the road, Cyprome, Lupus arizonae + lichenus are common, also hogenes.

Followed up the Canyon Tajo about 5 miles and camed under a group of beautiful golden Lupinus angustifolia. Built a short stream + clear, fine water. The first good water we have found since leaving the saw. Water holes. The valley here is quarter to half a mile wide, rich and green. Run in part by clumps of Rhulus arizonae, and very large

Bigelovia. Besides the clear blue

groves of cottonwoods. Just pin

ridges border the valley. Old pueblo ruins stand on the low mesas at edge of valley.

They are new heaps of sand and

erupted lava blocks now, with

numerous pillars. Estuaries of water tanks. The ground is covered with bits of highly decorated pottery.
Oct 3. Rode about 5 miles east of camp and climbed the peaks shown on the 10 mile map as Pinion Mtn. It is some 10 miles south of Gunnison and is the northernmost peak of the Gila River System of mts. It is important as the next step of Cambodian range south of the Jamil-Soba. The peaks are part of the rim of an old crater that has broken out on the north and sent out streams of lava south & west. The eastern peak is some 300 ft higher than the western & by my aneroid read 9750 ft. It is probably nearer 10000 as the barometer works too slowly at its upper limits. It is registered to 10000 only + on the San Matias which read 10300 in 10/20 it read only 10100. The mountain is all lava resting on sandstone beds pitted with coal. It is steep for the upper 1500 ft and its north slope and part of the upper south slope are covered with willows, alders, cottonwoods, pines, firs, lodgepole pines, firs, and douglas fir trees. The lower slopes on NE of the
South slope are yellow pine transition with gambles oak & some Pseudotsuga included in. (See note books for plants of plant). On the north shoulder the lower ridges are covered with nut pine, & the junipers- western red cedar & juniperubras.

There seems to be 25 acres on the mountain except in foothill gulches a few openings & the trail, leaving about the east face. The animal life is beauty poor. Chipmunks were heard loud down, but in the slopes above the foothills there were probably marmots. Porcupine grunting was heard in nut pines around the base & deer tracks were common in the lower gulches. Lynx are more frequently seen around the base & lots of Montane houses. Lynx trails were common & also Coyote signs eventually & good Bears were seen half way up. Another hills are covered & dotted with pines.

Bluegrass patches were found near the top on north slopes.
Oct. 4. Remained at camp making preparations for hunting, setting traps, writing up notes, saw 8 coyotes in a clump which ran to阻止 Proconsus traps near camp in morning.

Oct. 5. Caught Proconsus & Pygmythus, took up tents & started up large canyon about 5 miles above we turned west up a side gulch over a few divides to the first of another long valley to the south followed some 6 or 7 miles up this to near its head & camped in a mountain valley encircled by rock rims at the head of the stream at 8000 feet. The mountains rise about 1000 feet higher on the west than on the east. The north slopes are covered with grass, some trees, aspen, alders, maple, Pseudotsuga & Pinyon pines. The valley in which we are camped is quite flat & the hills, is discretion yellow pine & Gambel oak, while Jeffrey pine & Junipers come up on some of the north slopes nearby to the hills.


Nov. 6 - The valley where we camped is a circular park one to two miles across, open and grassy in the middle, surrounded by soft yellow pine woods. A good little stream rises in the middle of the valley and flows out to the north. From one corner on the west side of the valley a golden rim of cedars borders the opposite slope near the line. Cattle & horses graze over the valley, but the grass is a rolling knee high & full of seeds as if unsowed. At fresh lake woods followed the road ahead & took us through the valley and we camped early & set out a line of traps for wolves.

Dec. 6 - 7. No wolves came along so we remained & set traps as usual as the horses & cattleeventType them out. Caught a brook trout in one. The only thing that came along.
Oct 18. Heard wolves howling in the night near camp. I felt sure of one, but found they were too wary for my traps. They came to the bucket of one trap but kept at a safe distance from it and went around another. It was a pair of old wolves with 3 young of the year & the old wolf had a thrashed trap. It evidently is a wise old leader, well up to the traps. I have little faith in getting any out of this bunch of wildcats.

A coyote followed the wolves & got into one of my traps. Photographed him & made a sketch of him.

Oct 19. Caught nothing. Broke camp and pressing south through Jeffrey's Fork, followed down into Big Dry Valley & struck the road for Sawtooth Valley and followed it east along the foothills of the saw called District Range to Valles & Goodsprings, which we reached in the afternoon. Then continued east till we struck the Inyo or Kulemes and then south & reached Independence at dusk.
Came about 30 miles but over some rough lava ridges & had to wear专门为. Found water only at the springs — at a tank near Johnson. A first day, nearly uninhabited country namely upper Soreno except cold slopes which are all indistinct.

Arrived at camp near 8000 on divide in Jebuitt Gap 5700, in big valley 7400, at Gallo Gap 7700, on ridge 7000, at Klickova 6800.

Oct. 10. Followed down Zuicosa Valley to Fuses, (6750 to 4600) and returned 2 miles to camp on ridge. The Zuicosa Valley is full of farms & good flat land but very hard. It is mainly an upper Soreno valley but the cold slopes of flat bottom are transition with Yellow pine & Populus angustifolia. Corn — alfalfa — all well. no corn cutting. Turnips & fruits — squashes. But the valley is said to be frosty, so it is necessary to raise early corn. The corn is ripe but frost has killed the vegetation.
Oct. 11, Returned to Mr. Belders' ranch at Joseph and camped in his field on the old Ranch. Met Mr. Sheld & Mr. Anderson at Mr. Belders' saw the upper pasture. Monday, Cascadel camped at the cabin just below. Prepared for a trip up the mountain tomorrow & went slug hunting.

Oct. 12. Took saddle horses and went up Eagle Peak in the Zuleeza Mts. Cascadel left Zuleeza River 3 miles below Belders', then followed up large canyon about 4 miles east to spring, then struck across mesas to canyons south to peak. Left horses in gulch at base of mountains & followed up north side.

Aneroid at Belders' read 65.50, at mouth of large 64.50, at spring 64.50, left base at 8.55, top of peak reached 9650.

Eagle peak is a sharp point just beyond and about 100 feet higher.

Maped zones for the whole Zuleeza range of some of the surrounding country.
Returned to my horse at 6 p.m., got about 5 miles out onto the ridges when it got too dark to travel, so camped under a juniper tree till morning. Had no water since leaving Laso Canyon in the morning and slept pretty thirsty.

Found no water in the hills, but they are covered with on the top of north slope with a heavy growth of Abies concolor, Pseudotsuga, and others. On the south slope a north face with a yellow pine and Diors giambi. Pseudotsuga monosperma in open transition zone past. The south slopes of lower ridges and canyons are all covered with willow, fruit trees, junipers, montezuma cypresses and various grasses. Saw one bluegrass with signs of others in spring at high up lots of Cymochila, but most of the migration are on the move or gone. Saw 3 Ordovician hemiourus in foro canyon, 5 2 0. acceni at 8500 on the mountain at the first action. 4 lots of tracks of acceni about 400. Saw some bear sign on a big salient is said to live in the gulch on this side. Saw one blue pinto on 9000 ft. Seiums woodblocius in canyon in Canadian zone. S. aberti is common in transition. Euryonis quadriostis is common in Canadian and doesn’t go in different zone genes & both occur in transition. Cephaloglossus is
in Upper Sonora & still active. Calophasis phillus varcostalis was seen at 9070 ft in Canadian area. Narrow winged phillus goes to the top & a large house of Nesting phillus was found in woods at about 9400 ft. Coyote tracks are common along the river & phillus is very common in the Canadian. Coyotes howl at night & off fishing in the low at the banks. There are said to be a few stellers but not many. Mountain lions are said to be common & a good many are trapped. Black bears are also common. Badgers & prairie dogs are common in the valley.

Oct 13 Left my dry camp early & reached camp at 5:30 am. Packed up & started at 2 pm. Down the Zillwood valley, passed Prizer & camped in canyon 5 miles below at 3850 ft. Found numerous Mexican ravens down the river & near the beginning of canyon, there is now...
Oct. 14. A cold night in canyon followed by hot day. Lee ferried over 2 pairs of wolly boots for lives to get breakfast with. While setting breakfast a few mule deer bucks came down and drank out of the river close in front of us. We thought it was a doe until it climbed the hill opposite & got out of range.

The lowest Laufheuser's Canyon reaches about 15 miles to Kellogg's ranch and is cut through lava flows most of the way with steep, rough sides, a few hundred to a thousand feet high. In one place I counted 22 flows, one atop another. The bottom is sandy with flats and points and strips of good soil that carries various trees according to slope exposure. The bottom seems to be largely transition zone with abundance of P. ponderosa, Douglas fir, and some P. oocarpa. Stately firs, hemlocks, blue oaks, t. sequoias, etc., etc.
At Kelley's Ranch (5400 ft.) we began to strike lower Sonoran trees on hot slopes, dwarf willows, Acacia fremontii, Prosopis glandulosa, we live oak + cottonwood, while the grasses altered was partly replaced by the wide spread cottonwood along the streams. The lower Sonoran shunt increased to Ulmus whose weight is common & local cures has seen.

The canyon is full of cacti, pinon, juniper, bristle, grapes, + grass food for birds, hawks + mindless life in progress. Several flocks of Phrus velutinus were seen + 4 birds collected - the first seen now alive.

After passing Kelley's Ranch we went out on the arpa + in 50 miles it grew dark + we had to come to the water of a camped + ate canned tomatoes + cooked went to bed.
Oct. 15 - Started breakfast a little after half a mile came into the Feather River again and rode on towards the Alvarado a little beyond. Here crossed the river 5 times since leaving Dry Lakes pretty but generally not good.

The valley of Alvarado is opened up by old ridges of plains with a mixture of upper and lower savannah species. Yuba sedge is abundant and dwarf white clover comes in while blue veld, juniper and greens cover the cold slopes of the hills and ridges. Quintia robusta takes the place of shrubs. The few stands being the only valley which has been badly washed out by floods, grass is scarce and short. Wildfire is the principal crop, but corn, potatoes, squash and vegetables are raised and we have peach and apple trees.

Camped under live oaks in field half a mile from Alvarado on road to Morgan Hot Springs. Pack up specimens and sent off 15 packages to start. Valley dry and baked.
Dec. 16

Left camp at 10:30 A.M., climbed onto the Mesa, then over this & face of Mesa, up long, well graded road to Mogollon, then 4 miles on up the gulch & camped in canyon about 5 miles from summit. At camp anesaid was 8200 feet, highest part of grade 7300 feet, at Mogollon 1830 and at camp in gulch 7850.

Upper several zones runs upon lot staked to at least 7500 feet, which is characterized by Pimeleka, Juniper, manzanita & frosty phlox, Quecus fir, Quec. brevata, Holonia, leucophyllum, Opuntia velutina, *Corococalyx pumilus*. Much of this zone is flatter or few short grade near a slope.

Transition zone covers the cold slopes down to the level of Mogollon, a little below 7000 feet and turns up on open north slopes to at least 8700 feet. It is characterized by scattered yellow pines, abundance of deceit Quecus subalba, *Pseudotsuga menziesi*, Arctophyllum, *Genus Agrostis*, *Artemisia luduliae*.
Oct. 14. Started out on foot in morning. Uphill down Willow Creek and up the last camp. Then at 7 P.M. moved the wagon about a mile east and gathered wood. Then left them to pick up the ridge to Willow Creek 500 feet high and camped at upper edge of brushwood in timber.

The beautiful creek runs in front of our camp. Transition timber covers the slope both of us and Canadian timber. The slope in front of Willow Mountain rises high to the south, close by. The creek is full of trout, due the water is cool. A few turkey and geese tracks were seen along the creek. The bottom of the creek valley below is too brush covered to walk directly. Above, we could see much of it magnificent. The yellow pines, Douglas, firm, and larch still abundant and when available will be valuable timber.
Oct. 17. Remained at camp all A.M. making out 3 ft. tent & building shelter to go to Mogollon tomorrow. In P.M. went down to Tres Ranas cabins & 4 miles below.

Oct. 20. Went down to town for mail & supplies with pack horses & he did not get letters till dark. Went up on ridge & killed a little white-tailed deer & carried it down to camp on my back. It was an old doe & weighed dressed 41 lbs. or with head & hide just 50 lbs.

Oct. 21. Sunday, Survived west all day. Built a fireplace in old cabin just below camp in case we should need to move in on account of storm.

Oct. 22. Hunted all forenoon but saw only does & fawns which were in great abundance. I survived all of P.M. and added another inch on the ground.

Oct. 23. Went up the creek that evening to the high point that I supposed was Mogollon Peak but found it was a little club tree and scree on which this was called "White Water Baldy" as evidenced wherein as the peak is densely timbered & I can find no trace of any White Water to name it from. The peak is recorded as the scree on 10750 ft high but my aneroid read 11000 ft probably did not reach two high. Another peak a few miles to the S.E. little west is equally high & more western while another 5 or miles to the S.E. is possibly higher and may be the real Mogollon Peak. In going up the peak I followed ridge on N.E. slopes all the way through dense timber, I got good game shots saw a fine white-tailed deer (cows) but missed him. Started a lot now deer but did not see them. Followed tracks readily on the 2 inches of fresh snow but the walking was heavy & the air very still so there was no ability to get out deer. Followed a fresh panner trail several miles until it turned south & then...
Oct. 28. Took a horse & went S. E. to try & get on the highest peak in that direction, but after crossing one deep canyon I found there were two more between me and the peak so gave up the trip as it would keep me out over night. Turned east thinking I would go down to the Gila (Middle fork) and up it to camp, but it clouded up & I began to rain so I stopped back the nearest way to camp and got there at 5 P.M. Accomplished very little. Started for home, but saw only one rabbit that day & did not want her.

Oct. 29. Monday. Sent John to cut several big trees out of the road so we could get back to Mogollon before a storm should blow us up for the winter. Made up specimens in forenoon and in P.M. packed our outfit up & to the wagon on top of ridge 500 feet above camp at 9 o'clock we we could get an early start in the morning. It rained toward evening & snowed higher up. John got back to wagons at dark & had not cut all the trees out I loaded.

Four prospectors came up the creek from the Gila with big packs & frame tents & were heading that Willow Creek is the main fork of the Middle Gila and not a branch. It begins as Willow Creek, is then called Gila to the Middle Fork.
Oct. 30. A clear night and only a light frost. Started at 9 A.M. and reached the top of ridge above sawmill at 11 A.M. without trouble or accidents. Had to dig out the sides of road in places and cut out a couple of trees. Found an inch of snow along the higher parts of road - 9,000 ft. Lunched at top. Then went smoothly down the twisting road to Mogollon, from 9,250 to 6,850 (10 miles) by 4:30. Got mail & supplies & started on but got stuck in canyon near mill & had to camp in Sheets Gulch just above it at 7,000 ft. Answered read the same as on the way up, found the upper end of Sheep Draw ran as before at mile up the gulch from Mogollon at 7,000 ft. Here we attacked Negrillos, Althis tree, Juglans regia, Nut pines, Junipers, Douglas & voila. Cowperpines - the wild out of European plants.

Also saw a few Rhamnos pubescens & a bush of Acer grandidentata along the creek. The shabby coke, A. linophylla, seems to be transition. as it is mainly about Mogollon, cold slopes below.

Oct. 31 - Down to mouth of White Water Creek & camped at 4,700 ft. at its junction with San Francisca. The San Francisco River flows through a crooked, narrow canyon with only a little patches of bottom land, but 2 miles below it opens out in a broad, fertile, well formed valley. The White Water valley is wide enough for a series of good washer beds & is widely under cultivation. Good orchards of peach, apple & pear trees are seen and the apples we got at the store were excellent. Some in Yavapai and were sent to the county fair at Prescott. Other crops raised are alfalfa, Potatoes, Orphan beets, turnips,
Cabbages, cauliflower, beans, chili
corn and sugar cane.

The game of the valley is a
mixture of fish and waterfowl.
The lower Sonoran elements is shown
by abundance of mesquites on the
south slopes, often 800 feet high
and full of beans. That on the mesa
and flat ground is usually drywalled
without beans. 2 a.m. feet high.

Catsclaw (M auss humifusa) is abundant
and full of beans. A few saxifragines
are scattered on rocky north slopes
also Carene (fytia?), Desert Pebble
and euphrasia, and Yucca Fasciata.

Photorrhiza is abundant on Cottonwood
live roots and mesquites and full of wax
and bees. The slender spined

Platymis is common along the
stream, and Populus fremontii
has mainly replaced aquatic species.

The Arizona Walnut is abundant
and very fruitful.

Wading species of lower Sonoran
- mammals & birds are her.

R. rhinoceros, R. angustipes,
Notornis (immerator?), Crematops,
Cactus Flat

Nov. 5 - Remained at White Water Creek camp (Glenwood, CA) fishing and collecting along San Francisco River, the creek & over streams.

Lover's Square gone shows up strongly on hot slopes where the mosquitoes thicker & larger & full of ripe bean pods. Many species of Lover's Square title & man徒s were here.

Nov. 6 - Started for Cliff, followed down the bypass valley past the Mason settlement (Phantastoon) then up Dry Creek to Luss Station, about 10 miles. Arrived near 5000 at starting and 5,100 at Luss Station when a 31.45 foot pressure indicates altitude as 4884, so I set around and carried the tent camp reading to 4700 ft. From Luss Station we came up 4 miles in season and judged about 6 miles to Cactus Flat on the divide between Dry Creek - Creek Co. and camped at 5200 ft.

Cactus Flat is open plains under busy country with no water, but lots of grass and forests of 01 plants or Cactus plants.
The yuccas are tree-like, 6 to 10 ft high below the flower stem and the cactus is unusually large, often 10 ft high and in large bunches. The soil is rich and the abundant shrub grasses hold the surface soil and moisture so that vegetation is rich. A few distant ridges have junipers and pines on tops or stony slopes but for the most part of country reaching to the 5,400 ft of the Mogollon Plate is open and grassy. The Kit. rises with a steep and ragged front but with the heights falls a little back. What is called Sacaton Bald is the Rec. mountain. I saw both 3:10 A.M. “White Water Baldy” Oct. 23. It is on the very front of the range and a little crown shrub over its shoulders. Its west low ridges are nearly featureless. The Fruita canyon cuts through them.

We found Yucca, yucca, + Campestris and others in the cactus; quists + lots of cactus flowers.
Nov. 4. Crossed the river 100 feet above camp and then down the low, gradual slope of Duck Creek for 20 miles to Cliff on the Gila River. Crossed the river and camped a mile beyond the crossing on the south side of the river as it runs southwest. Started with meadow at 5,200 and found that it agreed with the GPS posts at the White House, G596, 4 miles north of the 20th. Cliff, and at its base on our camp (4,476), some 30 feet above the river.

Duck Creek valley is deep, open, and grassy down to its junction with Sequoia Creek, some 4.7 miles above its mouth. Then it has an small stream of water and cottonwoods and sycamores along the banks, is mainly farmed and pastured, but no one lives in it except near its junction with the Gila. The Gila valley is wide and fertile below the canyon with numerous farms and ranches. Dense growth of Cottonwoods, willows, sycamores, some walnut, ash, boxelder.
The bottoms are sandy but rich from annual floods and generally covered with reed vegetation. Sunflowers and reeds grow 10 to 12 feet high in perfect jungles, Johnson Grass grows higher than any head is also 12 feet tall. The giant old Cottonwoods (100 feet) are sometimes 60 feet in diameter with spreading tops, now golden in autumn foliage, are the most striking feature of the valley. The river is clear and rapid with many deep pools. There is abundant water for irrigation and crops are good if well worked. Corn is the main crop raised and grows to great size but is often a swamp of weeds. Alfalfa and vegetables are also raised and chile which they call Mexican.

Lower Sonora zone is indicated on hot slopes by some mesquite, by Euphorbia lordalii; A Chiltepin Salvia along washes, by abounding of Petrocladus full of beautiful daisies, doming the bottom, willows, palo and mesquite, dry Yucca radiosa on mesas.
Nov. 4. Started for Silver and after following up the dry wash of Greenrock Creek I ascended the ridge to Mungoos Valley and continued up the north branch to where we established a camp of 5, Alcove. Kept our camp and pushed on about 5 miles and camped in a dry wash where there was lots of grass. 

The Mungoos Valley is mainly dry but after, cokecut in places, windmill branches are scattered along the valley, which is surrounded by good stock country. Open ridges to waist, creek little with good grass a few miles back.

Queen radish, Opuntia, edelweiss, all along vases and one or less abundant along the valley up to our camp, where more Wohra, I hope come in as we get into more pure High Sonoran.

Set the wireless at Camp at 4:47 am at 7,200 ft. S. ridge 4,900, Mungoos Valley 4,000, Lost Valley 5,000, Camp 5,400.
Nov. 10. Fished early a reach Silver City before noon, caught check at bank and got mail then drove a mile up valley to the hot springs in sight and asked permission to stop. Was given a delighted place in bed by pond with cotton in store and food all around us. Learned later that Mr. Pinderton, our host, was a partner in the bank with Mr. Kerr, who had previously been our master and friend.

Mr. Pinderton offered his barn for storing of our outfit. Next day town and got Mr. Colburn on the phone and consulted the Hatchers with Mr. Colburn. End Hatchers had been trapping wolves and never left last year. That I had agreed at least. That by knowing they had saved bread. County is none of them 1 know. Hatchers going.
Nov. 11. Sunday

Packed up our personal

clip, stored camp outfit in

the back of Mr. Pinkston

and started for Clevelan

in a hover and reached

there about 10 P.M.

Train to Denison.

Nov. 12. Found white quail crows

abundant in the streets of Denison

and teams of crows for dinner.

Took 11:30 S.P. train to El Paso and

waited there for the cordova express

limited for New Orleans and Woodlawn.

Left El Paso at 7 P.M.

Nov. 13. Slept in San Diego

and then started for the north

over San Antonio (at 5 A.M.)

slight trace of frost at El Rio

and Waves but leaves all red

and dry. Saw hawks at MesICK.

Good weather other places

when not yet killed.

Reached New Orleans after dark and left there on Washington dinner limited late in evening.

Nov. 15

Nov. 16, Reached Washington at P.M.