

throat and fore chest also black; sides of head and neck, patch on chest bordering black area behind, and median abdominal region, dull white; whole back (including scapulars and rump) and sides, flanks, and crissum, pure smoke gray, without any of the buffy cast characterizing *Parus gambeli gambeli*; wings and tail mouse gray, edged with lighter.

MEASUREMENTS OF TYPE.—Length (of skin), 132 mm.; wing, 72.5; tail, 66; tarsus, 19; depth of bill, 4; culmen, 10.5.

DISTRIBUTION.—The mountains of southern California (breeding in the Transition and Boreal zones), and adjacent valleys in winter.

REMARKS.—The characterization of this new subspecies is based upon an examination of 95 skins of *Parus gambeli*. Thirty-six of these were loaned me by the United States National Museum, thru Dr. C. W. Richmond, Acting Curator, Division of Birds. The remaining 59 are from my own collection, and include 46 from southern California all of which are fairly referable to *Parus gambeli baileyæ*. Forty-seven skins from northern California, Oregon, Washington, and Rocky Mountain region from New Mexico and Arizona to Montana, are all *Parus gambeli gambeli*. One skin from Fort Tejon and others from Mount Whitney and further north in the Sierra Nevada are plainly *P. g. gambeli*. Two skins from Mount Pinos, Ventura County, are indeterminate, one being juvenal, and the other a worn adult.

The race *baileyæ* is larger and grayer than the northern and Rocky Mountain race *gambeli*. These characters are altogether constant in fully adult birds. An occasional *baileyæ* in first annual plumage has the sides not as clearly gray, being faintly overcast with brownish, and so is like *gambeli*. But the bulkier bill then serves as a criterion for recognition. I believe I would have no trouble in assorting even immatures of the two races.

I take pleasure in naming this well-marked new chickadee for Mrs. Vernon Bailey (Florence Merriam Bailey), whose accurate and pleasantly-written accounts of many of our birds form an important component of the ornithology of the west.

Pasadena, California

NOTES FROM THE DIARY OF A NATURALIST IN NORTHERN CALIFORNIA ^a

By JOHN F. FERRY

THE following notes were made while carrying on field-work in northern California for the U. S. Biological Survey, under the direction of C. Hart Merriam, during the summer and autumn of 1905. The writer was associated from July 21 to August 9 with Mr. A. Sterling Bunnell, then a medical student in the University of California, and from September 18 to November 3 with James H. Gaut, at that time a regular employee of the Survey and a field-worker of much experience.

^a Author's Note:

This article is written from notes as they were jotted down in a field diary, and at the time served merely as memoranda from which extensive reports were sent in from each locality visited. No effort was made to identify material in the field, as such material, including mammals, birds and plants, was sent in with field data only. Hence the article must lack in completeness and thoroughness, but still a conscientious effort has been made to keep out of error and to make positive assertions only when they are justified. Credit is given to others whenever possible. Altitudes were taken by two aneroid barometers. I am indebted to the Biological Survey for a number of identifications as noted in the text.

On July 21 Bunnell and I left the train at Willets, Mendocino County, shortly after noon, and hastily got together supplies for a two week's camp. We resumed our journey after changing cars, and were soon in the depths of a magnificent redwood forest. Our train was pulled slowly up the steep and winding grades by an odd-looking, but powerful side-cog locomotive. Thus we had an excellent opportunity of studying the country from the windows of our observation car. Towering redwoods kept us in almost constant shade, and beneath these giants grew a fine forest of Douglas spruce, bull pine, madrone, tan-bark oak, white and black oak. The hillsides were carpeted with a luxuriant undergrowth, and frequent mountain streams added the final touch to a forest scene of rare beauty. This part of the journey, all too short, was ended at Sherwood, where we changed to a huge six-horse stage and continued our journey as far as Laytonville, which place we reached about seven o'clock in the evening. This part of the journey, too, had scenery varied and picturesque. Rolling hills bear an open forest of bull pine, alternating with thick undergrowth and with patches of thin yellow grass. Many pleasing contrasts are thus formed; but the chief charm of this stage ride is the thick cluster of noble Douglas spruce, into whose deep shade the road frequently plunges, or which, standing apart in the distance, are rendered conspicuous by their deep green color and lofty, spire-like forms.

Next day in the cool of the morning we were on our way again, our objective point being Covelo in Round Valley. This trip, thru the Transition Zone forest, was of continual interest. Blue-fronted Jays screamed, and California Woodpeckers drummed and called as our stage rumbled by. The majestic Douglas spruce towered above us at frequent intervals, and some striking specimens of the madrone are recalled vividly even at this writing. They were among the tallest of the forest trees, their huge spreading branches, each one a tree in itself, started from near the base, and gave the effect of a gigantic shrub. The rich, deep red color of the bark is in striking contrast to all other hues of that forest, and is a unique element of beauty. The day wore on with ever changing scenes; now we were in the deep cool shades of lofty spruce trees; now thru vistas in the forest we got views of fair valleys, or mountains, blue in the distance.

About noon we crossed the main fork of Eel River, a rapid stream of pale greenish water. From here began our ascent of the range of hills which completely girdles Round Valley. From its summit several fine views of the valley can be had. It is a golden plain of grain fields and pastures stretching away to the hill barriers on every side. Dotted about here and there are ranch houses with their green orchards and shade trees relieving the general tone of yellow. Numerous herds of grazing livestock complete a pastoral scene which is all the more pleasing because of its striking contrast with the wildness and solitude of surrounding mountain and forest. Thru this valley (Upper Sonoran Zone) on July 23, Bunnell and I made our way, and about ten in the morning we began the ascent of Asebeen Ridge at the northeastern extremity of the valley. A long, all-day climb brought us well into the Yalco Bally country, and we made a comfortable camp for the night in a miniature mountain meadow, with a small stream running thru it. For most of the next day we passed thru open forests of bull pine thru which were scattered quite frequently, live oaks and madrones, the last named trees being particularly handsome. As we got higher up the bull pines increased in size, and sugar pines became quite common.

The next day we encountered some severe climbing, and our two sturdy mules were taxed to their utmost at times. The country was typically mountainous, the steep rocky slopes and deep canyons becoming more pronounced in character till we

descended into a deep, gloomy gorge and after crossing it, began the long, steep climb up to the summit of South Yallo Bally itself. All the latter part of the afternoon we struggled up towards its enormous rounded crest, and we reached it just as the last rays of the setting sun made it light when all the lower heights were in semi-darkness.

The scene from the summit was one of memorable beauty. All about us was a wild confusion of rugged peaks and densely timbered ridges, seen dimly in the fading light. On one side was the steep slope up which we had just come, receding downwards till lost in darkness. On the other we could barely see several pockets in the mountain's side, each a miniature valley with its little green meadow and its tiny trickling brook. In one of these we made our camp almost within a stone's throw of a huge drift of snow. This camp can be easily located, for just above it on the mountain's summit is a surveyor's monument marking the corners of three counties, Mendocino, Trinity and Tehama.

A word of explanation in regard to this region might not be out of place. South and north Yallo Bally Mountains (pronounced Yollo Bolly) are the highest peaks of the Coast Range, and as such should throw some light on the problems of geographical distribution. Bunnell and myself, I believe, had the privilege of being the first naturalists to visit this interesting region and as a result of our humble efforts several new races of mammals were brought to light. The region is certainly worthy of more extended study. The altitude of South Yallo Bally is about 8000 feet. Our camp here was from July 24 to August 2. Boreal conditions of flora ruled about the summit, where spruces and probably firs were the prevailing trees. A descent of about 500 feet would bring one into the beginning of the Transition Zone, magnificent forests of bull pine (*Pinus ponderosa*) being met shortly below this point where the gentler slopes began. The small valley in which our camp was, quickly narrowed and, changing into a small rocky canyon, descended rapidly for about 300 to 400 feet where it broadened out and became thickly grown with willows and shrubbery thru which a clear brook ran. This canyon offered a great variety of conditions, and trapping and bird-collecting were excellent. The mammals we got here included white-footed mice, voles, shrews, gophers, copper-head squirrels, chipmunks, woodrats, a coon, a badger, and a weasel. Signs of coyote, wild-cat and porcupine were also met and deer were quite plentiful. The Yallo Ballies are a famous spot for bears, but we learned of their presence only thru hunters and sheep-herders.

The most abundant birds at this place were Juncos and Audubon Warblers. In merry troops they visited our camp, dashing within a few feet of where we were preparing specimens, or curiously watching us from perches but a few feet distant. Clarke Crows frequently flew with steady, even flight over our heads to some distant ridge, and Western Robins, roving thru the evergreens in small bands brought memories of gardens and homes strangely in contrast to the present reality of solitude and wildness. But the bird that most truly voiced the spirit of this lonely mountain top was the Olive-sided Flycatcher. Its clear, loud whistle had in it the quality of joyous freedom, and sentinel-like upon a lofty evergreen spire it would ring out its challenges all day long. Its vigil began with the first light of day. A few, faint, timid twitterings steal out of the gray dawn, but gaining courage as the day brightens, the bird's notes grow louder and louder until the cold, still air is filled with the wild free ecstasy.

On August first we decided to change camp as the possibilities of small mammal trapping seemed about exhausted. From two goat-herders who had their camp near by we learned of a deserted ranch some six miles distant where "varmint's"

were quite common, and for that spot we made preparations to start. A large panther skin nailed to a pine tree, recorded the capture of its owner two nights before and gave us an authentic record of this animal's presence in this locality. It was shot within the very camp and when it was stealthily watching the four-year-old boy of one of the herders. At this point it might be wise to add that the Yallo Bally Mountains are inhabited almost solely in the summer time by sheep and goat herders with their flocks. The effects of these close-cropping animals are all too noticeable. First come the sheep, the closely-massed herds moving up the mountain sides, and destroying every blade and leaf as a blight. Following in their wake, the goats with their browsing habit consume the foliage of the shrubbery as high as they can reach. Thus the region of their operations is devastated almost as thoroly as fire could accomplish the same result. The effect upon ground and shrubbery frequenting species of birds cannot help but be harmful to some degree. We could not otherwise explain the absence of Dusky Grouse and Mountain Quail from regions thus effected, while they were commonly met with in others.

Our start on the second of August was delayed by the escape of one of the mules the night before, the animal only being captured after a five-mile tramp to a neighboring herd of horses. With a half-day thus lost, we resumed our preparations, and were just on the point of putting the pack-saddle on the other mule, when in some unaccountable spirit of perversity it suddenly lurched backwards breaking its tether rope, and with a snort and the clattering of hoofs was off down the mountain in just the opposite direction from which the other had taken. By an act of stupidity as sudden and as unaccountable as its previous one had been cunning, one of us was able to walk up to its side and pick up its lead rope. After a long trudge up the mountain we gained camp, and quickly completing our packing got under way at five o'clock, approximately just a day behind. Traveling till dark we luckily came upon a small brook and there camped for the night. Next morning an hour's traveling along the timbered ridge, upon whose upper extremity we had camped, brought us to a turn in the trail that led downward, and soon after we came out into a fenced-in clearing and in sight of the deserted ranch houses for which we were seeking. This spot, Barney's ranch, could not help but appeal to the lover of the romantic and picturesque. Nature in a relenting mood had permitted a broad level meadow to rest in the steep mountain side where rugged cliffs and heavy forests prevailed elsewhere. An old rail fence was at the very edge of a steep precipice at whose base dashed the turbulent waters of Eel River: a frowning cliff was in the rear; and on either side the forests reached to the stockade-like fence, now crumbling with age. The houses, tho long deserted, were still well-preserved and showed the thrift and intelligence of their former owners. They stood in the shade of wide branching trees and were guarded by a number of lofty spruces. Here on the wide veranda the dwellers could hear the pleasant purl of a close-by brook, or the deeper roar of the river below. Rows of fruit trees and a patch of berry bushes stood in the rear of the house, and close to the mountain side was the spacious barn. In a word every sign indicated a prosperous and well-ordered establishment, and one could scarce understand why a place of such natural beauty, and so highly improved by the art of man should have ever been deserted. But two graves on a nearby knoll probably told the story. Here lay the parents, and the children longing for greater activity and a larger world had become city dwellers, and their picturesque home was now a forgotten thing.

In the tranquil and impressive beauty of this spot, Bunnell and I got a pleasure entirely separate from that of our natural history work. Here small mammals and birds were quite abundant, but not a "varmint" did we see. We had a de-

lightful plunge in Eel River and caught a string of trout in its waters before ending our stay at Barney's. Early on the morning of August 8 we started on the long trail for Covelo. After an all-day tramp over the roughest kind of country we reached Covelo about eight o'clock at night, well fatigued. We spread our sleeping bags in a pasture that night, for the hotel of the town had burned in our absence and with it some of our belongings.

Bunnell and I returned over the way we had come as far as Ukiah. Here I left him, getting out a line of traps that night and putting up a few mammals before taking the stage for Lierly's ranch at the base of Mt. Sanhedrin, the next day. A twenty-four hour's delay was necessary at John Day's in Potter Valley, where I did some more collecting, and late on the night of August 12, our stage arrived at that extremely picturesque spot, Lierly's ranch. Here for three days I had fine small mammal collecting, but being without a gun had to neglect birds.

After a short stay in San Francisco, I left for Marshall's, Marin County, on



SHOVEL CREEK, NEAR BESWICK, CALIFORNIA

Tomales Bay, and just across from the famous headland of Point Reyes. Dr. Merriam was on the train to this point and made the journey very instructive, pointing out the characteristic shrubs and trees of the region thru which we passed. Marshall's is in a country of rolling hills, golden yellow in color from the thin coarse grass which is everywhere present. The country is practically treeless, except in the well-watered canyons where occur willows and elder bushes and other similar growths. On slopes protected from the cold, steady breezes off the ocean, the California laurel grows in dense patches. This locality is cool, well-watered and birds and small mammals are fairly common.

On August 21, I joined Dr. Merriam at Camp Meeker, Sonoma County, in the midst of a beautiful forest of redwoods. Here along the brook and in the shady woods small animals were common; but a snail proved a great pest by eating the bait from small traps. Frequently nearly every trap set in damp places had its bait removed and remained unsprung. Birds here were surprisingly scarce, perhaps due to the thickly settled character of the resort.

On August 27 I left Camp Meeker and on September 4 resumed field work at Beswick, in the very heart of the Siskiyou in northern California. The famous Hot Springs here have led to the establishment of a summer resort and this has naturally had an adverse effect upon animal life. Fair trapping, however, was had along Shovel Creek, and the fine orchards and gardens connected with the hotel served to attract numbers of birds. Beswick is in a small valley—the widening of the gorge of the Klamath river, which here runs tumultuously by. The altitude

near the river is reported as 2700 feet; but high timbered ridges rise on every side, some of them with an altitude of 6000 feet and of course between these altitudes there are varying conditions of animal and plant life.

After a few days at Beswick camp was made on a high ridge at whose base was Shovel Creek, a beautiful trout stream flowing towards the Klamath River in a general northwesterly direction. This camp was well within the Canadian Zone, and in a remote spot where wild creatures were abundant. Coyotes howled every night and their tracks led to and from the spring in all directions. Wild cats were also about and one night about a quarter of a mile from camp I was astonished to find a bear track.

The pleasantest memory of this camp was my meeting with the Townsend Solitaire. Late in the afternoon as I worked putting up specimens, and was beginning to feel a sense of loneliness, one of these gentle creatures would perch on the topmost branch of a dead juniper and there till nightfall pour forth its exquisitely beautiful strains. Unconsciously there grew up an almost human attachment for the soft-hued minstrel and the listener no longer felt himself alone.

A short distance above camp there lay an extensive table-land covered with a fine forest of yellow pine, incense cedar and spruces or firs. Here in the early morning there was a fascinating experience to be had as one visited his traps. The tops only of the tall trees were reached by the sun's rays, and from thence floating softly down would come the faint notes of kinglets, chickadees and brown creepers, while the birds themselves looked like tiny insects. As the sun rose and its rays gradually penetrated the depths of the forest, the birds would as gradually descend until the lower branches, hitherto deserted, would seem alive with them.

On the 18th of September I left my solitary camp and returned to the camp where I found James H. Gaut, who from now on took general charge of the work. Together we started on the 20th for the Spanish Springs Camp, situated on a range of 6000 feet altitude and about six miles southwest of Beswick. Here we got typical Canadian Zone species, our entrance into the fir belt being curiously enough almost immediately heralded by a flock of six Canada Jays. Shortly after we saw numerous Red-breasted Nuthatches and one White-headed Woodpecker. A majestic sugar pine stood sentinel over our camp and others towered in the distance. The place was curiously lacking in small mammals and we soon left. Our journey homeward on the 23rd afforded an interesting study in the changes encountered between the Canadian and Transition Zones.

On September 25 Gaut and I started for Picard, a small hamlet in Butte Valley, a half-day's stage journey from Beswick. We were provided with a spring wagon and two horses, which was our means of travel for the next week, and proved excellent for our purpose for we could collect as we went along.

The road from Beswick works gradually up the gorge of the Klamath River until Topsey, a small stage station is reached. It is situated upon an extensive tableland bearing a fine forest of yellow pine, with a generous sprinkling of incense cedar. The altitude of this tableland is 4100 feet and its soil is a curious dark red.

We camped at the edge of a clearing near the stage station, and in the morning resumed our journey thru the yellow pine forest eastward until we reached Butte Valley. An obliging rancher allowed us to occupy an abandoned house situated at the very border of the timber and here we found some good trapping. Butte Valley is an extensive sage-brush plain into which project ridges and spurs from the surrounding high lands. These ridges are sometimes barren, sometimes more or less covered with timber which is mostly juniper; but oaks and yellow pine

are also met in these places. Picard is about two miles from our camp, and from Picard to Brownell on the shore of Lower Klamath Lake is about the same distance. We jogged along at an easy pace which gave us every opportunity to study the country. At this time the sage brush was alive with Lincoln Finches (possibly *Melospiza l. striata*) and every little while small, light-colored chipmunks would scurry away to a safe retreat.

A few miles from Picard a ridge of considerable size extends into Butte Valley and north of it begins the low, flat plain which contains Klamath Lake. Here a new character of country prevails. The sage brush diminishes in area and gives place to fertile grass-covered prairies, which are dotted by innumerable cattle. It is a scene of tranquil pastoral beauty and of a kind very unlike what one expects to see in California. It was no uncommon sight to see coyotes trotting leisurely about the outskirts of the grazing cattle, or stealthily following a miniature water-course in quest of meadow-mice. We captured one of these wary prowlers in a rather interesting manner. Some distance ahead on the left-hand side of the road, which at this place follows close by a ridge, we saw a coyote quietly nosing in the long grass. Gaut immediately, and without slacking the team, planned a means of capture. He handed the reins to me and slipping two buck-shot cartridges into a twenty gauge gun, quickly jumped out of the wagon while it was moving and then lay flat by the roadside. The coyote, on seeing the team so near was totally taken by surprise, and fearing to cross the road in front of the team, sought to gain the ridge by circling around back of the wagon. Not yet greatly alarmed, it started on an easy trot in the very direction where Gaut lay quietly concealed in the grass. Seeing our plan was working so successfully, I looked backward with bated breath, as the unsuspecting animal neared its doom. Suddenly there was a bang and the coyote doubled up in a heap: a buckshot had severed its spinal column and it lay stone dead. It was a female and had recently eaten the paunch of a sheep.

Shortly beyond the scene of this event we encountered a succession of ponds and small water-courses nearly each one of which contained its flock of ducks—mostly teal and mallards, tho approaching dusk made positive identification impossible. We paid rather dearly for our loitering by the way, for nightfall was upon us before we reached Brownell, and we spent two anxious hours wandering over the sage-brush plains in the chilly autumn wind before the twinkling light of the lone ranch kept by Mrs. Brownell came in sight.

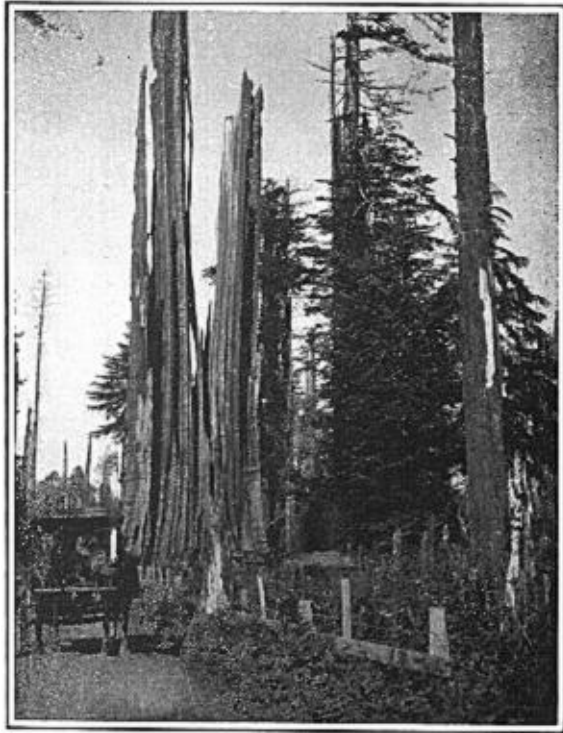
Next morning a beautiful sight greeted us. To the south of us Mt. Shasta rose sublimely in a freshly fallen coat of snow; and far to the north in Oregon, Mt. Pitt could be seen, scarcely less beautiful. In the clear, frosty air we could see ourselves compassed about by rugged ridges and volcanic hills, while to the northeast lay Klamath Lake shining like a mirror and closed in by a wilderness of green rushes. Here we found trapping excellent, but a small variety of bird-life as the country was almost absolutely treeless. The occurrence of surpassing interest, however, was the countless numbers of wild geese present. Their hosts passing from and to the lake at night and morning positively produced a din.

The region from Picard to Klamath Lake is Upper Sonoran indicated by the large areas of sage brush and junipers. Much of it is desert-like, but about Klamath Lake the meadows are very wet. We left Brownell on October 2, and returned to Beswick that night. On the evening of the 4th we took the train at Ager for Grants Pass, Oregon, which we reached about 7:30 that night. The journey was exceedingly interesting. The railroad winds its way thru the picturesque Siskiyou Mountains in a most astonishing manner, some marvelous examples of engineering being revealed. Next morning (Oct. 5) we left Grants Pass

for a 24-hour stage ride to Crescent City. For most of the morning we traversed a plain, thinly timbered with yellow pine and oak, and interspersed with *Ceanothus* and manzanita. Jack-rabbits were common and a venturesome coyote narrowly escaped a shot from Gaut's rifle.

An exciting stage ride in the dark, where the stage lamps gave fleeting views of deep gorges and sudden turns, all passed at a quick trot, brought us about 3 A. M. to Adams. There we changed stages, and after vainly trying to get some sleep, we gave up the attempt and watched the daylight slowly creep into the heavy redwood forest, which we had but recently entered. The weird, impressionistic effects in this dim light were truly fascinating and baffle description. The huge trunks of the redwoods, some of them as wide as the length of the stage, grew out of fern beds as high as a man. We followed the stage on foot, until the road emerged upon the plain where Crescent City was situated, in order to better enjoy the fascinating experience. After a hasty breakfast we took another stage for Smith River, about 12 miles to the north-east, which place we reached at noon.

The trees and shrubbery in the Pacific Coast humid belt on which we worked from now on grew with almost tropical luxuriance. Heavy moss hung to the trees, and fallen logs were completely covered with it. The thickets were almost impenetrable. The air was mild and spring-like, and nothing could surpass in pleasure outdoor life in this region. We spent until October 18 in the vicinity of Crescent City and Smith River, and then took a charming stage ride thru dense redwood forests to Requa, a cluster of houses at the mouth of the



BURNT REDWOODS NEAR SMITH RIVER, CALIFORNIA

Klamath River. The flora was much the same in this region traversed as at Crescent City and Orick. The highest point on the stage-road between Requa and Crescent City is 1280 feet. On October 19 we resumed our journey to Orick at daylight, and the same general character of country was met. The stage follows along high precipitous cliffs, at whose base is the ocean. A strange spectacle seen in these dense redwood forests is a huckleberry bush, grown in the top of a broken off tree, sometimes at a height of 100 feet. We reached Orick about 12 o'clock and that afternoon set out a long line of traps. Here was a clearing in the dense redwoods making a favorable site for our work. The highest point between Requa and Orick is 940 feet. On October 21 at noon we began another beautiful drive thru the redwoods, and by nightfall we were at Trinidad. This region was not suitable to our work so next

morning we resumed our journey and making a short stop at Eureka, a thriving business city on Humboldt Bay (Humboldt County) we began field work again at Alton Junction some 20 odd miles south of Eureka, on October 23. We trapped here till the 26th. This town is on a narrow plain thru which flows a narrow stream of clear water. Imposing cliffs and heavily timbered ridges arise in the vicinity. Tho well settled up here the wild nature of the country is still present. Deer tracks were often seen but one-half mile from town. Gaut caught a fine gray fox near these tracks.

Unexpectedly hearing of a promising trapping locality upon the high Rainbow ridges to the south, Gaut and I made a hurried departure for this spot on October 26. We passed thru a prosperous farming country, with scattered patches of coniferous and deciduous timber similar to that previously described for this humid area until we reached the prettily situated and thrifty town of Rio Dell. From there we entered the redwoods and climbed steadily upward till we reached a series of bald ridges with their slopes heavily timbered with firs, spruces and fine groves of tan-bark oak. About the middle of the afternoon we reached Crawford's Ranch, and getting directions for our further journey, started down into the deep, heavily-timbered canyon of Bear River. Here we had to block the wheels of our light, one-horse trap every few rods, so steep was the declivity. The ascent up the opposite side was scarcely less difficult and about sundown we reached McDonough's Ranch. Here our anticipations of a warm supper and a good bed were rudely shattered, as the place was temporarily deserted, and a few bites of oat-meal, raisins (trap bait) and jerked venison were all we had before going to bed in the hay loft. Next morning we gained Henley's Ranch, our destination, after traversing huge rounded ridges, grass-covered and treeless. The adjoining canyons, however, were of just the opposite character, steep and heavily timbered. Here we got wild cats, gray foxes, and a good series of spotted skunks (*Spilogale*). Our stay in this charming, isolated spot lasted till November 1, and returning to Alton Junction, the writer's field work terminated. Gaut continued the survey work considerably further down the coast.

***Aechmophorus occidentalis*.** Western Grebe. Crescent City in the ocean; at Requa, mouth of the Klamath River.

***Podilymbus podiceps*.** Pied-billed Grebe. Crescent City, Requa, Orick.

***Larus delawarensis*.** Ring-billed Gull. The gulls observed by the writer were mostly unidentified and but one specimen of the Ring-billed Gull was taken. Gulls and terns were common about Klamath Lake, Crescent City and Eureka. A common tern about Klamath Lake was undoubtedly *Sterna forsteri*, and on the flat shores of this lake were immense droves of large gulls in company with large flocks of Canada Geese. A unique sight at Crescent City was large numbers of gulls feeding upon the carcass of a dead whale.

***Phalacrocorax dilophus albociliatus*.** Farallone Cormorant. Common at Beswick and at Marshalls. Cormorants were common at Requa and presumably this species was largely represented among them.

***Phalacrocorax pelagicus resplendens*.** Baird Cormorant. One taken at Crescent City. (Identification by Biological Survey).

***Pelecanus californicus*.** California Brown Pelican. Common at Marshalls and Crescent City.

***Anas boschas*.** Mallard. These birds are reported as breeding sparingly at Beswick. They were common in the sloughs and ponds about Lower Klamath Lake.

***Mareca americana*.** American Widgeon. Very common along the coast from Crescent City southward during October. Widgeons usually formed the largest

part of every duck hunter's bag. They often spend the day in the open ocean and return to the marshes to feed at night.

Spatula clypeata. Shoveler. These ducks appear to fall an easy prey to the duck hunters. They are nearly always seen in a bag of any size. Observed at Crescent City, Orick and Trinidad.

Dafila acuta. Pintail. Seen at Klamath Lake during early October. Many Teal were observed in the region of Klamath Lake, but by curious chance they were seen either at a distance or were flushed from ponds and wet meadows at dusk when their markings could not be seen. Flocks of Blue-bills were seen at Requa and Orick but as no specimens were taken, their identity can not be stated. Scoters were frequently seen resting lazily just outside the surf at Crescent City or flying heavily just above the water. Pure white geese were seen on an inland lagoon between Orick and Trinidad.

Branta canadensis. Canada Goose. This bird was abundant about Lower Klamath Lake during our stay there. Gaut shot a fine male with the rifle. An immature bird of one of the smaller subspecies was secured at Lower Klamath Lake in a peculiar manner. A flock was seen rapidly flying in a wedged-shaped flock toward where we stood near a barn. Suddenly seeing us the flock quickly veered upwards and to one side and for a moment it was in complete confusion. Suddenly from the midst of the beating wings a helpless bird fluttered down to the ground. The bird was easily captured alive, but unfortunately was not preserved. These smaller geese (*hutchinsii* or *minimus*) were about Lower Klamath Lake in great abundance, and their return from their feeding grounds in the direction of Butte Valley lying south of the Lake, was an impressive spectacle. The lake and its adjoining plain is girdled by low hills and ridges and into this amphitheater countless numbers of the geese, and their larger cousins, the Canada Geese, would come at night to roost. The air resounded with the din of harsh, squeaking, cackling notes, which could be likened to nothing so much as to the creak of an ungreased wagon-wheel. A reminder of this experience was had at Crescent City where the geese during foggy weather and at dusk would pass from the ocean to some unknown feeding ground inland.

Branta nigricans. Black Brant. This bird is probably of more or less common occurrence in suitable localities in the Siskiyou mountains. In 1890 while staying at Beswick, I can remember a Black Brant being shot in the tall grass bordering Klamath River, and just back of the Klamath Hot Springs Hotel. On September 26, 1905, a flock of four of these birds was flushed from a swampy clearing near Topsey.

Botaurus lentiginosus. American Bittern. One or two seen at Lower Klamath Lake.

Ardea herodias. Great Blue Heron. Common at Marshalls, Beswick and Klamath Lake.

Grus mexicana. Sandhill Crane. This bird was exceedingly plentiful about Lower Klamath Lake and Meiss Lake at the southern end of Butte Valley.

Rallus virginianus. Virginia Rail. One seen at Crescent City.

Porzana carolina. Sora Rail. Seen at Lower Klamath Lake.

Fulica americana. American Coot. This bird was first met with near Beswick under very peculiar circumstances. While setting traps on a high brushy ridge about five miles from the Klamath River, a large black bird awkwardly fluttered out of a clump of mountain mahogany. As it flew clumsily down into the canyon of Shovel Creek, it was plainly identified as an American Coot. Possibly a weary migrant had fallen into this predicament thru sheer exhaustion. This species was

observed in more or less abundance at Klamath Lake, Crescent City, Requa, Orick, Trinidad and Alton Junction.

Gallinago delicata. Wilson Snipe. A number seen at Beswick and about Lower Klamath Lake. A species of Yellow-legs was seen at Klamath Lake, but at too great a distance for positive identification.

Oxyechus vociferus. Killdeer. Killdeers were seen nearly everywhere we went. They were extremely abundant at Lower Klamath Lake, where their incessant cries were almost distracting. A curious sight was that of numbers of these birds scattered about the lawns at Leland Stanford University, while the sprinklers were in operation. This recalled the robins on the lawns of the Eastern States.

Oreortyx pictus plumiferus. Mountain Partridge. These birds were first met about 500 feet below the summit of South Yallo Bally Mountain on July 28, and were met thereafter almost daily during our stay there. At this time there were many broods about and the parent bird's harsh scolding note (somewhat recalling that of the Guinea-hen) was a characteristic feature of the thick chaparral. At Barney's Ranch this species was found in company with the California Partridge.

Lophortyx californicus californicus. California Partridge. Met with practically everywhere along the coast of northern California. (Specimen from Orick identified by Biological Survey).

Lophortyx californicus vallicola. Valley Partridge. South Yallo Bally (identified by Biological Survey).

Dendragapus obscurus fuliginosus. Dusky Grouse. This bird was common in favorable localities on South Yallo Bally in ridges of the Canadian Zone in the vicinity of Beswick. In both localities the birds were shy, and when flushed from the brush would make rapid wing beats till well out of gun-range, and then setting their pinions they would sail steadily upwards to the tops of the nearest clump of firs or spruces.

Columba fasciata. Band-tailed Pigeon. Several flocks met on South Yallo Bally within the Transition Zone. The birds were wary and when flushed, the tremendous flapping of their wings was truly startling. Birds described by hunters who had seen them near Beswick were referred to this species.

Cathartes aura. Turkey Buzzard. A few of these birds met on South Yallo Bally. Seen also at Beswick, Alton Junction, Henley's Ranch and Rio Dell.

Circus hudsonius. Marsh Hawk. Common at Marshalls and profusely abundant at Brownell. The charge that these birds were chicken stealers, made in the latter place, would seem to be based on good grounds. They were the only hawk we observed there, and they frequently were seen near farm yards, and whenever possible were shot. To this circumstantial evidence was added the testimony of trustworthy persons that they had caught the hawk in the act of stealing chickens.

Buteo borealis calurus. Western Red-tail. These birds were met wherever we went.

Archibuteo lagopus sancti-johannis. American Rough-legged Hawk. An adult bird in beautiful plumage and an immature bird were taken at Beswick. They were taken in the hotel orchard which was infested with ground squirrels.

Aquila chrysaetos. Golden Eagle. Jas. H. Gaut reports seeing this bird several times at Henley's Ranch.

Falco sparverius. Sparrow Hawk. South Yallo Bally Mountain, Beswick, Picard, Crescent City, Requa, Orick, Alton Junction, Rio Dell.

Pandion haliaetus carolinensis. Fish Hawk. Klamath River, at Beswick, several,

Bubo virginianus icelus. Dusky Horned Owl. One shot at John Day's in Potter Valley, (identification by Biological Survey). The Horned Owls met on South Yallopally, Beswick, and Henley's Ranch, are provisionally referred to *B. v. pacificus* in the absence of specimens (see Oberholser Proc. U. S. Nat. Mus. Vol. 27, p. 177).

Asio accipitrinus. Short-eared Owl. Common at Lower Klamath Lake.

Speotyto cunicularia hypogæa. Burrowing Owl. Observed only at Alton Junction, where one was caught in a trap purely by accident.

Ceryle alcyon. Belted Kingfisher. Common at Beswick and Crescent City.

Dryobates pubescens gairdnerii. Gairdner Woodpecker. A Downy Woodpecker met at Crescent City was supposed to be this form, and one taken at Beswick is so identified by the Biological Survey.

Xenopicus albolarvatus. White-headed Woodpecker. Only met in Canadian Zone at Spanish Springs Camp (Beswick).

Sphyrapicus ruber. Red-breasted Sapsucker. This bird was common in all Transition and Canadian Zone forests we visited.

Ceophloeus pileatus abieticola. Northern Pileated Woodpecker. This bird was first met in life by the writer in a deep gully close to Barney's Ranch. While passing along a trail in this gloomy place, a most startling and weird sound was heard. It seemed like the angry snarl of some four-footed beast, and I was in a quandary till I saw a large black bird fly up from near the ground and perch on a dead tree close beside me. I was greatly elated when I secured it. Another specimen was later taken at John Day's, Potter Valley.

Melanerpes formicivorus bairdii. California Woodpecker. Common in the Transition Zone wherever we went.

Asyndesmus torquatus. Lewis Woodpecker. To the writer this was the most interesting woodpecker met in California. As we drove along the stage road from Ager (on the Southern Pacific Railroad) to Beswick, numerous flocks of large, slow-flying black birds were frequently seen. When the stage driver told me they were woodpeckers I was greatly surprised, but fully convinced when I had shot one of them. The birds were very abundant about Beswick and very destructive to orchards there. They were systematically shot, an average of 50 per day being made during the period of their greatest abundance, which was during the first half of August.

Colaptes cafer collaris. Red-shafted Flicker. This bird was common wherever we went. Along the humid coast belt we might have encountered *C. c. saturator*.

Phalænoptilus nuttallii californicus. Dusky Poor-will. We saw a good deal of this interesting bird on the summit of South Yallopally. One night while we were sitting about the camp fire, a spectre-like form fluttered out of the darkness and dropped noiselessly to a big rock near by. In the day time a favorite place of concealment seems to be rocky and scantily-covered slopes. When flushed it will make but a short, erratic flight before alighting again. (Identification by Biological Survey).

Nuttallornis borealis. Olive-sided Flycatcher. Common on South Yallopally and observed at Spanish Springs Camp near Beswick.

Sayornis nigricans. Black Phoebe. Crescent City, Alton Junction.

Pica pica hudsonica. Black-billed Magpie. This bird was common in the brushy and scantily timbered hills in the vicinity of Lower Klamath Lake.

Cyanocitta stelleri frontalis. Blue-fronted Jay. This bird was common on

South Yallo Bally (identification of specimen by Biological Survey). This was probably the form met in the Siskiyou Mountains.

Cyanocitta stelleri carbonacea. Coast Jay. The jay so common in the humid coast belt everywhere we went was probably this form.

Aphelocoma californica. California Jay. Common in Transition Zone of northern California. At Beswick the ranges of this bird and that of *Cyanocitta s. frontalis* overlapped, both species being equally common.

Cractes obscurus griseus. Gray Jay. This species was common in the Canadian Zone about Spanish Springs Camp. (Identification of specimen by Biological Survey).

Cractes obscurus obscurus. Oregon Jay. Quite common in heavy red-wood timber at Orick.

Corvus corax sinuatus. American Raven. This bird was more or less common at Crescent City, Orick, Eureka, Alton Junction and Rio Dell.

Corvus brachyrhynchos hesperis. California Crow. Common at Klamath Hot Springs (Beswick).

Nucifraga columbiana. Clarke Nutcracker. These birds were tolerably common on the very summit of South Yallo Bally. They were the first bird to greet us as we gained the mountain top. Redwing Blackbirds were met at Marshalls, Picard, Lower and Klamath Lake and at Lierley's Ranch, but no specimens were taken, and the subspecies is in doubt.

Sturnella magna neglecta. Western Meadow-lark. This bird was common almost everywhere in suitable localities. A few pairs were met on a rocky Transition Zone mesa near Beswick. The pure, sweet, celestial quality of its song, which has charmed so many bird-lovers, was heard first at Marshalls. I had no idea the birds were about until a song of unusual sweetness reached me as I was setting traps in a hot breezeless gully. On climbing to the top of its bank I found myself on a field where was the author of the song.

Euphagus cyanocephalus. Brewer Blackbird. Common at Beswick and Butte Valley.

Carpodacus cassinii. Cassin Purple Finch. This species was abundant on South Yallo Bally. Many young birds of the year were encountered there. (Identified by Biological Survey).

Astragalinus tristis salicamans. Willow Goldfinch. Smith River (Del Norte County).

Passer domesticus. English Sparrow. San Francisco, Crescent City.

Chondestes grammacus strigatus. Western Lark Sparrow. Crescent City. One seen.

Zonotrichia leucophrys gambeli. Intermediate Sparrow. Specimen taken at Alton Junction. (Identification by Biological Survey).

Zonotrichia coronata. Golden-crowned Sparrow. A flock of these birds was met on a high ridge (6000 feet) southeast of Beswick on September 18.

Spizella socialis arizonæ. Western Chipping Sparrow. Abundant on South Yallo Bally, Beswick, Orick, Trinidad. At the two former places many young of the year were seen and the adults were moulting.

Junco oregonus thurberi. Sierra Junco. These birds fairly swarmed on South Yallo Bally about its summit, the young of the year were abundant. (Identification by Biological Survey).

Junco oregonus shufeldti. Shufeldt Junco. Common on high ridges about Beswick. (Identification by Biological Survey).

Melospiza cinerea cleonensis. Mendocino Song Sparrow. Crescent City. (Identification by Biological Survey).

Melospiza cinerea samuelis. Samuels Song Sparrow. Common at Marshalls, Marin County. (Identification by Biological Survey).

Melospiza lincolni lincolni. Lincoln Sparrow. South Yalho Bally Mountain. (Identification by Biological Survey). Seen also at Crescent City, Requa, Orick and Alton Junction.

Passerella iliaca megarhyncha. Thick-billed Sparrow. Common on South Yalho Bally Mountain (Identification of specimens by Biological Survey). Seen also at Beswick and Alton Junction.

Pipilo crissalis crissalis. California Towhee. Beswick and Alton Junction. Common.

Oreospiza chlorura. Green-tailed Towhee. Not uncommon on South Yalho Bally.

Hirundo erythrogaster. Barn Swallow. Common at Lower Klamath Lake.

Tachycineta thalassina lepida. Northern Violet-green Swallow. In the evenings we would see these birds dashing in small flocks up the Eel River near Barney's Ranch.

Ampelis cedrorum. Cedar Waxwing. Two of these birds shot in orchard at Beswick.

Lanius ludovicianus excubitorides. White-rumped Shrike. Abundant in sagebrush near Klamath Lake.

Helminthophila rubricapilla gutturalis. Calaveras Warbler. Common on South Yalho Bally.

Dendroica auduboni. Audubon Warbler. This species was profusely abundant on South Yalho Bally. In rollicking flocks they visited our camp, perching inquisitively near to us as we worked on our specimens. They consorted with juncos and the two together seemingly outnumbered all other birds.

Dendroica nigrescens. Black-throated Gray Warbler. One taken at Beswick.

Geothlypis trichas arizela. Pacific Yellow-throat. Common in fruit orchard at Beswick.

Wilsonia pusilla pileolata. Pileolated Warbler. Fairly common on South Yalho Bally in willow thickets.

Anthus pensilvanicus. American Pipit. Met at Klamath Hot Springs (Beswick) Orick and Trinidad.

Cinclus mexicanus. Water Ouzel. Common along Eel River near South Yalho Bally. Beswick (Shovel Creek) and at Lierley's Ranch.

Salpinctes obsoletus. Rock Wren. This cheery little bird was frequently met on the rocky cliffs northeast of Shovel Creek near Beswick.

Nannus hiemalis pacificus. Western Winter Wren. Common at Camp Meeker, South Yalho Bally, Crescent City, Requa, Orick, Trinidad and Eureka.

Certhia familiaris occidentalis. Sierra Creeper. Orick, Trinidad, Henley's Ranch, and Beswick.

Sitta carolinensis aculeata. Slender-billed Nuthatch. South Yalho Bally, Spanish Springs Camp (Beswick).

Sitta canadensis. Canada Nuthatch. South Yalho Bally, Spanish Springs Camp (Beswick).

Penthestes gambeli. Mountain Chickadee. Common at South Yalho Bally, Spanish Springs Camp (Beswick).

Penthestes rufescens. Chestnut-backed Chickadee. Crescent City, Alton Junction, Rio Dell, Eureka.

Chamæa fasciata phæa. Northern Wren-tit. Few seen at Crescent City.

Chamaea fasciata rufula. Ruddy Wren-tit. Tolerably common at Marshalls.
Psaltriparus minimus californicus. Sacramento Bush-tit. Beswick in garden.
Regulus satrapa olivaceus. Western Golden-crowned Kinglet. Beswick (high ridges) Crescent City, Alton Junction, Rio Dell, Henley's Ranch.

Myadestes townsendi. Townsend Solitaire. Quite common in Canadian Zone about Beswick.

Hylocichla guttata slevini. Monterey Hermit Thrush. South Yalho Bally, (identified by Biological Survey).

Hylocichla guttata guttata. Alaska Hermit Thrush. Beswick, September 18; Crescent City, October 13, (identified by Biological Survey).

Hylocichla ustulata ustulata. Russet-backed Thrush. Camp Meeker.

Merula migratoria propinqua. Western Robin. Common on South Yalho Bally. Beswick, Orick, Alton Junction, Rio Dell.

Ixoreus naevius. Varied Thrush. Henley's Ranch.

Sialia mexicana occidentalis. California Bluebird. Beswick, Orick, Trinidad, Alton Junction.

Sialia arctica. Mountain Bluebird. Common on South Yalho Bally moving about in restless flocks and uttering a plaintive, melancholy call. Young in the juvenal plumage seen.

Lake Forest, Illinois.

AN ARIZONA NEST CENSUS

By F. C. WILLARD

I WAS particularly impressed on my arrival in Tombstone some years ago, by the almost total absence of trees. A few scattering umbrella trees with a scant score of small cottonwoods were all that graced the city except a cluster that stood by themselves at the northern edge.

The residence of Mr. F. N. Wolcott is shaded by several good-sized cottonwoods with a fringe of small umbrella trees and mulberries lining the fence. A couple of fig trees, a peach and a weeping willow complete the list which is pieced out by climbing roses and various other climbing vines.

Numerous small birds find this haven as grateful, apparently, as we of the human kind. I was much interested this past year in the numerous bird homes built there.

A pair of Vermillion Flycatchers had their first nest on one of the branches of the largest cottonwood, about forty feet from the ground. In a honeysuckle almost under their domicile were two nests of the House Finch, while two others were in a large rose covering one side of the house.

In a dead stub of the willow a Baird Woodpecker reared a hungry brood. Another tall cottonwood was well tenanted with a pair each of the Cassin Kingbird, Bullock Oriole, Arizona Hooded Oriole, and several pairs of House Finches whose exact number I was never able to determine. A Costa Hummer had her nest in a smaller cottonwood near by.

A little later several pairs of Canyon Towhees forsook the brush of the adjacent gulches and gathered among these trees. One cottonwood held three occupied Canyon Towhee nests and two of the Arizona Hooded Oriole at one time in June, and at the same time there were three other occupied nests of the Canyon Towhee