

MEXICAN JOURNAL

of

E. A. GOLDMAN

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MEXICAN DIARY OF E. A. GOLDMAN

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Took steamer from San Francisco for Manzanillo, January 15th. Had fine weather all the way down the coast. Went ashore for several hours at Mazatlan with two fellow-travellers, one a G. W. McCuehon of Bakersfield, Cal. The other a young Spaniard. McCuehon was going to San Benito. We came into port at Manzanillo about 7 p.m. on the 27 of Jan. Did not come ashore until the next day.

Manzanillo
(Colima)

Feb. 17

We stayed at a kind of a hotel in this place until February 3. In that interval we got a lot of stuff. One fine leopard-cat called Mocheeucun by the natives, - 3 opossums, several coons, a number of rats, four gray tree squirrels, 6 ground squirrels, also about 60 birds nearly all of different kinds.

Made a trip to Temple cotton ranch on the railroad about 8 miles from Manzanillo. Went up Feb. 3 and stayed until the 14th. Returned by canoe. At Temple Cotton got 3 Mocheeucuns, 2 coons, 6 opossums, 7 small animals called tejons by the people here. We also got one while at Manzanillo before going to the ranch. At the ranch also 4 mice, 1 tree squirrel, 1 coyote, 1 rabbit, and a number of birds.

After returning to Manzanillo got several birds and 3 tegnos. Left Manzanillo February 18, Thursday, on the "Colima" train for Armeria.

Zapotlan
(Jalisco)
Apr. 14

Since last writing we have moved successively from Armeria to Colima, from Colima to Magdalena, and back to Colima, and from Colima to Agosto and then to Zapotlan. Specimens from Armeria: 4 peccaries, 3 deer, nine rabbits, 42 mice, 1 skunk, 2 tree squirrels, etc., etc.

We came from Colima to this place (Zapotlan) by pack. Colima is a

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Zapotlan
(Jalisco)

city of about 20,000 inhabitants. A fine horse carline has recently been built there. It is also the capital of this state. Leaving Colima we passed Tonala and St. Marcos and passed the first night out at Cornabo reaching Agosto, a small village, about noon of the next day.

We saw some five or six stone piles making graves of hapless travellers who have been killed and robbed in years gone by. The road from Agosto to Zapotlan is very good.

Since writing last, I have today determined to keep my journal in Spanish as much as possible.

1 de Mayo, 1892. Companlleryo dos castellanos y eye vamos para esta volcan por ardeas, arbolodores, tusas, walkemayos, ratens, ratas y todas clases animales. Tengo del alli duz y seis arboladores, 1 ardea, uno walkinayo, cerea doce tusas de tres clases uno o dos ratas, muchos ratones de verias clases. Muy alto esta volcan y muy arriba mucho nieva y muy frio, le gusta mucho cama alli. Muchos pinos y otro arboles da varias clases. Tengo una docena paheritos del alli cinco hombres quiere volvere despues una media docena dias por faena. Viernes y Senor N y mi volvere tambien perc vamos por esta volcan otro vez con uno mose y dos monteros. Del muy arriba cerea el volcan grandissimo vista de volcan de fuego y todas campo redondo alli. Expectar vamos por Sinler esta noche con dos otro americanos en el diligencia.

Guadalajara
(Jalisco)

Guadalajara al 6 de Mayo lliegar en esta ciudad al cuatro de Mayo del Zapotlan. Nos marcharse del Zapotlan domingo y viage para Zecualco y quedar alli 2 dias dos lagunas cerea de Zecualco pero muy poco animales ganar alli uno ardea, 3 ratones y uno mapache sabaza. Lliegar en Guadalajara en tiempo por el celebracion al cinco de Mayo. Mucho musico y muy bonito trabajar del fuego. Guadalajara es muy bonito ciudad y muy linda Senoritas aqui. Yo quedar en posada se llama El Nueva Munde.

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Guadalajara
(Jalisco)

Guadalajara, al 7 de Mayo. Yo hace nada todavia, aguarde por Senor Nelson para volvere. El fueron con su amigo Senor Jewy de Washington, Estados Unidos al cinco de Mayo y yo no veo el despues pero yo erco que el volvere esta tarde. Yo encontre un Americano ante ayer. El venga del Guatemala y fueron ayer temprano para Mexico por el camino de hierro. Senor Nelson venga para mi hotel y dice el cargo no lliegar todavia del Zapotlan. Cuando muestra cargo lliegar nos vamos para el campo.

Guadalajara Mayo 9th. Senor N. venga cerca diez y dicho mi para encuentran el y su amigo en le plaza de armas doce y cuarto y nos vamos por el tranvia para San Pedro por morselegos. Nos ganar tras y ganar arresti por tiro a dentro el ciudad des puas oscuro pero Senor Jewy tenia un papel del Senor Santa Cruz y nos marcharse muy facil pero elles dicho Senor Nelson por todas vamos alli no mas pero siempre permisse del el gobernador. Nestra cargo no llegar todavia.

Guadalajara 10 de Mayo. Senor Nelson no venga hoy y yo recibe no morcielegos. Yo vista Senor N. y su amigo y mujer esta noche en la plaza de armas. Yo estudiar espanol, gramatica inglase e sueno cerca todas el dia. Yo tomare un cesto paseo para la plaza esta noche.

Guadalajara 11 de Mayo. Senor Nelson venga aqui esta tarde y dicho a mi el volvere esta noche con mosos y tomare nuestra cargo aqui para Senor Jewys casa y yo vamos alli mañana y todas vamos para el campo. Nuestra cargo del Zapotlan llegue hoy.

Atemajac

Mayo 30. Senor N. su amigo a yo vamos por la barranca Ibarra e llegar en esta lugar la 16th de esta mes. Ganar en la barranca siete ratones de un clase no tengo antes, dos serras, dos tejens e un mapache e algunos pajaros. Desde estado aqui yo fue para la barranca abajo e ponga trampas por ratones nueva classe tambien. Dos nueva clases alli. Yo ponga numero uno trampas alli tambien e gane dos mapaches e un Zona-

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. . . (several pages torn from original notes)

Ahualulco
(San Luis Potosi)

August 24, left Hacienda La Parada 22 inst. A buckboard took us to Arenal, a flag station on the railroad; there we took the train back to San Luis, arriving at 7 in the evening. We found everything as we had left it in San Luis. Skins all dry and in good shape.

San Luis Potosi
(San Luis Potosi)

Ahualulco
(San Luis Potosi)

I left San Luis this morning on the 7:30 train and got off at Ahualulco. I am here expressly to try to obtain the species of Heteromys of which we got only 3 specimens at Hacienda La Parada. Will set as many traps as possible this afternoon. Mr. Nelson remained in San Luis to write up his reports. I took a look about this forenoon and noticed a sparrow (small) and a dark-colored bird with white belly which I took to be a flycatcher for the first time.

The country is very dry, resembling (Mr. N. says) Death Valley, Cal. Light showers of rain fell during two days about 10 days ago. No rain since then. Weather dry, cool, and at times, especially early morning, cloudy.

The natives of this section have a rather ingenious way of raising water for irrigation and other purposes called in Spanish "norias", consisting of 2 bevel wheels of wood with pegs about a foot long for cogs. The lower one is set in the ground on an axle so the rim reaches the water. Around the rim are arranged an endless chain of earthen bottles. Across the top of the upper is lashed a wooden lever to which a mule is hitched turning it round and round like a horse power which it is in fact. The bottles fill at each revolution and empty themselves into a trough.

Ahualulco is a small town; the best accommodations it affords are a rough, unplastered mud room with mud floor and a sort of bench 4x6 ft.

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Ahualuleo
(San Luis Potosi)

August

for a bed. My grub here is, for breakfast: coffee, eggs, bread and beans; dinner: broth, macaroni, eggs, meat, coffee, and tortillas; supper: tortillas and beans. In tramping around this forenoon, I found in a rocky arroyo near some water a narrow leafed kind of clover in blossom. Two colors, white and red. The highest part of the country is composed of low hills whose sides in many places are steep cliffs.

August 25 - Passed last night tolerably well although bed bugs overran me. Awoke in the night, lighted a candle, and turned my pillow over, - under it there were 40 or 50 (I didn't count them) fine ones. Sitomys (4 small and 1 large) is my catch from traps set yesterday afternoon. Two of the small kind were ruined by ants; I saved the skulls only.

I noticed today that in this part of the country and at this season of the year, people feed their cage birds on the seed of the pepper tree which grows abundantly in this section of country.

If my traps yield no better tonight, I shall be rather disgusted not getting what I came here for.

My lively "casadora" has just returned from the country on a burro, bringing with her among other things some green guineas, one of which she has kindly given me.

The natives here and in other parts of Mexico call bats "retones viejos", meaning that they are mice which have lived out their lives and turned into what we call bats. Another name for them in Spanish is "murciélagos".

August 26 - Last night's yield from traps consisted entirely of Perognathus, for which I do not care. If I get no Hesperomys tonight, I think I will return to town (San Luis Potosi) tomorrow.

This morning a boy brought me 2 Nyctinomus, 21 more bats were brought in today, 10 of them Vespertilio and the rest Nyctinomus. I have out a

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Ahualulco
(San L. Potosi)

August

strong line of traps down on the river tonight. I saw a flicker, several bluejays, and other birds this afternoon.

In this section of country grows a wild gourd looking very much like the one growing in the San Joaquin Valley, Cal.

I saw at Hacienda La Parada the other day growing in a field a single plant of California filori, the first and only one I have seen in Mexico. I have been on the lookout for more ever since.

The weather continues cool and dry. The corn crop, except where irrigated is a total failure through this section.

August 27 - Last night at last I made a haul of Heteromys (5 of them). This decided me to remain another day; will return to San Luis Potosi tomorrow, I think. I caught them last night down on the river under thick brush on banks, and ^{of} the five taken, two were males and three females. The females' stomachs were full of "tunas", the fruit of the broad-leaved cactus which is now ripe. Their cheek pouches contained nothing. They did not appear to have taken bait, but run into traps by accident. Both males had seed in their pouches and no "tuna" in their stomachs. One of them had taken bait. I intend trying traps baited with tuna tonight.

My landlady has been asking how I came to Mexico. When I said by sea, she wanted to know if I saw any "sirenas", or - in English - sirens. Also if I saw another animal like a horse with a long horn. She said she had heard much of them and did not know whether they existed, but thought they did.

August 28 - My "tuna" baited traps did not yield much, only one Hesperomys and one Sitomys (small). I intend returning to San Luis Potosi tonight.

Today being Sunday, the village is alive with people in from the country meet and are gossiping and eating "tunas" and drinking "aguamel",

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Ahualulco
(San L. Potosi)

"Mezeal", and other native "licores", nearly all containing considerable alcohol,- yet very few became intoxicated.

I saw yesterday a sparrowhawk, the only one in some time. Sage sparrows are also tolerably common here. I have seen nothing of the large woodpecker and grackle common at Hacienda La Parada, yet they must be here. I have seen several cottontails and squirrels, and this morning a jack rabbit crossed the trail in front of me.

San Luis Potosi
(San Luis Potosi)

August 30 - I came in on the train Sunday evening, as intended. Found Mr. N. sitting on his bed with two young ladies,- giving them a lesson in English, he said.

Yesterday was spent hunting boxes for shipping specimens and getting provisions for a trip south about 20 miles. Intended to take train at 5:30 but did not get ready in time, so remain another day.

This morning came down to market and bought three Lepus which we made specimens of.

Jesus Maria

August 30 - We took train at 5:30 and came south on narrow gauge road to Jesus Maria and tomorrow will start with animals and man for mountains west of here.

Sept. 9 - Since last writing went up into hills west of here as intended and made three camps. Got comparatively little,- a deer, a good series of a big-eared Sitomys found there, a half-dozen of a kind of lizard called by the natives "escorpion". It has a long body, short tail, and short legs. It moves with a sliding motion from side to side like a snake and appears to use its feet and legs very little. It goes very slowly and is easily overtaken. It lives among the grass and rocks on the hillside and is tolerably common. In color it is a dull green or brown.

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After a week in the hills we came down to rancho near base of same about 3 miles from Jesus Maria station. Mr. N. took the train the next day for San Luis and I stayed at the rancho two nights to trap mice.

Got 8 Sitomys from near base of hills, apparently the same, or differing very slightly from larger kind found on the plains here. One Heteromys, same as at La Parada and Ahualuleo and in same situation (brushy banks of dry wash), and 3 small Sitomys common in this valley.

In the hills also we got bluejays something the same as at Patzcuaro. Snow birds from hills appear decidedly different, being darker about head and more rufous on back and wings. Several other kinds found at Patzcuaro were noted. A few whip-poor-wills were heard at night.

San Luis Potosi
(San Luis Potosi)

Sept. 8 - I arrived in San Luis Sept. 3th at 10 a.m. and came back to Jesus Maria to trap Dipodomys, getting back to latter place at 7:15 p.m. Slept in the station and today hunted signs of my game. Have out a good line of traps.

Birds seen at Jesus Maria today: Bluejay, small gray sparrow, shrike, raven, sage sparrow, hummer, and thrush. We also got in the hills harned toads and several lizards beside one mentioned.

Sept. 7 - A good rain fell at Jesus Maria and especially in adjacent mountains, but was very light at San Luis about 30 miles north.

Jesus Maria

Sept. 11 - I have taken to date here 9 small jumpers with one additional skull; 5 Dipodomys, 1 Heteromys, 3 Spermophiles (spileosoma), with 2 additional skulls. I sent all skins on hand unstuffed to Mr. N. in San Luis by train this morning. Shot yesterday a gray sparrow and a small sparrow with rufous top of head.

A heavy rain has fallen here today. It has been threatening for several days.

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Jesus Maria

Sept. 13 - It has been raining almost continuously since first shower it rained last night, and the sky is still overcast today. I have taken nothing since the rain began.

Sept. 14 - Last night trapped for first time since rain; got two Dipodomys, 2 small jumpers, and one Sigmodon. Have out a full battery as usual tonight. The small five-toed rat found here has burrows principally along dry washes in sandy ground. The specimen of Sigmodon taken was from a dry sandy flat but nearby was a dry wash and some rather damp banks. Saw a male grosbeak this afternoon, the first noted here so far. Shot yesterday a small bird very much resembling a fly-catcher in actions. In color it is a bright yellow with some darker color on top of head.

Here also along the dry washes and generally in same location as five-toed jumpers and some others a small form of Spermophilus spilosoma literally swarms. It is almost impossible to distinguish between them by their holes. The Spermophile makes holes running into the ground sidewise in many cases. I get Spermophiles in traps left out all day almost every day.

I forgot to mention that the morning of the 11th inst. I got three small five-toed rats and three four-toed or Dipodomys. The form of Heteromys found first at La Parada and afterward at Ahualuleo and this place is not believed in Washington to be what E.W.N. thought. We went to La Parada expressly to get a species of Heteromys described from La Parada, Mexico, and thought we had struck the type locality but have since learned that another hacienda in Durango is also called La Parada. They say in W. that they think this is not the place although nothing more is none of the type locality other than that it is La Parada, Mex. This form is undoubtedly much larger than anything before taken. The

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Jesus Maria

first ones were taken at the mouth of the Armoria River, Colima, and were as . . . (several pages missing from original notebook).

San L. Potosi
(San L. Potosi)

Oct. 1 - Came up from Jesus Maria on the Nacional road this morning. I went down there day before yesterday to hunt birds and especially to get a kind of blue jay found there of which I had taken one before. Got down there: five jays, 2 woodpeckers, 2 shrikes, 5 Indigo birds, 2 warblers, 1 grackle, and 1 hawk. Besides the birds named are found: Mexican sparrow-hawk, Brown Papillio, Cathartes aura, Cactus Wren, Flicker, Thrush, Oriole, a small wren, at least two kinds small sparrows, at least four flycatchers.

I intend to take the train tonight for Querendaro, Michoacan. San Luis Potosi is situated on a plain covered with cactus of many kinds. Yucca or Spanish bayonet. Along dry washes that run from the hills grow pepper trees, willows, and cottonwoods. The climate is very dry; the hills to the south of San Luis are almost solid rock; on them grow, however, several kinds of oak, pinon, several kinds pine, manzanita, and other shrubs.

Querendaro
(Michoacan)

Oct. 2 - Arrived today at 10:30. Left San Luis as intended at 5:30 and arrived in Acambaro where I changed at 2:20 a.m. today. Found the vegetation much farther advanced than it was in August, of course. Lake Quitzeo, with its islands and herons, looks about the same. This and Patzeuaro with its lake and the region around it make up the finest country I have yet seen in Mexico. The whole country is flaming with miriads of flowers. I set some meat traps this afternoon and hunted for rabbits this evening. Two specimens (rabbits) taken here before are different from any taken elsewhere so I came here ahead of Mr. N. on purpose to try to get a larger series. I did not see one this evening

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Querendaro
(Michoacan)

October

and am afraid I will have difficulty in procuring any, vegetation is so tall and there is so much cover. I fired two charges of no. 6 shot at a coyote this afternoon but failed to stop him. No specimens today excepting 2 bats a boy brought.

Birds seen: Mexican sparrow-hawk, woodpecker same as at Jesus Maria, shrike also same, oriole, 2 hummers, and a small gray sparrow.

Querendaro, Oct. 3: 2 skunks, coon, 1 lizard, 10 bats, long-nosed and protruding tongue.

About all available land is planted to corn here. In many places even almost perpendicular hillsides are utilized.

Oct. 4 - Six bats, same kind as yesterday; 1 Spermophilus macrourus, 1 lizard. Birds seen: Mexican eagle, Mexican goldfinch, snowbird, Inca dove, California dove. The rainy season is about over here.

Oct. 5 - Three bats (same kind), 1 lizard. Birds seen: Kingfisher, another small kind of sparrow, Indigo bird? On the lake besides kingfishers are herons and other water fowl.

Some of the vegetation is the same as about San Luis. Pepper trees are plentiful but the great variety of cactuses is missing. Some flowers found at San Luis are also found here but there are many here not found at San Luis. Pine covered mountains are in sight from here.

Patzcuaro
(Michoacan)

Oct. 6 - Took train at Querendaro at 10:50 and arrived in Patzcuaro about 6:45, - train nearly two hours late. Mr. Pringle and Judd and Mr. N. came on train today. We picked up Mr. Winton at Morelia along with his Spanish preacher at Morelia. Mr. Pringle and Judd went to the hotel Ibarra on the lake shore, and Mr. N., Mr. Winton, and assistant went up town to the Concordia.

Nehuatzin

Oct. 7 - The four of us left the Concordia on saddle horses with

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Nehuatzin

two pack mules and mozo. Packed our outfit on two mules at station and started for this place on a trip. Mr. Winton and assistant accompanying us to hunt for pleasure. A ride of about 7 hours brought us here. We were delayed some on the road. I had to go back and round up the mozo once or twice. Mr. Winton shot a Campephilus imperialis on the way. We saw two on a tree about 100 yards from road. W. was the only man with shotgun in party and got one, shooting twice.

We skirted the Patzcuaro lake shore for a considerable part of the way, then turned off into the hills soon entering a good growth of pine (3 or 4 kinds). Principal crop, - corn, wheat, and beans. Soil very deep and rich. Crops raised on lower slopes of hills and in little valleys. Altitude of hills 8000 or 9000 feet. Shape, round, very fine rocks or cliffs. No oaks seen in this part of hills. They raise apples and peaches here. Saccaton grows in saddles between hills. A yucca passed on road today measured over 18 feet. Diam. at base: 8 ft. (Diam. 6 ft. from ground) was estimated to be 50 ft. in height. People here nearly all full blooded Tarascans. Birds seen: Bluebird, Campephilis imperialis, Brown Pipilo, 2 sparrows, 2 sparrow-hawks, eagle with black patch on top of head, Jacana, grebe, diver, ducks; blue jays heard.

Camp near Neuhatzin, Oct. 8 - Left Neuhatzin about 11:30 and camped in hills. Birds killed: 1 snowbird, 2 hummers.

Oct. 9 - Six Arvicolas, 3 shrews, 1 Ivory bill, 1 sparrow.

Salazar

Nov. 2 - Left Nahuatzin, Michoacan, Oct. 13. Rode to Arondiquero on the lake shore and then took canoe for Patzcuaro. Mammals taken at Nahuatzin: Sorex, 8; Arvicola, 23; Reithrodontomys, 10; Sitomys, 7; Geomys, 10; Sciurus, 2; Mephitis, 2; Cariacus, 2. Nasua not taken but said to be found.

Left Patzcuaro about Oct. 19 for Salazar. Animals taken at Patzcuaro

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Nehuatzin

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Left Patzcuaro about Oct. 19 for Salazar. Animals taken at Patzcuaro

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Salazar

Oct. 15th to 19th: Heteromys, 1; Procyon, 1; Lepus, 1. Mammals taken at Patzeuaro, Michoacan, July 14th to August 4: Bats, 5 (genus unknown); Sper. macrourus, 8; Sigmodon, 16; 5 Lepus 30; Mus masculus, 1; 2 Sitomys 7; 2 Geomys 7; Procyon, 2; Urocyon, 2; Spilogale, 1; Vespertilio, 67; Sciurus, 22; Mephitis, 1; Lynx, 1; Putorius, 3; Nyctinomus, 29; Tatusia, 1; Didelphys, 1; Conepatus, 1; Cervus, 1. Birds taken, Nahuatzin: Campephilus imp., 6; Junco, 2; Hummer, 2; Regulus, 1; Dryobates, 1; Certhia, 1; Large creeper (brown) 1; Melanerpes, 2; Buteo borealis, 1.

Arrived at Salazar, Mexico, Oct. 19 alone. Mr. Nelson stopped in Toluca with Mr. C. G. Fringle and assistant to see governor of this State. Very little of the country was seen as most of distance was travelled during night and the mountains were shut in by clouds.

Salazar, altitude 10,300 ft., is a small station on summit of divide between Mexico and Toluca valleys. At this season of the year, it is very cool with freezing every night. From summits near here the Toluca volcano and portions of Mexico Valley may be seen.

Lerma
(Campeche)

Nov. 9 - Since last writing, Mr. N. has returned from San Luis Potosi; returned 7 inst. Sunday, Nov. 5, I was held up by five men on road to Salazar just above Jalapa and robbed of gun, watch, .75 each, and other small items. Three men attracted my attention in front by coming along road in front and toward me, but made as though to pass and when about 20 feet in front of me closed in and then I saw one man had a knife in one hand and a stone in the other. The others all had stones only. My gun was all ready off my shoulder as I never pass anyone on the road at night without taking it down. When I saw their intentions I started to shoot, but at that instant two men from behind reached me. One grabbed the butt of gun and the other struck me in

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Lerma
(Campeche)

left temple with a stone cutting a gash to skull. Then all of them were on top of me and took everything I carried but did me no more bodily harm. They all ran off and entered the woods and I made my way to Salazar and reported the matter to Jefe. He sent two soldiers with me the following day. We searched the houses in the vicinity and made inquiries, but all to no purpose. Meanwhile the officials in other pueblos had been informed and by 12M three of the five were taken about ten miles from scene of robbery. They held me up about 6:15 in the evening; it was already quite dark. If the two behind had been two seconds later, I would undoubtedly killed one of those in front. The gun, watch, and nearly all the things stolen were taken with the prisoners. At present writing, two of the five are still at large and a hatchet, two pocket knives, and a tape-line have not yet been recovered.

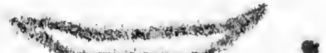
Nov. 7, Mr. N. and I in Salazar received a request from Jefe in Lerma to come to that place the day following, which we did. After a few preliminaries the Medico examined my head and the Juez said I would have to remain under his care for some days. Mr. N. went to Salazar the same evening,-- I remaining in Lerma. The following morning I took the train to Salazar, helped Mr. Nelson pack up and at 11:15 he took the train for Mexico. I walked down the mountain accompanied by two soldiers and picked up some traps I had set. At Ocoyoacac I took the train to Lerma where I remain.

The Toluca Valley is a plain a good share of which is marsh. Alt. 8000; said to be the highest valley in the Republic.

Nov. 12 (Sunday) - Corn is here as in most parts of the country the principal crop. Barley and beans are also raised. Here I still remain. I expect Mr. N. back from Mexico tomorrow. The weather is dry and very cool with frost at night. I was rather surprised at Cleveland's popularity shown by the recent election.

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Lerma
(Campeche)

Nov. 15, Wednesday - Mr. N. came the evening of the 13th and returned to Mexico yesterday. The Indians have rather queer canoes for navigating Lerma Lake. They are altogether different from anything I have seen in any other part of the country. They appear to be all about the same size; I judge they are 15 feet in length, barely wide enough for a man to sit in. They are very shallow and run to a sharp point; both ends seem to be exactly alike. In shape they are something like this:  .

Arvicolas and one kind of Sitomys seem to overrun the whole country hereabouts. They, with a few Reithrodontomys and one specimen of one other species make all the mammals taken so far from this valley. The places most favored by Arvicolas seem to be grassy banks along drainage ditches or elsewhere and near the base of the mountains around large bunches of Saccaton. In the former situations, regular networks of their trails may be found. The Sitomys swarm everywhere any kind of shelter can be found. The Reithrodontomys seem to favor the higher and dryer parts of the country. Most of those taken were from maguey fields on slight elevations here in the valley.

The whole valley is very wet. A good share of it is covered by Lerma Lake. Wherever crops are raised on the remainder, drainage ditches have to be dug around them.

Mammals taken at Salazar, Mexico: (List given in original notebook).

Birds observed at Salazar, Mexico (List given in original notebook).

Nov. 17 - No trees grow here naturally except perhaps two kinds of willow; one kind grows around the lake in the wet ground and a kind of weeping willow also, but it may be that the weeping willow has been planted here. Many kinds of grasses are found, especially a small kind resembling salt grass. I had a good view of a boat turned bottomsides up yesterday, - the two ends are not alike as I at first supposed. The

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Lerma
(Campeche)

widest part is nearer the stern than bow and the keel curves longer than the stern. The Indians propel them by long narrow paddles and can move them at the rate of 6 or 7 miles an hour, I should judge.

There is a rather queer spider here. Its nest is an inverted sack of webbing which turns water in the top of the inverted bag the eggs are raised and young hatch. The webs are very strong. Their favorite locations seem to be between the wide spreading branches of the maguey where they swing their nests. Often a nest between each of the leaves, and in a maguey field between the points of different plants. Looking through a field toward the sun, one can see hundreds of nests with their webs shimmering in the sunlight.

On the mountains separating this from Valley of Mexico grow fir and at least two species of pine,- one 3-leaved, the other 5-leaved. The cones of the 5 leaved species have slightly rounded points. Low down on the slopes grows a kind of oak. There are a few shrubs but the woods are free from underbrush.

In addition to the birds taken at Salazar was two specimens of grouse.

The natives of Mexico seem to be great for keeping pets of all kinds (animals and birds). A few of the kinds are dogs, cats, pigs, burros, babies, and in cages almost all kinds of common birds, such as different kinds of doves, parrots, finches, solitaires, and even some long-legged waders; also squirrels, pink-eyed white mice, rats, and rabbits.

Nov. 23 - (Thursday). Weather is still cold and until 9 o'clock in morning is foggy.

To butcher an animal in this country they lead it (cattle) into a yard where the ground is tolerably clean. While fastened by the head, one man throws a loop on the two hind feet drawing them together; three or four pull on the rope and the animal is thrown. Then the front feet

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Lerma
(Campeche)

are fastened together and the hind and front feet drawn up close together. The animal is of course now helpless. Then one man plunges a long knife with a sharp point and very thin blade into the animal's breast through the jugular vein and into the heart. They save the blood as it runs from the wound and kick the animal to make it bleed more. Finally they turn it over onto the other side and kick it until blood is all drained out. Then beast is skinned and meat cut upon skin and carried away. During the process, women approach and make laughing remarks on the size of testicles, etc.

City of Mexico
(Mexico)

Nov. 25 - Mammals taken Toluca Valley: Arvicola (probably different from one taken at Salazar); two Sitomys, differing also (for list see original notebook # 2). Birds killed near Lerma, Toluca Valley: (for list see original notebook # 2).

I reached this city yesterday about 10 a.m.

Tlalpam
(Mexico)

Dec. 26 - We came out here from City Nov. 28. The city, nine miles away, is reached by a motor road, "linea de Tlalpam". Tlalpam lies at the base of the "Cerro de Ajusco". It is nearly surrounded by lava beds "Pedregal". Immediately east of town is a sandy plain reaching to Lakes Chalco - Xochimilco "Arenal". South, south-east, west, and north-west of town is all "pedregal".

Mammals, Tlalpam: (For list see original notebook # 2.)

Sitomys: 3 species are common, one with rather large ears is found principally in the pedregal. One rather lighter in color and tail shorter is common in the arenal and along ditches in the valley. A small brown kind with short tail is found pretty much everywhere but less common in the arenal. Oryzomys: A few specimens were trapped in a ditch containing water near the depot. The traps were set on banks just

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Flalpan
(Mexico)

at the edge of the water. Perognathus: Tolerably common in the arenal. Several were caught at mouths of holes where Dipodomys were living. Spilogale: I caught 5 specimens in the pedregal. They live in holes among the rocks. Mephitis: Five specimens were taken, none of them exactly alike. Most of them were captured along stone walls bordering corn patches in the pedregal. Procyon: Very common especially along the small creek just below town and around grain fields in that vicinity. Didelphys: Common in the pedregal. Those taken were rather small. Heteromys: Not very common. Several were taken around rocks and stone walls in pedregal. Cariacus: A fine buck was brought in by a native hunter from slopes of the "Cerro de Ajusco". Sorex: One species is found along water ditches and swampy ground in the bottom of the valley. Dipodomys: Very common everywhere in the arenal. Spermophilus mexicanus: Not very common; specimens taken were from arenal. S. macrourus: Quite common in parts of the pedregal, especially along the edges and in stone walls around corn fields. Neotoma: Common in pedregal, but hard to obtain. It is a small species. Reithrodontomys: A few were taken around some magueys along the bank of a ditch. Geomys: A large species is very common but hard to trap. All of those taken were shot while at work. They work at all hours but mainly at night and early in the morning. Bassaris: They live in caves in the lava-beds; come out into the open fields at night. Rather common. Sciurus: A very black species is not uncommon higher up in the fir timber. Lepus: At least two species, - one very large species similar to one found on high hills near Patzcuaro, Mich., and one smaller kind called "castellanos" by the people is rather common around grain and maguey fields. Putorius: Rather common in the pedregal. Mus: Two specimens were brought in by a native; common enough in the houses everywhere.

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Ajusco

Dec. 15 - We moved camp to Ajusco just under the tall peak of the same name. The altitude of the peak is 13,621 feet; that of the village about 9,500. Here we remained four days during which time I made trips to the main mountain principally. A large share of the country hereabout is covered with beds of volcanic sand and lava beds.

Vegetation: Leaving Tlalpam and beginning the ascent we passed through scattered cypress-? timber and higher up juniper, oak, and pine. Animal life seemed to be very scarce; a few warblers, snowbirds, and sparrows were seen and a trogon shot by Mr. Nelson.

Mammals, Ajusco - Sciurus: Same locality (mountain slopes) as those taken from Tlalpam. **Sitomys:** At least two species are common. A large, long-tailed one from high up on the volcano and a smaller yellow one from lower down; both live around rocks. **Reithrodontomys:** Several were taken high up on the volcano around some large rocks. **Geomys:** Same as that taken at Tlalpam but less common. **Neotoma:** Common around rocks and cliffs on north and east slopes of volcano. It is a large kind. **Cryzomys:** Common along with the larger kind of Sitomys. **Lepus:** At least two species are found hereabout. One very small similar to that taken on the high hills at Patzeuaro, Mich. The other very large and the same or similar to the one from place just mentioned. **Arvicola:** Common in favored places. The country generally appears to be too dry for them. The few specimens taken were from near the top of ridge just east of main peak (about bunches of saccaton) and from a damp weedy spot in a canon on the north slope of volcano. **Sorex:** A single specimen was trapped from same spot as Arvicolas from north slope of volcano. **Procyon:** Very common everywhere about the village and high up on the volcano. Skunk tracks were seen but none obtained. The ground was rooted up in many places presumably by them.

Trees: Apparently two kinds of pine are found on the top of ridge

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Ajuseco

not found lower down. One kind having a long pointed cone is found nearly to summit of the volcano.

Tlalpam
(Mexico)

We returned to this place (Tlalpam) Dec. 19. (For list of birds from Tlalpam and from Lerma, see original notebook # 2).

Huitzilac
(Morelos)

We left Tlalpam December 27 for Huitzilac, Morelos. We crossed the divide passing south of the "Cerro de Ajuseco" on horseback. Soon after crossing divide we passed the Cruz del Marquez which marked the boundary of Cortez hacienda which included nearly the whole of the state of Morelos. A few flycatchers, snowbirds, sparrows, woodpeckers, sapsuckers, flickers were seen enroute.

We arrived about 5 p.m. and two men who had charge of our outfit showed up about an hour behind us. The principal vegetation seen on the road included cypress, juniper on the lower slopes, on Mexican side higher up on the mountains we met with pine and near Huitzilac the oaks come in. The altitude of the place is about 7500 ft.

Mammals, Huitzilac, Morelos, Dec. 28 to Jan. 2: Bassaris: I trapped several specimens near town. They are quite common. Reithrodontomys: I caught four in the sacaton several miles above town near the base of pine-covered hills. Urocyon: A single individual was bought of a native hunter who killed it in the hills near town. Arvicola: Common in sacaton near base of pine-covered hills. Cryzomys: I caught a single specimen in same locality as Arvicolas. It was unlike those taken at Tlalpam. Dipodomys: None were procured but I saw unmistakable signs of them near base of pine-covered hills in a field. Sitomys: At least two species are found. Near town but one specimen was taken as they refused bait, but on the pine-covered hills near divide and near their base they are very common. Geomys: Common but very shy of traps. Specimens we pro-

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Huitzilac
(Morelos)

ured were killed by native hunters. Lynx: A single specimen was bought of a native hunter. Lepus: One specimen brought in by hunter. Sciurus: Rather common in the oak woods but hard to procure as the woods are very thick and the ground covered with leaves it is impossible to move without making noise; also many of the trees are covered with long moss and air plants that render it very easy for squirrels to hide.

Birds at Huitzilac: For list of birds see original notebook # 2.

Guernavaca
(Morelos)

We left Huitzilac January 2 and moved down the mountain by stage to Guernavaca, Morelos. From Huitzilac we could see all over the warm country below. Guernavaca, altitude 5000 ft., is situated on a plain of the same name. Deep barrancas leave the hills and cut through this sloping plain toward the south. The plain is stony and lava beds are frequently met with. The principal outcroppings of rock are in the barrancas and there it is a mere conglomeration formation.

Mammals, Guernavaca, January 2 to 10: Bassaris: Very common along the barrancas. Lepus: A jack rabbit and short-eared cotton tail are found but not in great numbers. Sitomys: Two species of this genus are found, a small brown short-tailed kind is rather common in the fields along the barrancas. A large and very long-tailed species are found sparingly mostly along the walls of the barrancas. Urocyon: I caught a single specimen along the barranca about 3 miles below town. Heteromys: Rather common along the barrancas in favored places, their holes may be found in considerable numbers. Bats: Three species were taken here from caves, one just at the edge of town, the other about 3 miles below town in the barranca. One species belonged to the genus Saccopteryx? Of the other two, one had very large ears and the other was long-nosed. Reithrodontomys: I caught one only in some grass along a barranca. Sigmodon: Common in grassy meadows along the barrancas.

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Cuernavaca
(Morelos)

Birds at Cuernavaca: For list of birds see original notebook # 2.

Vegetation: Along the barrancas and wherever water can be obtained for irrigation all kinds of tropical fruits grow. A few of them are: oranges, coffee, guayabas, mangoes; limes grow wild. Corn, beans, peppers, tomatoes are grown wherever water for irrigation can be obtained. A little south of Cuernavaca in a lower section of country, sugar-cane is raised in large quantities. It forms one of the principal productions of the State. Mesquite bushes grow throughout this section.

Yantepec

We left Cuernavaca for Yantepec January 10. We started about 8 a.m. and rode to the last named place, arriving about 2 p.m. Between the two places a series of limestone hills cross the country. A few birds were shot en route. We stopped in Yantepec at the Hotel de Zaragoza. We got a couple of rooms there and got our board at a fonda about two blocks away.

Mammals, Yantepec, January 10 to 17: Cryzomys: I caught several specimens along an irrigating ditch near town. They are apparently like those taken at Tlalpam and have the same habits, living just at the edge of the water. In some places the ground near the water is worn smooth by them. Heteromys: Very common everywhere especially in the weedy fields of corn. Sitomys: Two species of this genus are found. One like the small brown ones found at Cuernavaca; the other, larger. Neither are very common. Signodon: Tolerably common around the fields in grassy borders. They did not take wheat bait offered them. Spile-
gale: I caught one at a hole along a broken ledge of lava about two miles from town. Tatusia novemcincta: I saw one one afternoon rooting in the ground among some bushes. I made a dash at it and it heard me and made off as fast as it could go. I chased it about 20 yards and caught it by the tail; it struggled but made no attempt to retire in its

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Yantepec

shell. Bats: One large one was brought in by a native who said he shot it as it hung among the thick branches of a mango tree. Reithrodontomys: I caught one along a stone wall bordered by bamboo and large grass. Lepus: Rather common but hard to procure at this season on account of abundance of cover and the fact that they never come out to feed in daytime. Several specimens were bought from the natives. They are probably the same as that taken at Cuernavaca. Didelphys: Common. They seem to live very often beneath the floors of buildings.

Birds at Yantepec: For list of birds see original notebook # 2.

Vegetation: The vegetation here is much the same as at Cuernavaca. The same fruits grow here and perhaps the Chirimoya and anona and mamay may be added. The limestone hills, however, are covered almost entirely by a flora differing from that of the surrounding country. A striking plant of these hills is a kind of wild fan palm. They grow a bare stem from 10 to 15 feet in height and at the top a bunch of the fan-shaped leaves. The natives must pay them regular visits, for I noticed that all the larger ones have notches cut in the trunks for climbing.

Note: We left Yantepec January 18. The water has a bad reputation both here and at Cuernavaca and elsewhere. Mr. N. got a troublesome diarrhea and towards the last I was slightly affected in the same way. Mr. N. had planned a trip to Jojutla and to the cave of Cachuamilpa for bats. He caught a cold and came near having pneumonia and a hemorrhage of the lungs. I had by this time been feeling dull for some time. Mr. N. concluded to leave the State and move back in the state of Mexico. We got tickets and checked our baggage on the "Terro Carril Oceanico" for Amecameca. On the way, Mr. N. concluded to go on to the City and get braced up. I stopped with outfit at Ameca. I hunted up the hotel del Terro Carril, - Don Manuel Tirado, Prop.; and, in a few days discovered

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Amecameca

that I had a pleasant little dose of malarial fever. I went to Mexico, saw a doctor, and got a prescription and afterward took plenty of quinine. By February I had the fever broken and Mr. N. came back from Mexico. We then proceeded to do a little work in the vicinity of Ameca. The place is situated near the base of both Istaccihuatl and Popocatepetl and is the starting point for the ascent of the latter mountain. The altitude of the place is about 8000 feet.

Mammals at Amecameca, February 1 to 7: Geomys: Tolerably common in the fields. Several were procured. Bassoris: Common. Sitomys: Two species are found, one in the fields and another in the hills. Lynxus: A specimen was bought of a native. Lepus: One specimen brought in by Indian. It was rather large in size. Neotoma: Common along cliffs in hills above town. Arvicola: I caught a single specimen along stream above town. Cryzomys I caught one in some bushes on a hillside. Procyon: Tracks were seen. Didelphys: Tracks were seen.

Birds at Amecameca: For list of birds see original notebook # 2.

Vegetation: Cypress and oak cover the hill near town and probably at one time cypress woods covered the whole plain here. In the hills above town firs begin. Maguey plants, corn, wheat, and barley are the principal crops. They use here a few American plows with two handles but hitch animals sometimes mules, usually oxen, to the plow. The mules pull by a yoke lashed across the back and the oxen by a yoke lashed to the horns.

Note: We left Ameca for Yekapixtla February 8 in Morelos, our real destination being "Tetela del Volcan". Yekapixtla is the nearest railroad point to Tetela. We went to Tetela expressly for a kind of Neotoma taken near there by Ward some years ago. We failed utterly to find any signs of rats. We had great difficulty to get an outfit in Yekapixtla

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and did not reach Tetela until the 9th. A new station is being built at Yekapixtla. The town is about a mile from the station. There is nothing striking about the vegetation at Yekapixtla. There are a couple of barrancas near town resembling those at Cuernavaca. No fruit is grown near this place excepting bananas and a few sweet lemons.

Mammals at Yekapixtla, February 7 to 9: Sitomys: Two specimens of the long-tailed kind found at Cuernavaca was the only mammals taken. Geomys: Diggings were seen near station. Spermophilus: A ground squirrel resembling Spermophilus macrourus is found here. I saw one but failed to get it although I fired two shots at it as it ran.

Birds at Yekapixtla: For list of birds see original notebook # 2.

Note: February 10 we managed to get off for Tetela del Volcan. It is only about 4 leagues from Yekapixtla. We left the latter place about 8 a.m. and rode up grade straight towards the big volcano and reached Tetela without incident about 1 p.m. It is only a small Indian village and we were quartered in the Juzgado or courtroom. The altitude is about 7500 feet. Principal timber is pine with a few oaks.

Mammals at Tetela del Volcan, February 9 to 13: Procyon: I caught one near town. They are common. Mephitis-?: I saw tracks of a species probably belonging to this genus. Sitomys: One species of bright colored ones I trapped just below town along a barranca. Lepus: A small specimen was obtained of a native hunter. It appeared to be young. Bassaris: No specimens were taken but tracks were seen about the hills and along barrancas everywhere. Urocyon: I caught one near town. Sciurus: One was brought in by a native hunter. It was rusty brown below with white patches on inner side of ears. It differed from anything taken elsewhere. Nyctinomus: Specimens were shot by Mr. Nelson as they issued from an

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old church. Sorex: I trapped one specimen in the fir timber on hills above town. Spermophilus: A young ground squirrel resembling S. macrourus was brought in by an Indian. Artibeus: Six specimens were obtained. Here they live in holes in the walls of conglomerate along canons. We have found them elsewhere living in the banana plants. Birds: For list of birds see original notebook # 2.

Note: We left Tetela del Volcan February 13 and rode about 6 leagues through pine, cypress, and oak timber to Ozumba, the eating station on the railroad. Here we got a feed and took the train back to Amecameca, Mexico, arriving about 2:50 p.m. Here we found our friend Mr. L. W. Bisland still at Hotel del Terro Cerril.

Still making Amecameca our base of operations, we left it for Mt. Popocatepetl February 21. Crossed the sandy plain in the direction of the mountain for about 8 miles before reaching any hills or timber. The plain has all been cleared of timber and planted to corn and wheat. Firs begin along the gulches on the plain. We passed through a belt of fir, cypress, and now and then a willow appeared,- also a number of flowering shrubs were noted. They were mostly yellow. We also noted a few small red flowers only about 4 inches high. They were red and had four petals. Soon the cypress and other trees gave way to the firs almost entirely. Finally about a league from our destination we emerged from the firs and came into a more open country. The firs were replaced by a kind of pine and a few oaks and shrubs. There are three very distinct zones of vegetation on this mountain,- one "lower pine", one of "fir", and an upper pine. The pine above bears a larger cone and I think differs in the number of leaves.

Our intention was to stop at Tlamechus, a rancho used by tourists as a shelter and by the natives for purifying sulphur from Popocatepetl's

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crater. It consists merely of three frame huts, one contains a furnace for treating sulphur; one is a sort of stable; and the other contains a bed of straw in one end for spreading down blankets on. A fire is built on the ground in the center of the room. We did not, however, reach it today but turned off the road and camped in a cleft of a cliff along a canon through which runs a small stream of water. Very heavy saccaton grass grows along canons; the country is covered by a smaller grass, - a sort of bunch grass, - I afterward found extending up nearly to snow. Some of the birds seen enroute were for the plain: Pipilo fuscus, Carpodacus mex., snow bird, Otocorus, and on the wooded slope swift, snow bird, flycatcher (red and black, crown patch rufous, two outer tail feathers white) and I shot a Cyanocitta stelleri diademata; also saw Colaptes cafer.

February 24 - We left our camp at cave and moved to Tlamachus. Stayed all night there and next day climbed Popocatepetl to the crater. It was very cold, - 20° above zero our thermometer registered. We were glad after taking a look at the crater and the country around to begin the descent. We climbed down to timber line and found our horses waiting. After a light lunch we rode down to Amecameca arriving about 7:30 p.m. The snow gave me a slight attack of snowblindness. As we rode into Amecameca every light I saw looked like a ruby one. We found our friend Mr. Bisland still in Ameca. There appeared to be a small glacier on Mount Popocatepetl just to the left of Frier's Peak. There was no other sign of a glacier to be seen.

We left Ameca February 28 to climb Ixtaccihuatl. After crossing the plain to the foot of hills we rode through three successive belts of timber very distinct in character: 1. The firs, oaks, pine, madronas, etc. 2. Fir almost entirely. 3. Another belt of pine and a few oaks.

The two belts of pine are probably of different species.

With two guides and a man to attend to pack and riding animals, we proceeded to a cave near timber line and camped. I set a few traps in the afternoon for gophers and Neotomas. We were accompanied on this trip by Mr. L. W. Bisland of New York. He remained at this camp the next day while we were on the mountains.

Leaving camp early we proceeded, accompanied by the guides, as far as we could on horseback. We reached a point near the point of the large glacier on this side where we left our horses. The "guaraches" were adjusted on our feet and the climb began. It was very cold. We soon reached a point when steps had to begin to be used. These were cut by one of the guides who was in the lead. Slowly we worked our way upward over the glacier, the guides taking turns at chopping steps in the solid ice. The glacier is crossed in every direction by wide and deep crevasses,- these had either to be crossed or gone around and, owing to them the climb was slow and very dangerous.

We reached the top of about the middle of the mountain at about 11 a.m. But did not reach the highest point to our left perhaps 300 ft. higher. Our failure to reach it was due to lack of time,- knowing that the ice would begin to freeze and render our descent impossible, we spent only a few minutes on top. If we had had an hour more we could have made the extreme summit, as there were no insurmountable difficulties.

Starting down we retraced our steps a portion of the way and then crossed over to the side of bare rock running up toward highest point. We descended along this with tolerable ease and safety, reaching our camp near timber line shortly before dark. Once on the climb upward the guides stopped and repeated together a prayer in Spanish, imploring the Virgin Mary to protect them from the crevasses.

There are a number of lateral morains showing that glaciers have ex-

tended much lower down formerly. There are moraines inside of morains. The glacier at present has several sources covering a large share of this side of the mountain. Near the top these unite and run to a point a short distance above timber line. In the crevasses and near the summit near rocks where the snow has broken off leaving the face bare, strata showing deposits of snow for at least 10 years can be seen. Large rocks are floating on the surface and indentations may be seen where rocks from above have become loosened and went thundering down until they reached a crevasse wide enough to catch them. The largest crevasses are about 30 feet across and some of them must be at least 100 feet in depth. While descending, Mr. Nelson detached a rock weighing probably 200 pounds; it broke into several pieces and gathering momentum as it went, it would bound at times 50 feet or more in the air and finally left the glacier and brought up in a lot of porphyritic boulders below it.

There are no signs of volcanic action about this mountain. It is composed of solid porphyry.

Stepping the night of March 1 in our camp in the cave we rode to Ameca the following day. We wore no glasses on the mountain and Mr. N. and I suffered severely for several days from snowblindness. We could not use our eyes and were obliged to stay in a dark room.

About March 5 we left Ameca for Mex. with all our outfit, where we stayed a couple of days and continued our travels as described in another place.

In addition to the mammals given from this place (Amecameca) we afterward took the following: Mephitis: A few of these live about Saero Monte. One specimen was trapped. Dipodomys: I discovered a few of their holes near the railroad about a mile from town toward Morelos. The ground here is very sandy and is, I should think, well suited to

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them but they appeared to be not common. I trapped several specimens. Sitomys: A kind of white-bellied S. is very common along with the preceding species. Spermophilus: Just before leaving Ameca a native hunter brought in a specimen of this genus, perhaps macrourus. He said he shot it along a barranca in the direction of the Mexican Valley and at a lower altitude than Ameca.

Notes on Mammals of Tula, Hidalgo, Mexico, March 7 to 13, 1893.

Urocyon: Trapped one specimen in the hills near town. Sitomys: I trapped two species of this genus here. Heteromys: I caught two specimens of this genus across the river Moctezuma from town. They were living among some wild agaves on low ground. Nyctinomus: Mr. Nelson shot 1 specimen and I another one evening near the river. They fly about the river in considerable numbers just at dark. Flying over the water they dart down and touch it occasionally as if drinking as I suppose they do. Bassaris: Common among the hills and along the river banks near town. Geomys: I trapped four spec. of a very red colored species across the river where a branch comes in. (Note omitted in proper place, Jack Rabbit common. E.A.G.)

List and notes on some of the birds observed or collected at Tula:

Amphispiza belli nevadensis: I shot 1 specimen on the hills west of town and saw several others. Cardinalis: I shot a single bird near a canon coming out of the hills south of town. Pipilo fuscus: Rather common in the maguey fields. Harporhynchus curvirostris: Found very sparingly. I shot one bird and saw one other. They are found generally around large cacti. Lanius: A species of this genus is tolerably common. They are found across the country in all sorts of places, alighting on trees, bushes, telegraph wires, etc. Falco: At least one

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species is common. Otocoris: Common on the higher parts of the country. I usually saw them about sunset. Carpodacus mex. frontalis: Common in all parts of the country in the fields and about buildings. Dryobates scalaris: Common. Dendroica auduboni: Common. Mimus polyglottos: Common. Scolecophagus cyanocephalus: I saw them on various occasions in some plowed fields across the river. Mectezuma. I saw these birds at 10,500 feet altitude at Salazar, Mexico, last November. Spizella atrigularis: Not common. They are found on brushy hillsides and in maguey fields. Ceryle cabanisi: Common along the river. Aphelocoma sumichrasti: Not common. I shot one bird in a rocky cañon southwest of town in the hills. I heard or saw a few on several occasions, always near this locality. They were the only ones seen in the neighborhood. Anmodramus sandwichensis?: Common in the Valley of Mexico especially in the marshy parts although they are also found in fields where it is perfectly dry. Clivicola riparia: Common. Tachycineta thalassina: Common. Catherpes mex.: Common. They are found about cliffs, stone walls, and houses. Pyrocephalus rubinus mex.: Common only along the river. Scardafella inca: Tolerably common along the river. They are nearly the color of the ground and often one can approach them until quite near when they start suddenly from the ground at the same time making a rattling noise with their wings. Melanerpes aurifrons: Tolerably common in the tall candelabra cacti.

The following, in addition, are from the catalogue of E. W. Nelson: (For this list, see catalogue of E.W.N.).

Note on vegetation: The vegetation of Tula is the same pretty much as of the dry parts of Mex. highlands generally. Cacti of many kinds grow on the higher parts of the country. A kind of oak bearing very small acorns grows in the hills southwest of town. Some very fine ash trees have been planted about town and especially between the plaza and

bridge across the river on the road to Pachuca. Sehinus melle is common.

Notes on mammals of Pachuca, Hidalgo, Mexico, March 13 to 29:

Sitomys: Two species of this genus were taken, the larger kind like larger ones taken at Tula; the others like white-bellied Sitomys generally taken on mountains. Lepus: Tolerably common but hard to get. Mr. N. bought a cottontail in the market. Didelphys: Common. They climb up into and drink the pulque from bearing maguey plants.

Notes on birds of Pachuca. Falco: At least one species is common.

Ammodramus sandwichensis?: Common. Spizella socialis: Very common.

Pipilo fuscus: Tolerably common. Gnatcatcher: Common. Lanius: Common.

Campylorhynchus brunneicapillus: Not very common. Polyborus cheriway:

Not common. One alighted near me one morning with something in his mouth he wished to eat. I walked slowly towards him and when about 30 yards from him he took two or three running steps and flying alighted again about 200 yards away to eat what he carried. Cathartes aura: Common.

Carpodacus mex. frontalis: Common. Spinus psaltria mex.?: Common

in the trees and fields on the plain below town. Thryothorus: A species of this genus is very common in maguey fields and among cacti. Melospiza

lincolni: Common in maguey fields. D. scalaris: Common. Harpornhynchus curvirostris:

Not common. I shot one bird off a big cactus.

Spizella atrigularis: Not very common; generally found on brushy hills.

Clivicola riparia: Common. I saw them several times apparently drinking and bathing in pools of water left after a rain. Dryobates bairdi:

Rather common about big cactus plants. Helminthophila celata: Not very common; I shot one off a tall century flower. It would flit from one to another of the flowers looking for insects.

Vegetation of Pachuca: The vegetation about Pachuca is much the same as at Tula. The country is very barren. Cacti of various kinds grow on the hills and plain. Higher up in the Sierra de P. grow first pine,

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then firs come in near the top. Schinus molle is common.

Mammal Notes, El Chico, Hidalgo, Mexico, March 21 to 26, 1893 -

Nyctinomus: Common. They may be seen flying in considerable numbers about dusk. They live in houses and caves. Sitomys: I had good luck trapping for a species of this genus in the oak woods. It was the same as those I trapped for with poor success at Amecameca, Mex., Huitzilac, Morelos, and elsewhere. They appeared to be the only species of the genus found here. Neotoma: I found signs of them about large rocks about 1000 feet above town and although I kept out traps for the entire time spent there not a specimen rewarded my efforts. Lepus: A rather large species is tolerably common, called by the natives "castellanos". Bassaris: Common along canons below town. Canepatus: I caught one in a canon below town. Procyon: Caught one below town. Arvicola: Common in favored places on top of Sierra de Pachuca, - along streams under bushes, and along the banks and in wet places in meadows where they have their holes in the banks and their runways tunnel through lumps or tussocks, etc. Urocyon: I caught a very dark colored specimen in a canon in the oak woods. Mephitis: One specimen with very little white on it was brought in by a native. Tatusia novemcincta: A specimen was brought in by native. Mr. N. had me make a skeleton of him. Thomomys: Tolerably common in meadows on the top of the Sierra de Pachuca.

Birds of El Chico, collected and observed. Basileuterus: A species of this genus is found sparingly. Those I saw were below town along canons. Helminthophila celata: I shot one and saw several others. Carpodacus mex. fron.: Very common about town. Ergaticus ruber: Common above the town on the mountain. Vireo: Common and found in the woods pretty much everywhere. Merula migratoria: Common. Buteo: I saw them on several occasions but did not kill one. Pipilo (mountain species): A rather large bright colored bird is common. Solitaire: A kind of

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solitaire was common and has a very fine song; I shot one bird. Mr. N. shot one at Huitzilae, Morelos. They are found in many parts of the country. They are rather sky birds and their song may often be heard when it is almost impossible to catch sight of the singer. Cyanocitta stelleri: Birds presumably of this species were tolerably common higher up on the mountain. Apelocoma: Not common. One specimen was brought in by native hunter. Mr. N. saw and shot at a flock of them. I saw them on several occasions near one place but always out of reach. Alouatta: A species is common near the top of the mountains in the bushes. Myiarchus: A species of this genus was seen several times and I killed one bird. Micropus melanocephalus: Common near the top of the mountains where they would circle and fly about the big rocks on summits. They were probably migrating. Hemiprocne: I saw one bird here, probably of this genus. Snowbird common. Setophaga picta: Common. Dendroica olivacea: Common. Habia melanocephala: Common. Parus meridionalis: Not very common. Sphyrapicus varius: Not common. I shot one bird; the only one seen. Certhia familiaris americana: Mr. Nelson shot one bird. Junco cinereus.

Vegetation: This side of the Sierra de Pachuca is well wooded. On the higher parts of the mountains there is heavy fir timber and down nearly to El Chico. Just above town oaks begin and near town there is fine oak woods. A number of species of small flowers were seen and there were several flowering shrubs. Below town the oaks give way to a rather stunted and scattered growth of pine.

For list of birds killed at San Augustin March 18, and not seen at Pachuca, see original Goldman Notebook # 2.

For list of mammals of Irolo, Hidalgo, Mex., March 29 to Apr. 4, altitude 7600 feet, see original Goldman Notebook # 2. Also for birds from this place.

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Jico
(Vera Cruz)

July 1 (Saturday) - Started this morning on foot, a mozo carrying my outfit for the Rancho called Ojo de Agua about $2\frac{1}{2}$ leagues from here on the slope of the Cofre de Perote near lower edge of pines they tell me.

It began raining hard soon after we started so we came back and as tomorrow is Sunday we will have to wait until day after tomorrow before starting again. It is raining almost all the time and very damp; everything not dried by a fire or the sun, when it shines, gets moldy in a very short time.

We have not been getting much in numbers since we came here. Most of our collection already taken here has been of birds. Ants swarm on the meat put out with traps so much that animals will not touch it. Although I have had out traps in good places and know positively there are many meat animals in the neighborhood, I have only got a weasel. My mouse traps have been yielding two species of Sorex, one of Blarina, and Sitomys, and one specimen of a very large Oryzomys. One of the Sorex is a small kind and the other a blacktailed large one perhaps the same as one specimen of Sorex taken on Mount Orizaba at an altitude of about 9000 feet. They seemed to be scarce there and are scarce here. The Blarina are very common.

The rain stopped about 10 o'clock. I hunted birds this afternoon and set out $\frac{1}{2}$ dozen traps for gophers. The birds were: One specimen of Aimophila rufescens?; one of Sialia azurea; a young Empidonax; a large thrush and a female of Guiraca caerulea.

July 3 (Monday) - Got nothing in my gopher traps yesterday. Hunted birds all the forenoon; got 12, among them were: Sialia azurea, Aimophila rufescens; a solitaire such as may be heard in all parts of the higher country, and is easily identified by its fine song; and a very dark colored snowbird. The bluebirds and snowbirds are found only a very few feet

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Jico
(Vera Cruz)

higher than the town here and probably range down as low as the altitude of the town. We left Las Vegas on the 19th of May during a fog, but were able to see the country and vegetation nearly to Jalapa before dark.

The railroad is very crooked and winds down, making many loops and, in one place in particular, we noticed nearly doubled back on itself. It came around to within about 30 feet of itself but about 10 lower down.

It was interesting to watch the vegetation change as we came down. We reached the Jalapa station about 8 p.m. and found a horsecar line to take us up a steep grade into town. The moon was shining and crickets and other insects made noises which reminded me of elsewhere and was in striking contrast to the silence above at Las Vegas.

After a short ride up a steep grade past the Plaza we got off and stopped at the Hotel Mexico. Mr. Nelson saw Senor Limon of the College and Natural Museum collection in Jalapa who promised if we would wait until the 21st to go with us to Coatepec by the horsecar line and if we wished to Jico. So June 21st we left Jalapa and came on to Coatepec and as Mr. N. was not satisfied with the country in that vicinity, after some trouble we got an outfit and came on here on foot. Have been fairly successful during our stay here. A fine lot of squirrels of the kinds called "Moto" and a kind with brown on rump and neck and belly.

Yesterday a boy brought in a thrush having a rusty back and spotted breast, probably constituting Harporhynchus longirostris; and, today a boy brought in a specimen of Icterus melanocephalus.

Rancho Ojo
de Agua

Rancho Ojo de Agua, July 4 - Tuesday. Left Jico this morning at last. A fellow brought my outfit up on a horse for \$1.00. We left Jico about 8 a.m. and arrived here about 11 a.m. The road is not so very steep for pack animals except in places. The soil is clayey and, when wet, as it is now, is very slippery. We struck groves of alder first,

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Rancho Ojo
de Agua

and finally near our destination a few tall trees appeared which turned out to be oaks. The oak belt begins abruptly and once was very dense to its lower edge. Now along the lower edge it has nearly all been cut off having only an occasional tree left. Large stumps and fallen logs only remain. From just below here, however, the oaks grow tall and thick. On my arrival here, I found that Mateo Ramirez, the owner of the place, was gone down to Jico for the day.

July 7 - Day before yesterday I hunted birds and got out a set of traps. Shot 12 birds. Yesterday I had 3 Blarinas, 2 Black-tailed Sorex, and 1 Oryzomys in my traps. Shot a large jay different from anything seen before in the country, being very dark colored. Sent the stuff I had on hand down to Mr. N. at Jico by a mozo about 6:30. After sending off the mozo and getting some coffee, I went with Mateo Ramirez to the upper rancho. We saw nothing on the way up but coming down through the woods I shot a large squirrel of the kind having rufous on rump, neck, and belly; also a grouse (chibiseoya) and Mateo Ramirez caught one of the downy young. We ran across the old bird at her nest with the young. As we came up within a few feet, she started off her nest, ran a few feet, and stopped and refused to go farther from her nest. She would circle around me within 30 feet and as both barrels of my gun contained heavy charges, I could not shoot, without tearing her to pieces. I had hard work to prevent my companion from shooting at her at 30 feet distance. As soon as I saw she would not run off, I opened my gun, took out one charge and put in my auxiliary and with that killed her without doing her damage. Meanwhile the young ones were calling for their mother, off 75 yards or so, having scampered off into the bushes at the first alarm. They now began to come back; finding their parent did not follow them. I tried to get within shot of them with my auxiliary but they were very shy and could creep beneath low bushes and keep quiet

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Rancho Ojo
de Agua

every time I tried to approach them. As the undergrowth was very thick I could not see them until they were very close. At last my companion fished one of them out from under a log with his hands and although we searched for the others for some time we could find no more of them. The nest was on the ground but as soon as the birds left it my attention was attracted to them and I paid no attention to it until afterward and then I could not find it. My companion says they make the nest on the ground and have it arched over with leaves, etc.

We reached the Rancho about 1:30 p.m. and I spent the remainder of the day until it began to rain setting traps among others for some gophers.

July 8 - Saturday. Set out traps yesterday and killed several birds. Got in traps set the day before: 1 blacktailed shrew; 1 Cryzomys; and 1 Reithrodontomys. In my gopher traps, 1 Geomys and 1 Putorius which evidently had entered the hole to kill the gopher. It began to rain yesterday toward night and continued to do so without intermission until this afternoon. I got nothing in traps set yesterday. The present storm appears to be a regular "norte". It rains almost without stopping, but not so hard as the showers which usually occur every afternoon. It is very cool at this altitude. I have left my traps in some places as they were last night. The oak belt extends up for at least a league from this place which is near its lower edge. The lower part of the oak belt is probably densest and is especially damp and mossy. In most places every tree trunk is covered with green moss which makes all small branches appear about 3 times natural size and it hangs down 6 inches or more in a long spray. In the lower part there seems to be few signs of mice living about the trees but above acorn shells, etc., show some kind of mice, probably Sitomys to be abundant. I have not finished trapping here yet but will begin to trap some higher up if the weather permits tomorrow.

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Wastlapam. July 10, Monday - It rained until noon yesterday and then stopped until about 3 o'clock. I did not go to all my traps early in the morning and on going to them at noon found 7 mice altogether, of the following genera: Oryzomys, very large kind; Reithrodontomys; Sitomys; and Blarina. Reset my mouse traps near the ranch here. Left my gopher and meat traps stand over in same places. Last night caught a gopher of the large coarse haired kind but it was eaten up by some animal, probably a skunk. Got 3 Reithrodontomys, 1 Sitomys, and 1 Blarina last night. Shot four of the large dark-colored jays this morning. I skinned and poisoned the mice taken yesterday and sent them down to Jico by a mozo. Mr. N. sent me up 5 dozen more mouse traps yesterday and today I set them out together with what I had, making nearly 80 all told. It is raining again this afternoon, so I have got out no more gopher traps. Part of my mouse traps are set up about 2 miles above here in the woods; while setting them this forenoon I shot two more of the big jays, 3 of the small squirrels ("Motes"), 1 hummer, and a couple of birds I do not know. Reithrodontomys, Oryzomys, and Sitomys take bait here. Don Mateo Ramirez has been describing the Martuch and Quahitusa to me. Says the meat of the Martuch is not good to eat while that of the Quahitusa is. The Martuch is a meat-eater and also eats grain; the Quahitusa eats grass and boughs and has teeth like a gopher.

July 11, Tuesday - It rained nearly all night last night and until 10 o'clock today. The result was only 3 shrews (1 Blarina and 2 black-tailed Sorex) were caught in my long line of traps. Got 2 birds today; one of them a large creeper or wren. Also two more of the gray creepers and a large brown one. A Setophaga, a trogon, and 3 birds having crests black in color. The male has a crimson throat.

July 13 - Thursday. Yesterday caught two Sitomys somewhat resembling those taken on the highland with white bellies. They are probably diff-

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Rancho Ojo
de Agua

erent from any taken before . They are the Sitomys of the oak woods but very scarce or hard to get, at least. It was good weather yesterday until about 2 p.m. when it began to rain and then cleared up for a short time only to cloud up and rain again. I shot another jay, same as the others and several small birds. Reset all my mousetraps and although it was a good night had very poor success. Got two blacktailed Sorex from the woods above here, also 1 Blarina. Near the rancho here got one very red colored Sitomys, same as taken at first here, and a couple Blarinas. After setting my traps again, I spent most of the remainder of the day hunting birds. It began to rain about 4:30 p.m. Shot a very brown colored wren, a bird having a bill like a Lanius, a Habia melanocephala?, and others.

There are several kinds of oaks growing here. The largest is the "Encina roble" of the people. These trees grow very tall and straight and many of them would measure over 6 feet in diameter near the ground. They through (sic) out branch roots forming buttresses something like the fig trees in Tierra Caliente. In some places in the woods oaks grow with branch roots leaving the trunk of the trees on all sides, forming dark safe dry recesses where game can find plenty of shelter.

According to the people there is plenty of game in the dry season and that now everything is hidden away and does not call as in the dry season. There must be plenty of game here as I have seen a good many signs of deer, peccaries, skunks, and other animals. Squirrels are abundant now. I have made no special effort to get them and have picked up five since my stay here during my trips with traps through the woods, between showers. The grouse are also common but rather hard to get on account of the thick underbrush. The five squirrels just mentioned were of the small kind the people call "Motos". I also killed one of the large kind with rufous belly, rump, and neck; the people call

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Rancho Ojo
de Agua

them "Ardea colorado" and the one found in the pine woods above the "Azulejo" so that from the lower edge of the oaks up to the pines are found the Moto and Ardea colorado, and from upper edge of oaks to timber line, the Azulejo. They tell me here there are three kinds of pine found above this oak belt.

Jico
(Vera Cruz)

Sunday, July 16 - Came down from the Rancho Ojo de Agua day before yesterday. Spent the afternoon of same day until it rained setting gopher traps which yielded nothing. Shot a "mirio" as the people call a very dark bluish colored thrush. Set out more gopher traps yesterday and got one gopher. The swift I shot at Rancho in oak woods was Chaetura brunneitorques. They were common but did not generally fly near the ground. Coffee is not raised more than two or three miles above Jico and only a few feet higher than the level of the town. Oranges, bananas, mangoes, and other fruits are raised. Coffee raising is the principal business of the country.

Atlixco
(Puebla)

July 23 - We left Jico July 17 for this place. Walked to Coatepec, a packer taking our outfit on two pack mules. We reached Coatepec about 8 a.m. and at 10 took the car for Jalapa where we arrived about noon. Went to Hotel Mexico where we stopped two days. Leaving Jalapa on the 19th, a ride of about 6 hours brought us to Puebla, where we had to wait until the following day (20th) to catch a train for this place.

The altitude here is about 5500 feet, and is much dryer than in the State of Vera Cruz about Jico. It is, however, a poor place for animals of all kinds, being perhaps a little too high for the birds which are common in the adjoining State of Morelos at Yantepec, etc.

Puebla is a very nice city; the streets are wide and regular and the town sits level and buildings, many of them two stories high and very uniform along entire streets.

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Chihuahua
(Chihuahua)

Atlixco
(Puebla)

October 2 - We left Puebla about July 24 on the Matamoras branch of the Terro Carriel Oceanico for Atlixco near the southern base of Popocatepetl. Took the train, a mixed one, in Puebla about 7 a.m. and reached Atlixco about 10. The weather was fine and I was reminded some by the mixed train temperature and vegetation of the ride from Acambaro to Patzcuaro, Michoacan. Many small flowers could be seen. One, a tall red composite-? flower I have seen cultivated away up here. We got off the train at a shabby little wooden station and went to a hotel on the corner of the plaza where we got a room facing the plaza and another street at a very reasonable rate. I do not remember whether the hotel had a name or not but it was run by a jolly old Mexican woman named Josefa Fernandez and her husband. We had shipped our outfit by freight and it did not show up until the following day. In the afternoon I climbed to the top of a high hill which stands only a few minutes walk from the plaza, to get a look at the country. A fine view is obtained from the top which is surmounted by a church.

The following morning I went out to look around but did not see much, only a few birds and a few signs of various animals. The hill I climbed the first day is known as the Cerro de San Miguel and is a landmark for miles around.

Atlixco is a quiet town of about 14,000 inhabitants. Agriculture is the principal occupation. Grain, fruits, etc., are raised without irrigation but sugar cane, one of the most important productions, requires water. As the altitude is only about 6000 feet, many kinds of semitropical fruits are raised, such as the orange, sweet lime, mango, and aguacate. It was here I made the acquaintance of a curious fruit called the juiniquile. It is a legume, very long and narrow, green in color, and a cottony, sweet, watery substance covering the seeds or beans forms the edible part. The natives seem to be very fond of them but I

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Atlixco
(Puebla)

did not care for them.

We met here a young man who claimed to be a nephew of the Duke of Veragua and a direct descendent of Christopher Columbus.

It was an agreeable change at Atlixco from the climate of Vera Cruz, although in the midst of the rainy season only occasional hard showers fell at Atlixco and these almost invariably toward evening. The climate was very agreeable, it being neither cold nor hot. I found quails (Colinus pectoralis) very common but hard to put up on account of the abundance of cover afforded by corn, grain, and cane fields; the alfalfa which is raised very extensively was also favorite ground for them. They were so plentiful, however, that by patient hunting one can get a few. They commonly were in pairs. They seemed very bold and were found in alfalfa, etc., right up to the edge of town. And I killed two birds near a finca where people were living all the time and stock continually walking around. Jack rabbits also cottontails can be hunted along with quails. Atlixco stands on a plain with no hills of any importance near it. Two or three leagues south, however, are some high hills covered with thick brush and small trees, perhaps oaks, on them. There is said to be deer and other game.

Chihuahua, October 3 - Tuesday. We left Atlixco August 10 for San Martin, returning to Puebla, - past the noted ruin Cerro de Cholula. We passed the night in Puebla. The Cerro de Cholula is quite a high hill and very old. Nothing of its history, I believe, is known. It is made entirely of adobe sundried bricks. This can be seen from the train. A winding road leads to the summit which is surmounted now by a Roman Catholic church; near the town of Cholula, which is quite large, are other ruins. There are, I believe, no indications that the bricks which compose the Cerro de Cholula were taken from the immediate vicinity of the

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San Martin

pyramid. Mr. Nelson stayed in Puebla two days and I only one. About two hours ride brought me to San Martin on the Terro Carril Interoceanico, near the base of Popocatepetl. A fine view may be had in clear weather of this mountain and Iztaccihuatl from almost any part of the road. We stayed at San Martin until the 14th, during which time I trapped in all directions. Two life zones met near here. One of the plains which includes such species and genera as Geomys, Spermophilus, Heteromys, Otocoris, Agelaius phoeniceus, Ammodramus, Melospiza f. mex., Spinus p. mexicana, Harporhynchus ocellatus. And the Arboreal Zone, which includes such genera and species as Thomomys, Aimophila superciliosa. The two latter species from the Arboreal Zone were common on some low rolling hills near town down to the level of the plain on these hills only a few scattered pines grew and a few oaks. Undoubtedly near the base of Iztaccihuatl a few miles away and which I did not visit, many species of the Arboreal Zone meet those of the Plain.

The Sierra Malinche is a striking feature of the eastern landscape as it towers up from the plain with no high hills or mountains near it. A great fissure can be seen from the Huamantla or eastern side called the Canada de San Juan and a similar one breaks out on this side.

Chihuahua

October 4, Wednesday - We left San Martin for Tulancingo in the State of Hidalgo August 14. Leaving San Martin, a ride of about four hours brought us to Irolo where we had to spend the night. This was one of our old localities worked earlier in the season. (Letter part of March and early part of April). Then we took the train for Tapa where we had to spend another night. Then, taking the train about 9 o'clock in about two hours we were in Tulancingo.

Between Tapa and Tulancingo we crossed a divide of considerable height on (which) grows oaks of several kinds and at least two species

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Tulancingo

of pine and near the tops of the highest points firs. I trapped around Tulancingo several days with rather poor success; only a few Sitomys, probably same as those taken at Fachuca, and an opossum or two, and a Spilogale. Then I made a trip to the Hacienda Santa Ana on top of the divide between Tulancingo and Tepa. There I did fairly well until August 25th. Near the Hacienda were pine and oak covered hills with dense fir woods near their tops. The Hacienda buildings stand on a plain which is nearly circular in form, its diameter probably 10 or 12 miles in the middle is a basin in which is a lake of considerable extent. The whole is surrounded by low hills covered with timber like those just described. On this lake in the winter are many water birds, I was told at the Hacienda. At the time of my visit I saw none at all.

The plain, where not cultivated, is covered by a fine growth of grass which makes it a favored country for jack rabbits. They were, however, not very common and I had to spend two whole afternoons tramping in order to get two specimens. I saw several others but they started up out of range of my gun. Both specimens I killed were very large and were of the white-sided species.

One day I made a trip to the Cueva de la Nublina, a large cave in the lava bed lying down in the direction of Tulancingo about $1\frac{1}{2}$ leagues. I started early with one of the workmen at the Hacienda who said he knew where the cave was, but it turned out that he did not, and if we had not fallen in with one of the monteros of the hacienda we would probably not have found it. The cave is situated in the pine woods just off the Hacienda. Nothing is seen of it at a distance of 10 yards from the mouth which is situated in a thick clump of bushes. Entering the bushes, I found a hole about twenty feet in diameter which led straight down with perpendicular walls like a well for about 30 feet. I climbed down a rickety old pine pole with notches cut in its sides for steps.

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Tulancingo

Arrived at the bottom, I found a high cave leading downward at the angle of the hill slope which was not great. Only a few feet from the entrance I found high up about my head on the roof a bunch of 25 or 30 very large yellowish-white bats which immediately began to fly. I threw a stick I had at the bunch and knocked one down which was the only one I could get of the species, and was different from anything before taken. I penetrated for about 150 yards when the pine torches I carried began to give out and I had to return. There were plenty of a small Vespertilio?, of which I managed to kill only four as the cave was very high and they kept out of the way. The two Mexicans who had guided me refused to enter the cave from fear, they said, of devils or ferocious animals they believed lived there. I finally abused one of them until he came in behind a few yards, but I soon saw he would be of no use to me and sent him out to try to kill some at the entrance where they were flying out. When I got out, I was very much provoked to find them, instead of trying to help me, lying on the ground by a fire near the horses eating tortillas and chile. I was afterward told by the owner of the hacienda in Tulancingo that the cave is very deep and that 200 yards or so from the entrance is a stream of water which flows on the bottom. Here, he said, the cave was much lower and bats more plentiful.

The principal occupations of the people are agriculture; some stock is raised and wood is cut on the mountains. The principal crops raised are corn, barley, and pulque, - all of which are fine as the country can produce, or produces. The corn near Tulancingo and the barley and pulque raised on the Hacienda of Santa Ana at an altitude of about 8300 ft. were especially fine. The Hacienda is a large grain and pulque producer. Here I drank pulque out of the big cowhides which, with the edges supported by poles, form big tanks. In these, it is fermented and has

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Tulancingo

the best flavor at this time. As soon as moved, it begins to lose it. A little pulque one day old is placed in the bottom of a tank; into this is poured the aguamiel fresh from the plants. In a few hours this is covered 6 inches or more deep in foam, and the pulque is ready to be taken out and put in the pigskin sacks in which it goes to market,- a pigskin on either side of a burro who trudges off with them as though they were playthings.

The barley was ripening fast during my stay and as at this time of the year heavy hail storms sometimes occur at this altitude, whenever a shower comes up and it begins to thunder the people at the hacienda bring out two bottles of what they call glory water and a palm branch which are set up in front of the chapel and are supposed to ward off harm to the crops. A new finca was being built and workmen had to pass the door of the chapel scores of times a day. Each time, he pulled off his sombrero no matter how heavily he might be loaded, and I sometimes saw them remove their hats when passing at a distance of 50 yards, and the door closed. In all parts of the country it is the proper thing to remove one's hat when passing a cross and many do so each time a church door is passed. In some places usually small out of the way towns, almost the entire population fall down on their knees and cross themselves when the church bells ring for midday. Tochimilco, Puebla, was one of these. In Guadalajara, Jalisco, when the bells ring for midday, nearly all the men take off their hats.

Bull fights were being held almost every Sunday in Tulancingo during our stay and as the fight Mr. Nelson and I saw in Pachuca was not a very good one, we concluded to go to one here, especially as Ponciano Diaz Mexico, most famous bull fighter, was to participate. Three bulls were killed and several horses; one of the picadores or horsemen who enter the ring to tease the bull and get him to gore the

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horse he rides was thrown during the goring process against the fence and had his head badly bruised. He got up and left the ring without losing consciousness, but at the suppertable that evening his mind began to wander and he was sick for some days, but finally recovered.

Excursions are now run over the Interoceanic from the City of Mexico to Tulancingo for the bull fights. This branch of the railroad has only recently been completed. Mr. Nelson and I think we have seen enough bull fighting and consider it barbarous in the extreme. Many Spanish ladies, however, are very fond of them and the men often get greatly excited and throw canes, hats, cigars, money, and sometimes watches into the ring to a favorite fighter.

Toluca

and

San Juan

We left Tulancingo for the capital of the Montezumas about August 25 where, after staying a few days, we made a trip to Toluca on the Ferro Carril Nacional Mexicano. Stayed one night in Toluca at the Hotel del Ferro Carril and then went out to San Juan, a small settlement near the base of the volcano. The latter place was reached by a narrow gauge steam road which connects the two places. The railroad and Hotel at San Juan and the country we wished to work is the property of a young Spanish-German whose permission it was necessary to have before going out. A fine view of the volcano is obtained from the top of the hotel. The mountain is much farther away than it appears.

I trapped for several days in the neighborhood of San Juan and then made a trip up on the mountain to a rancho also belonging to Mr. Henkle, the young fellow just mentioned. This rancho is at an altitude of about 11,500 feet and about three hours horseback ride from San Juan. Mr. N. made a trip to the top, staying one night in San Juan.

The principal occupations are agriculture in the Toluca Valley and wood cutting, stock raising, and the digging out of saccaton grass for

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San Juan

the roots which are exported to Europe and the U.S. The mountain slope furnishes good pasture and cattle, sheep, and goats are raised. Very little lumber is taken out as few trees are suitable size. Most of the timber cut is for firewood. The principal object of the little steam road to Toluca was to furnish easier transportation for wood. It was quite cool on the mountain during my stay; frost occurred every clear night.

Chihuahua

Oct. 6, Friday - We left San Juan September 14th and spent one night in Toluca together. Mr. Nelson went back to the City of Mexico on the 15th and I followed him the same day, but on a later train. I had to stay in Toluca until evening in order to get some clothes I was having made. I reached the City about 9 p.m. and at 8 p.m. the following day we left the city for Santa Rosalia Chihuahua.

They were having a great celebration and a lot of fireworks at the Zocalo the evening we left. In honor of Independence Day which is the 14th, but the celebration lasts several days. When we woke up on the morning of the 17th the train was pulling into Celaya. We got breakfast at Silao. South of Leon I thought was a goodlooking country for jumping rats, but they may not occur there. I afterwards saw signs of at least two species almost all the way up to Santa Rosalia. The first time I saw unmistakable signs of them was a few miles north of Lagos. Then I saw large and small holes just north of the station of Santa Maria, north of Lagos. Soon we began to ascend toward Zacatecas and entered a rocky kind of country in which no signs of them were seen. They appeared again further on some distance south of the station of Guadalupe after we had crossed a low divide. Before reaching Guadalupe they had again disappeared. Near Barriozabel and Mapimi large and small jumping rats occur. Around Mapimi it is all dry country, the place of a few stores

and shanties. Said to be mines in the hills to the west. Few birds were seen. I saw Phainopepla nitens, Falco sparverius, a grackle and a blackbird near Lagos. I saw a hawk south of Guadalupe which Mr. N. identified as Buteo abbreviatus. It had a white rump and broad white band tipping tail. Between Torreon and Jimulco I saw the following: Melopelia leucoptera, Scardafella inea, Callipepla squamata, and a Corvus, Geococcyx californianus. Very few signs of mammals were seen besides the kangaroo rats. I saw a few signs of gophers in damp country a few miles north of Lagos and a lot of rather small diggings in fields along the road just north of Berriozabel. Saw jack rabbits now and then from Torreon north. Saw a small Spermophilus a few miles north of Jimulco.

Frosts had occurred for the first time for the season within the last week in the Valleys of Mexico and Toluca. As the corn was pretty well advanced no particular damage was probably done. From Celaya north no frost had yet occurred. The country between the City of Mexico we did not get to see as we passed over that part of the road by night. We were familiar with the road as far as Tula, but from there north we know nothing about it. From Celaya to Lagos the country is very wet and in many places marshy tracts are converted into lakes. From Lagos north, the country gets dryer and dryer, much of the corn was very young or rather very small; some of it trying to ear though only a foot or two in height and barley only a few inches high was drying up. The newspapers had been publishing accounts of the fine crops in all parts of the Republic; it did not seem to apply well to a very large strip of country here. Between Celaya and Calera crops of corn, wheat, barley, beans, etc., are raised and grazing is carried on also. From Calera north to Jimulco nothing will grow without irrigation. This region is therefore only fit for grazing where water can be had for stock. Very little grass grows. Great stretches of alkali plain were crossed. The mesquite is

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perhaps the most prominent plant. At Jimulco a stream of water comes out of the high barren hills east of the railroad and furnishes water for quite a tract of country. Cotton, corn, alfalfa, etc., are raised from Jimulco past Torreon and Lerdo some miles. From a few miles north of Lerdo to Santa Rosalia extends an unbroken barren country fit only for grazing where water can be had for stock. A common scheme to get water is to dam up an arroyo and catch the water in the rainy season; this lasts some time. The only parts of the country where the ground would not absorb the water are alkali tracts and cattle and men drink from the common pond. The latter part of the road ran through a country on which grew a good growth of a kind of bunch grass. There were no stock to eat it and the country was deserted.

Just before dark of the evening of the 17th we passed Zacatecas and got a fine view of the City; it lies among the hills and the railroad runs along the hills above it so that one can look right down on the City. The country all around is full of holes and many mines are being operated. About 9 o'clock in the evening the boxcar got broke on one end of a pair of trucks under a water car in the train and the trucks ran along inside the rails until we came to a culvert then the end dropped down through and stopped the train as we were going slowly. No damage was done but if we had been going at a fast rate, we might have had a smash up. We left the place about 11 hours behind time.

Chihuahua

October 12, Thursday - We reached Santa Rosalia September 18th about 10 o'clock in the evening. Found a hack at the station and were taken to the Hotel Carnargo, the only one in town here. We found a one-horse outfit common to the country. The rooms in the house were only seven or eight in number and not over clean. There had once been brick floors but they were gone in many places. The ground served as

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floor in their stead. The hotel was kept by a widow and her two daughters
Santa Rosalia whom the mother was having very hard work to keep in the path of virtue.
At the hotel we met a contractor named Kneezel and a civil engineer named
Egidy. I trapped in all directions and did fairly well in small animals.
Three species of jumping rats were rather common. Two of them belonging
to the genus Dipodomys lived on the higher ground and the other Perognathus
lived along the river in the lower situations. We stayed here until the
26th and then left for Chihuahua.

Chihuahua

Leaving Santa Rosalia about 3 o'clock p.m., a ride of four hours
through a barren rather hilly country brought us to Chihuahua. We took a
hack at the station and rode to the Hotel Robinson. Mr. Nelson started
north the evening of the 27th. I spent the part of my vacation up to
October 15th studying Spanish, the Birds of North America, etc.

October 19 - My gun came about the 15th and since that time I have
been amusing myself collecting a few birds. Went out across the river
early with the coach of the Hotel which meets the southbound morning
train. Hunted along the river until chased off by the administrator
who said he was afraid I would shoot some of the "gente" that take care
of the crops (chiefly corn) along the river.

The country here as at Santa Rosalia is dry, stoney, and barren and
no crops are raised except along the river where good corn and melons,
also a little fruit, grow. The principal trees here all of which grow
only along the river are willow, cottonwood, and poplar. The poplars
have been planted. Mesquites and other thorny bushes grow on the hills
and plains but very few casti so far as my observations have extended.
I find plenty of signs of perhaps all the small mammals taken at Santa
Rosalia excepting the large Dipodomys of which so far I have seen no
signs. I killed 13 birds and one cottontail today.

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Chihuahua

October 25 - Was up by 6 o'clock this morning and went out with Dr. Maxim Schumann to Santo Domingo mine near a little village called Santa Eulalia about 17 miles southeast from here. We walked from the hotel to Tamalopa, a smelter about 2 miles below here, from which place we rode in an empty dump-car over a narrow gauge steam road to the mine. Our road was down grade for several miles over a plain, then up and winding along dry washes and over low dry mostly limestone hills. The mine is about 2 miles from the village (Santa Eulalia) of which we obtained a fine view as we passed along the hillside with the town below us in a draw.

The mine is 1400 feet in depth and is worked at several levels. Good ore, I believe, begins at about 700 feet. It was formerly worked by the Spaniards who had men carry the ore out on their backs from a depth of about 650 feet. The mine is now worked by a straight shaft. It is run night and day, there being two shifts of 22 men in the mine each. From 100 to 150 Ts. of ore are taken out daily. After coming out of the mine we learned that the last train for Chihuahua for the day would soon leave, so we took it and came in. I saw several Spermophilus macrourus, and we passed a fine covey of Callipepla squamata on our return. I saw a number of the holes of large Dipodomys for several miles on the plain after leaving the smelter on the way out. The trip occupies $1\frac{1}{2}$ or 2 hours each way. We got back about 2:30 p.m.

Oct. 27 - Set out some traps yesterday afternoon. Got 6 Sigmodon, 1 Neotoma, 2 Dipodomys; 2 species of Sitomys; -2 of the short-tailed white-bellied kind and 1 of the long-tailed kind, probably the same as those or that one specimen taken at Santa Rosalia; also one small Perognathus, making 13 specimens all told. Shot three birds last night, one was the large sparrow, general color olive greenish entire top of head rusty, and two of the sparrow about the same size with two white

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Chihuahua

bands on the wings. The latter species is sometimes found in flocks of 12 or 15. All of the mammals taken were caught among the mesquite bushes along the river.

October 28 - Eight specimens rewarded my efforts today; two Sigmodons; 2 long-tailed Sitomys; 1 short-tailed one; 1 Dipodomys; 1 Lepus (cotton-tail); and one Neotoma, all from the mesquite patches along the river. Shot two specimens of Callothrus aeneus? this morning; they may be seen any time of day along the avenue leading to the station and adjacent fields. Water is run in ditches along the avenue and this is their favorite feeding ground. They come up from toward the smelter at Tamalopa in flocks of 25 to 100 every morning before sunrise. They probably roost among the trees along the river in that direction.

October 29 - Got several Sigmodons; 1 Neotoma; both kinds of Sitomys taken before, and 1 Spilogale in traps set last night. Went down with a Mr. Benton of Jimenez to the smelter at Tamalopa this afternoon. It is a fine plant.

October 30 - Shot a Harporhynchus curvirostris on a mesquite bush this morning; also two small Spermophiles, and another I trapped. They are common; I saw several others and also a Spermophilus macrourus. The latter species lives generally among the rocks and the former lives in holes on the plain and in the sides of banks. Saw a jack rabbit this morning, - probably the same as those taken at Santa Rosalia.

November 2 - Yesterday had traps out again below Tamalopa; got two large Dipodomys, 1 small Lepus, 1 large Lepus, and a small spermophile, etc., also a rattler. He had been in what I took to be the hole of a small spermophile. He had crawled half out and was lying sunning himself. His stomach contained a whole spermophile (small species). Today got from same country two small Dipodomys, 1 large one, 4 small and 1 large Spermophilus, 1 small Lepus, etc.

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Chihuahua

November 6 - Have been trapping for mice, etc., since last was written. Got one specimen of the kind of Perognathus so common at Santa Rosalia, and three more of the small species. Made another trip out to Santa Eulalia. Explored several mines in that vicinity for bats, but found none. Was told there are bats in some mines farther away, and which I did not have time to visit. Saw a Vireo down by the river this afternoon, same as one seen in Alameda when I first came here. I did not succeed in getting it.

November 7 - Got about 15 specimens today. At last I caught some of the genus Perodipus I have been looking for. They live here as at Santa Rosalia in the soft sand often in the dry bed of the river, and are never found on the higher stony ground while both species of Dipodomys are never found elsewhere. The Perodipus and large Dipodomys make well defined runways which often run from one hole to another 20 yards or more away. Got also two more specimens of the small Perognathus.

November 8 - Got 9 specimens this morning; 4 large Perognathus, 2 of the Perodipus, and 5 Sitomys.

November 17 - Since last was written I worked here with fair success until 10th. Got altogether 7 small Perognathus and some more of the larger species. Besides other things. The evening of the 10th I took the north bound train for Gallego, about 75 miles from here to look for prairie dogs between the latter place and Laguna, the first station south from it. When I took the train here a dust storm was blowing from the north and it had turned quite cold. I reached Gallego a little before midnight and found a station and a few (4 or 5) Mexican hovels near it. The station was very small. I got permission to sleep in a little room used as waiting room and warehouse. When I awoke next morning, I found the ground covered several inches deep in snow. I managed to get some breakfast of tortillas, meat, and coffee, and started out to

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Chihuahua

explore as soon as the snow began to melt but found nothing to show that prairie dogs were found there. Saw plenty of signs of a large Dipodomys and some mice. As the storm continued I concluded to return here when I found the storm had been general though not so severe here as farther north. It snowed and rained for several days. As soon as the weather permitted I began work again here and got additional specimens of the large and small Perognathus, Neotoma, and Perodipus. I got a very bad cold on the trip and did not feel very well for some days. Went over across the river this afternoon and went through the Molino de Chihuahua, iron foundry, and railroad shops.

November 23 - Went up to Gallego November 18 and stayed until the morning of the 22nd. Searched for prairie dogs without result. Don't believe any are found there; the natives say none are found nearer than Casas Grandes. I trapped mostly for Onychomys of which I only got one specimen. I set mouse traps baited with meat in all sorts of places and traps were untouched except by some large black bugs which gnawed off some of the bait and sprung some of the traps. Gallego stands on a plain gently rolling and covered with fine growth of what Americans call gramona grass. Hills covered with scattering growths of timber which natives said were oak and pine surround the station in the distance.

One day while there, two men from Juarez, a little settlement said to be six miles north of Casas Grandes, came in for frate (sic); one of them, M. or B.J. Johnson, living in Juarez, said it was about 120 miles to Casas Grandes. He invited me to look him up if I ever went out that way. The men were probably Mormons. A mail stage leaves Gallego twice a week for Casas Grandes.

Escalon
(Chihuahua)

November 26 - Came down from Chihuahua yesterday. Leaving at about 7:45 a.m., and arriving here about 3:30 p.m. It is very dry country all the way and similar in character. When I arrived here I found a

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Escalon
(Chihuahua)

place to stop. Got my mail and rustled out a few traps; got my supper and then wrote letters until bedtime. Got small Dipodomys, and two kinds of Sitomys, all probably the same as species taken at Santa Rosalia, Chihuahua, and one of the Sitomys (white-bellied) is probably the same as those taken at Gallego. The latter species seems to be more common here than at any of the other places named. All of the specimens taken last night were from the level brushy plain where the soil was very light in color and probably contains alkali. Birds are very scarce here. Saw two ravens, the species I could not make out, walking about on the railroad with Mexican shanties and people all around. Heard a Campylorhynchus brunn. while out setting traps today.

November 27 - Got large Dipodomys in traps set last night in addition to species taken before. They are rather lighter in color, I think, and smaller than those taken before. They have habits similar to the others.

New birds: Cathartes aura, Polioptila caerulea, Salpinctes obs.

November 28 - New mammals taken today: Small Perognathus with very long tail. Only bird: Lanius l. excubitorides.

Chihuahua

December 2 - Came up from Escalon day before yesterday. Leaving Escalon at 11 a.m., came back over the dry plains varied by ridges of hills and a part of the way by the Rio Conchos. Saw great numbers of ducks in the river at Santa Rosalia and in ponds near Ortiz.

December 3 - Went out to Santa Eulalia today by the narrow gauge steam road. Left Chihuahua at 6:30 and at 7:00 left the smelter at Tamalopa a ride of about two hours through the sharp cold air brought me to the mine at Santo Domingo. I set out some traps above the mine and explored several old prospect holes for bats but found none. Took the train at about 4 p.m. and came back, arriving shortly after dark.

December 5 - Went out to Santa Eulalia again yesterday morning early. Mr. Carpenter at the mine (Santo Domingo) had engaged a guide for me and

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Chihuahua

after taking up my traps in which I caught one Neotoma and 3 long-tailed Sitomys, we started off for Galeana mine which was said to contain bats. We found quite an extensive mine. There were innumerable long tunnels, levels, and drifts. We visited what is known as the "Cueva de Crystal" at the foot of an inclined plain about 200 yards from the entrance. There were several large natural chambers, the walls, floors, and roofs all of solid white crystal, except in some places where it is quite soft and lies on the floor in huge soft blocks looking very much like snow. We searched in many parts of the mine going through innumerable and apparently almost endless tunnels which went up and down and wound around; sometimes there was only just room enough to crawl through, and again we went through great chambers 50 feet wide and at least 75 feet high. We looked everywhere for bats but although large quantities of dung occur in many places, the bats seemed to be all gone. We finally entered a part of the mine called "El Valillo"; here I saw the largest natural chambers and the finest crystals. There are no long stalactites or stalagnites, but crystals several inches in length protrude in every direction from the walls, roof, and floors. Near the end of this long tunnel and series of chambers is a large chamber lower down than the others and only can be reached by climbing down through a well-like opening for about 50 feet. In this, I found rose-colored crystals and white clear ones of many shapes and kinds. We carried only tallow candles but the walls and roofs sparkled like snow. It is rather a rough and tedious trip for anyone unaccustomed to climbing but I thoroughly enjoyed the three hours spent in the mine. There is another mine said to contain finer crystals called the "Pascnero" in the vicinity which I did not visit. When we came out, we sat down on a heavy timber to eat some lunch when about a dozen quail flew straight to the mouth of the mine and alighted; one of them came within 30 feet of me. As I carried only a pistol, I

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Chihuahua

could not get any of them. I saw flocks of quails all probably Callipepla squamata on several occasions during the trip. I got back to Santo Domingo in time to get out all my traps and stayed all night at the mine where I was very kindly treated. Made a pretty good catch last night and came down to Chihuahua in the cab by the first train today, and made up my specimens.

December 8 - Have been trapping here since last writing, getting more specimens of the small Dipodomys, etc. The other night while setting traps, I found that about sunset the Calliothrus aeneus which spend the day foraging about in the neighborhood of the station fly down the river somewhere to pass the night. They fly up in large flocks every morning about sunrise.

Mapimi
(Durango)

December 16 - Left Chihuahua finally the morning of the 12th; stayed one night at Escalon and set out a few traps. Got only two Sitomys. Took the train on the 13th for Mapimi, where I arrived at 5:30 p.m. the same day. I forgot to mention a Speotyto I shot at Escalon.

Spent all the 14th setting out traps. Got out over 100 for as many different species as possible. Caught 17 specimens, including the following genera: Dipodomys, Perognathus, Thomomys, Neotoma, Sitomys. All are tolerably common except the Thomomys of which I only found after considerable search two or three diggings. I caught two specimens. It is possible they may be common on land which is cultivated a few miles from here, but they are very scarce in the immediate neighborhood of the station. The two specimens were from a tract of cleared ground near the station which several years ago appeared to have been cultivated. I did not go to the town 18 miles away which is reached by "diligencia".

Jimuleo
(Coahuila)

December 18 - Left Mapimi on the 16th at 5:30 p.m. and reached this

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Jimuleo
(Coahuila)

place about 9 p.m. and came to the Robinson House where I now hold out. It is fine and warm weather here in daytime as at Escalon, but at night it is quite chilly and freezes a little. I have a room with a fireplace in it; am quite comfortable. The house is owned and managed by a Mr. Robinson who has lived here 8 or 9 years and knew Mr. Pringle some years ago. The place here consists of the house of the proprietor in the center of a large garden in which grow many kinds of trees, shrubs, etc., now nearly bare of leaves, but in summer it must be a very pretty place. Around the garden are 47 rooms for renters.

Jimuleo is a small town kept half alive by the shop of the railroad here. A river flows west from the town and fields of cotton, corn, wheat, etc., are irrigated from it. High hills tower up to the north and south, the highest peaks of which are probably 5000 feet above the town. East and west there are breaks in the hills but the place is better protected from hard wind storms than Mapimi or Escalon.

Mr. Robinson, who is something of a geologist and was employed by the Mex. Cent. Railroad to search for coal, says that fossils occur in the hills north of here. He found petrified sections of cottonwood, and parts of fishes.

December 21 - Am still trapping with fair success. Caught two Mephitis different from anything I remember ever having seen before, - the general color being black with white beginning on the back of neck and extending back on top about to shoulders, - a few white hairs on sides and a few down middle of forehead. Caught small Dipodomys here clear down into the sand in the bed of the river where I never found them before. Perodipus and large Dipodomys do not seem to occur here.

Pipilo fuscus is common, this being the first place I have seen it. Possibly it is not found much farther north. I noticed a specimen of Auriparus flaviceps this morning hopping and searching about from twig

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Jimulco
(Coahuila)

to twig on a large mesquite and all the time making a loud kind of chipping noise with great rapidity. The noise is very similar to that made by Basilinna Leucotis while at rest on some bare twig.

Last night I had traps set about a canon in the hills several miles north and about 500 feet higher than the village here. Caught what I took to be another kind of Sitomys in the canon among the rocks and just this side and therefore below the mouth of the canon caught a coarse-haired Perognathus among the rocks.

December 22 - Set out some traps last night near the river for rats and a few for mice around the cotton fields. Caught 1 Neotoma, two Reithrodontomys, 1 Perognathus, and 1 Mus musculus-. The Neotomas live along the bluffs of the river in holes in the banks near some of which are large quantities of dung. The Reithrodontomys live as usual among the large grass bordering the cotton fields. The specimen of Mus musculus was caught under some large grass bordering a cotton field same as Reithrodontomys. The Perognathus was of the coarse haired species, and was taken among some weeds on sandy ground a quite different situation from the one taken among the rocks in the canon 500 feet above here.

The weather has been rather cloudy for several days and today a few small drops of rain fell but it is now clearing again. This is very unusual for this time of the year.

Canitas
(Zacatecas)

December 23 - Left Jimulco last night at 9:15 p.m. and after listening to the conductor and news agent spinning yarns until nearly midnight I rolled up in a blanket and went to sleep and scarcely woke up until the conductor waked me and said we were near Canitas. I arrived about 5 a.m. this morning and got permission from the agent to sleep in the station until morning. There were 5 or 6 sleepers already sprawled on the floor in the room and all or nearly were snoring as hard as possible.

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Sanitas
(Zacatecas)

They did not keep good time but each one was ~~snoring~~ away on his own hook so that at the time I thought the thundering noise they made resembled that of the breakers on a rocky shore.

I was up soon after daylight and as everybody seemed to be still sleeping I went out for a look around. Saw plenty of kangaroo rat burrows and identified a number of birds. Came in, hunted up the Fonda where I had eaten breakfast once before (on the trip north in September) got some breakfast and went to a meson and got a room and came back to the station but the agent still slumbered and his part of the station was all locked up, including the "bodega", where my baggage was.

I got tired of waiting and banged on the door until the agent appeared in his nightshirt and let the cargadors I had engaged take my baggage. I spent the remainder of the day setting traps for Dipodomys, gophers, Sigmodons, etc.

December 24 - Got specimens of Geomys, 2 Sitomys, Dipodomys (small sp.), Perodipus in traps set yesterday and shot a hawk this morning. Caught the Perodipus in the low ground northeast of the station among the grass. One of the Sitomys is white-bellied and has a tail similar to the gray species found farther north but instead of being gray is buffy. The other Sitomys is probably the common long-tailed species of Jimaleo.

Yesterday, while setting traps, I saw a very small gopher come out of a hole run about 14 inches partly down into a little pocket he had made or perhaps another hole he was filling up. When he got down into the pocket, he immediately came out without turning around and ran backward down the hole he first came from. He did appear to be more than 3 inches in length and appeared to be able to move as easily and quickly backward as he did forward. Coyotes are quite plentiful here. I saw one while out today and coyotes and dogs together kept the air full of

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Canitas
(Zacatecas)

music until a late hour. People trap and shoot one occasionally and just one dozen coyote tails hung from a wall in the corral here.

Mexico City
(Mexico)

December 31 - I left Canitas the morning of December 26 for Zacatecas where I had to stop over one day for mail, and the morning of the 27th I took the train for Berriozabel in the southern part of the state (Zacatecas) where I trapped two nights with very good success, and - taking the train there for this place December 29 - I arrived here on the morning of the 30th.

Found Mr. Nelson had already arrived 3 days before me. My last night's catch at Barriozabel consisted of 33 specimens which included three species of jumping rats, Thomomys, two species of Sitomys, Perognathus, Heteromys. I shot two small spermophiles and some boys brought me a rabbit which I bought of them. Spent most of the 30th making them up. They are to be the first specimens of our new collection. The smaller of the two species of Dipodomys was different from anything before taken as it had considerable black on the nose and across face and a tail tipped with white and on which were longer and blacker hairs than in the other small species.

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Orizaba
(Vera Cruz)

January 18, 1894 - We got off to Amecameca from the City January 3rd. Found Don Manuel Tuado, the proprietor of the hotel where we stopped nearly a year before standing at the door of the backyard facing the train just as he used to do before. He greeted us with a cunning smile and sent us to the south room upstairs facing the mountains, - the room we occupied before with Mr. Bisland. We could not get horses until the 5th and I employed my time meanwhile getting four or five of the Geomys merriami found there and one of the objects of our trip to Ameca. We intended at first to go up on the slope of Iztaccihuatl for specimens of Lepus diazi, but from accounts given by the natives, Mr. Nelson finally chose the

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Orizaba
(Vera Cruz)

slope of Mount Popocatepetl for our base of operations and we made camp at about 9000 feet altitude under a large fir tree. We took several native hunters up with us to whom Mr. N. offered a good price for specimens of the rabbit mentioned. We found their runways very common among the large grass and some of their holes entering the ground, and first tried snaring them with wire loops fastened to sticks driven in the ground, but without success - probably because most of our loops were too small. Mr. N. shot one of the rabbits, the natives killed three, and I trapped three with steel traps set in runways and places which were evidently much used by the animals, - seven specimens in all. Those trapped by me were all taken during one night in about 32 traps. I set some traps for gophers and got a specimen very different apparently from anything taken. The most notable thing about it was two large bright yellow spots, one under each eye. I trapped afterward on Mount Iztaccihuatl expecting to get the same species but had all my traps stolen but five, in one of which I found a gray colored gopher whose skull appeared to differ considerably from that of either the Mount P. specimen or those of Geomys merriami that we had on hand. The natives said it was impossible to cross from Mt. P. to Mt. Iz. on top of the divide, but we made it with very little difficulty. Mr. Nelson went to the "City" and left me to get additional specimens of the gophers when I had my traps stolen.

The weather was clear and fine during the trip. The days were quite warm and sunny and the nights were frosty. I saw a weasel enter a hole at the base of a bush near our camp on Mt. P. but a trap baited with meat set at the entrance was untouched in the morning.

I returned to Mexico January 9th. We made up the specimens and got off for Orizaba January 11th. The scenery along the railroad from a few miles east of Esperanza, Puebla, where the high tableland of Mexico suddenly

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ends is magnificent. The railroad winds down along the mountainside, passing through about seven tunnels; one can look down several thousand feet and see points on the railroad at least two hours before the train reaches them. Notable among them is Maltrata, a point on the railroad near which are numerous square fields on which different crops are raised giving the whole the appearance of a great checkboard^{er} when seen from above. We went to the Hotel de la Borda and engaged a room.

Orizaba
(Vera Cruz)

Both of us were disappointed in the City of Orizaba. We found a dirty town with wretched streets and very few buildings more than one story in height, and the vegetation in the neighborhood is by no means so luxuriant as that at Jalapa on the Inter-oceanic railroad.

We could not get a suitable place to work at the hotel and I looked up some rooms in which we have since established ourselves. A Mexican collector, Don Pecho M. Toro, lives here and from him we got some information.

I went back to San Andres de Chalchicomula on the 13th with a set of traps for additional specimens of the Geomys mex. found there and which were very hard to trap when we were there during the dryer part of the year last year. I trapped two nights; secured seven specimens and returned to Orizaba on the 15th where I arrived about 3 p.m. and set out some mouse traps in the ditches along the railroad above town. Got a reddish colored Sigmodon, dark Sitomys, Reithrodontomys, what we took to be Cryzomys, and some mice appearing much like Reithrodontomys but having no grooves in upper incisors. About 17 specimens all told.

The following night I trapped only for meat animals and secured a fox and a civet cat. Last night I caught another fox, two Blarinas? and a Didelphys of a species I have never seen before. It is not so large, if this one is full grown, as the common species, D. virginianus, and has much finer fur, dark gray in general color, rich orange below

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Orizaba
(Vera Cruz)

and two large white spots, one above each eye. The specimen I caught was a male and was curled up in some grass on his side when I approached, but instead of "possuming", sprang up, opened his mouth wide and - swaying his body from side to side - spat at me like a cat. I poked him with a stick and found he did not try much to bite it but would snap savagely at my hat or hand when extended within his reach. I finally caught him in my hands and killed him. He was taken in a trail near the river, about one mile from town.

Mr. N. was taken suddenly sick at his stomach and became so weak he could hardly stand soon after leaving Mex. the other day, and has not felt well since. He returned to Mex. yesterday to see a doctor.

January 21 - Have taken nothing new of particular interest. The weather has changes and is now wet and rainy. One of the storms known to the people as nortes is passing over the country. Bad colds are just now very common among the people here, some cases of which appear very much like la grippe.

San Juan
(Vera Cruz)

January 31 - We left the City of Orizaba yesterday (January 30th) at 3 p.m. A ride of one hour's duration brought us to Fortin, the first station. We came down a gentle slope and crossed several barrancas on high iron bridges. The road between Orizaba and Fortin for a part of the way skirts one bank of a large barranca going down, then finally crosses and comes up for several miles along a grade until finally the top of the bluff is reached and then goes across the plain to Fortin. The difference in altitude between the two places is probably only about 500 feet and there is little difference in the vegetation and general appearance of the country. The station of Fortin is on a large hacienda which produces principally coffee. We saw some young plants about 4 to 5 feet in height which we were told were only three years old. They were