large numbers of rose beetles were eaten; but without examining the stomach contents of a specimen I could never be positive on this point.

There is only one other place in this part of the State where I have ever found the Brewer Sparrow. Across the San Joaquin River in Madera County, just where the first scattering oaks begin in the foothills, are a number of low, hot, uninviting ridges, having an elevation of perhaps eight hundred feet. Devoid of vegetation except on the very summits where half a dozen large clumps of ragged sage bushes have found a foothold, these hills seemed too desolate to be a suitable home for any bird; yet on April 13 of the present year these bushes seemed alive with sparrows, if their songs were any indication. The number of birds that really constituted this colony was not easily determined as they were seldom induced to leave cover and their plumage seemed to blend with the soft gray-green of the surroundings.

Half a mile below, a creek wound lazily out of the hills to be lost in a series of mud holes a few miles out on the plains. Along this stream's course a number of large cottonwoods seemed to be tempting the ornithologist to enjoy their shade. Cool and inviting they extended farther and farther, at last seemingly merging into the blue haze of the mountains beyond. The sparrows were left to enjoy their torrid surroundings while the writer satisfied his desire for knowledge by hnnting for nests of the California Jay in the bushy willows along Cottonwood Creek.

BIRD NOTES FROM SOUTHWESTERN MONTANA

By ARETAS A. SAUNDERS

WITH EIGHT PHOTOS BY THE AUTHOR

DURING the spring and summer of 1910 my work kept me in camp in various parts of Silver Bow, Jefferson, and Powell counties, Montana. The nesting season, in the mountains, hardly begins before the first of June, and, with the exception of two nests of the Clarke Nutcracker, I found no nests earlier than this.

The Nutcrackers (*Nucifraga columbiana*), however, were early enuf to suit anyone. With the first warm days in March, just after the Mountain Bluebirds had returned and when flocks of Shufeldt and Montana Juncos were beginning to throng the thickets, the Nutcrackers appeared to be choosing mates and hunting nesting sites. This bird is most abundant in this region at high elevations, in the white-bark pine forest, close to timberline, but it is not uncommon at much lower elevations, often as low as 5,000 feet, in scattered stands of Douglas fir. As these latter places are much more accessible at this season, it was here that I began my search for nests. For a time I found nothing, but finally on March 14, I notist a large bulky nest, not high up in a fir on the rocky hillside where I had been looking, but barely six feet from the ground in a little, thick, bushy spruce, growing in the creek bottom. An examination showed this to be a new, practically finisht but empty nest, and evidently that of a Nutcracker tho no birds were in sight.

On March 18 I visited the nest again. As soon as I toucht the spruce a Nutcracker flew off, and I found that the first egg had been laid, evidently that morning. For the next three days I past the nest frequently and found the bird always sitting and a new egg each morning. In my experience most birds do not begin sit-

ting until the full complement of eggs is laid, but this does not appear to be the case with the Nutcracker. Perhaps a reason for this is the early nesting season, for at this time of year the temperature is often so low, both day and night, that there would seem to be danger that the eggs would freeze were they not constantly covered. On the morning of March 23 I found the nest empty and deserted, before I was sure that the complete set had been laid. I suspect that a pine squirrel took the eggs, for these animals were not uncommon in the vicinity. The second Nutcracker's nest was found on April 28, in a similar situation to the first but a few feet higher up. It contained two fully fledged young, which flew away as I climbed the tree.

On June 3 we moved camp to Pipestone Basin, Jefferson County. This basin is a large open grass area, about 5,700 feet in elevation and surrounded by mountains. Pipestone Creek winds thru the center, bordered by open grass marshes and fringes of willow bushes. Near the upper end of the basin the willows form dense impenetrable thickets. About the borders of the marsh, the higher and dryer parts of the basin are clothed in luxuriant bunch grass and sagebrush, and slope gently up to meet the scattered firs that mark the edge of the mountain forest. At this season of the year bird life was very abundant in the basin. About our camp on the edge of the forest, Robins, Mountain Bluebirds, Red-shafted Flickers, Ruby-crowned Kinglets, Pink-sided Juncos, Western Tanagers and Hammond Flycatchers were common. From farther up the mountain slopes came songs of the Olive-backt and Audubon Hermit Thrushes. In the willow thickets were Willow Thrushes, Mountain Song, Lincoln and Slate-colored Fox Sparrows, Warbling Vireos, Yellow-throats, and Lutescent and Pileolated Warblers. In the open grass of the basin were Vesper and Savannah Sparrows, Brewer Blackbirds and Western Medowlarks, while from a mass of boulders on the other side came the tinkling song of the Rock Wren.

Fig. 64. NEST AND EGGS OF WILSON SNIPE

My first nest was a common one, that of a Magpie (*Pica pica hudsonia*) placed in the top of a fir tree, a rather uncommon situation in this region, and containing four nearly grown young. On June 8 we experienced a late spring snowstorm, and when I climbed to this nest the next day, I found that it contained two dead birds and one live one. I have seen other cases where young Magpies have died in the nest apparently because of late spring snowstorms. Magpies in this region most commonly lay six or seven eggs. Only once have I seen a full set of as few as four. On the other hand I have never seen a brood of young Magpies out of the nest that numbered more than three. These observations seem to show that there is a high mortality among young Magpies possibly due to late spring snowstorms.

When climbing the tree to this nest, the parent birds became very much ex-

cited and often approacht very close to me, calling loudly and nervously pecking at branches of the tree, and breaking off and throwing down fir needles. On one occasion I took my camera up the tree and attempted to take pictures of the old birds, but because of the swaying of the tree and the difficulty of focusing, the results were not good. Later, under similar conditions I obtained some fairly successful pictures of Magpies.

On the evening after our arrival at the Pipestone camp, I heard, coming from the marshy portion of the basin, the wierd wing-music of a male Wilson Snipe (*Gallinago delicata*) and shortly afterward the call of the female bird. Every evening after that till we left the camp, the male snipe went thru his performance, circling high in the air and emitting at intervals the curious, whining crescendo notes, which are often answered from the marsh by a long call from the female. This call, which is common to both sexes, has been described as rail-like, but it struck me, while listening to it, that it was almost the exact counterpart of the call of the domestic guinea fowl.

On the evening of June 11, I went down toward the marsh to watch the performance from a nearer distance, and to attempt to locate the nest. From a previous experience with these birds I believed that the female at such times calls from the immediate vicinity of the nest, if not when actually sitting on it. I followed the direction of her voice out into the marsh and finally flusht her some forty or fifty feet ahed of me. It was getting too dark to hunt nests, so I markt the spot and went back to camp. The next morning I returned to the spot and soon flusht the male snipe some distance ahed of me. Supposing it was the female, I searcht for a nest where he rose but found nothing and was about to give it up when the female rose almost at my feet. Even then it took some search to see the nest and three eggs. As a nest of this species, found the previous year, had hatcht on June 12 I supposed that these eggs were nearly redy to hatch. When I returned with my camera, however, the bird would not sit closely and I got only a picture of the nest and eggs. Two days later I visited the nest again thinking the eggs might be hatcht, but insted I found them cold and deserted. Incubation was not so advanced as I had supposed, in fact had barely begun. My presence with the camera had evidently been too much for the bird at that early stage.

Fig. 65. NEST AND EGGS OF PILEOLATED WARBLER

Except during the evenings, I found but little time to search this promising territory. One evening, while exploring the willow thicket at the npper end of the basin, I found a beautiful nest of the Pileolated Warbler (*Wilsonia pusilla pileolata*). The nest was placed on the ground in a mossy hollow under the roots of a clump of willows. It contained five eggs. The sitting bird could be plainly seen from one side and allowed me to approach to about three feet before she left.

I made several attempts to take her picture by approaching slowly and setting up the camera in front of me. I once got so far as to see her image on the ground glass, but she left immediately afterward as I was removing the slide from the pack-adapter. I then tried setting up the camera near the nest and leaving until she should return, but tho she returned soon, the presence of the camera made her nervous and she would leave long before I reacht it. I finally gave it up and obtained only a picture of the nest and eggs.

About a hundred feet from this nest I flusht a Lincoln Sparrow (*Melospiza lincolni*) from its nest, situated at the base of a clump of willows and containing three eggs. At our next camp, about six miles south of Pipestone Basin, I found two more nests of this bird, one with four and one with five eggs. The nests are much like those of the Song Sparrow but a little smaller, and constructed almost entirely of grass with little or no hair in the lining. The way in which this bird flushes from her nest is very distinctive and quite unlike any other sparrow with which I am acquainted. She slips quietly from her nest and runs off thru the grass without a note or a flutter of any sort, her movements more like those of a mouse than a bird. In fact two of the three birds I flusht I supposed at first were mice, and had I not lookt at them a second time would have gone away without seeing their nests.

Fig. 66. NEST AND EGGS OF LINCOLN SPARROW

Up to the time the young birds left the nest I never heard an alarm note of any sort from the Lincoln Sparrows, but after that time, which took place about June 25, one could not enter the willow thickets without being scolded from one end to the other by these birds. We had a litter of young coyotes in camp, and one Sunday they broke loose from their pen and led us quite a chase into a near-by willow swamp, before they were finally captured. As soon as they entered the swamp the Lincoln Sparrows, evidently recognizing a natural enemy, started scolding in a manner that I have seldom heard equalled in any bird. While helping to corner one of the coyotes, I notist a young Lincoln Sparrow running ahed of me thru the grass and soon captured it. In general appearance and in the manner in which it ran thru the grass this bird resembled, until actually caught, a newly hatcht game-bird rather than a young sparrow. It was unable to fly, but was very active at running and hiding in the tall grass. I took it to camp and posed it on the end of a tent peg for its picture, after which I releast it again in the swamp.

About fifty feet away from the nest of the Pileolated Warbler, and close to the edge of the willow thicket, a pair of Pink-sided Juncos (*Junco mearnsi*) appeared, scolded me, flew about my hed and finally followed me out of the swamp where I had searcht in vain for nest or young. Later I found another spot where a pair of

Juncos evidently had a nest or young and where I past several evenings in succession. I searcht this spot for three evenings before I finally found a single young bird. This bird was well feathered but unable to fly and I almost stept on it before I found it. When I caught it and it called in distress the parents became fairly frantic and flew at my hed, and fluttered in front of me almost within reach. As it was late in the evening and the light very poor I did not get a successful picture of this bird.

Western Chipping Sparrows (*Spizella p. arizonæ*) were very abundant in this region and I found their nests most commonly of all. One of these nests, situated about two feet from the ground on a low limb of a lodgepole pine, was owned by one of the tamest birds I have met with. When I found the nest I almost toucht her before she would leave it, and the day I secured her picture I had to actually shake the limb before she would leave and allow me to see the contents of the nest. Then I found the reason why she sat so closely, for the nest then contained three newly-hatcht young and a single egg.

On June 17, we moved camp from Pipestone Basin to the vicinity of Homestake, about six miles south. The country which we crost, and in which our next camp was situated is very rough and rocky. Clusters of great granit boulders are scattered thru the hills and along the ridge tops, many of them standing up on end in a curious and fantastic manner. This country was once well timbered, but the greater part of the timber, except in the least accessible places, was cut off for the Butte market some twenty years ago. A poor scattered second growth of fir has sprung up, but a large amount of it was recently winter-killed.

Fig. 67. ADULT FEMALE WESTERN CHIPPING SPARROW ON NEST

There are a great many old fir stumps on this area, most of them containing old woodpecker holes. As we moved I walkt along behind the wagons, tapping at these old stumps and keeping my eye out for birds and nests. About the clusters of boulders I saw several pairs of Townsend Solitaires (*Myadestes townsendi*), a bird for whose nest I have sought many times in vain. One male Solitaire was in the midst of his flight song.

The flight-song of this species is something I have never seen mentioned by other writers, yet, to my mind it is the best flight-singer of any bird with which I am acquainted. The bird soars high above the rocky peaks and ridges till almost invisible; and the glorious loud and ringing song descends to the listener, each note as clear and pure and full of life and vigor as the mountain air itself. The bird seems tireless and the song continues for many minutes. Surely he can rival the Skylark. What a pity that this song is only rendered in the solitude of the mountains where few of us can ever know it! And yet half the charm of the song lies in its harmony with its surroundings. A Solitaire away from the wild mountain crags would hardly seem the same bird.

As we neared our new camp site, I heard notes from a pair of Mountain Chickadees (*Penthestes gambeli*) and stopt awhile to investigate. I soon found them, and in their vicinity a number of fir stumps, containing numerous holes, any one of which might contain the nest. I had not long to wait, for the birds hardly notist my presence but went to the nest and fed the young several times in the next few minutes.

While I was watching them, a Red-naped Sapsucker (*Sphyrapicus v. nuchalis*), the first I had seen in this region, flew to the same stump in which they had their nest, and moved out of sight on the side away from me. I heard him call, and a moment later two Sapsuckers appeared on the stump. One flew away and the other disappeared again. After waiting some time for his reappearance I walkt around the stump and on the other side found no bird, but a fresh hole. I rapt, and a frightened Sapsucker thrust up his hed and seeing me, drew it back quickly,

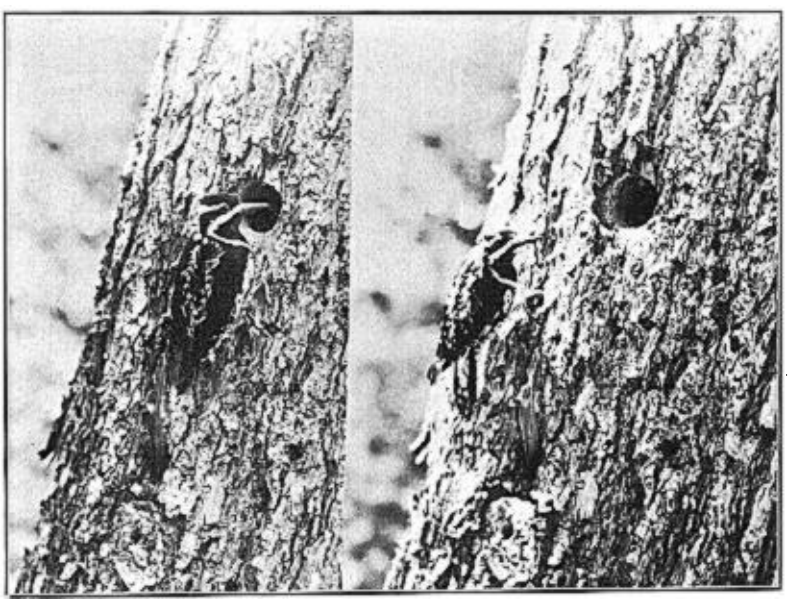

Fig. 68. RED-NAPED SAPSUCKERS AT NEST HOLE; TWO PICTURES: MALE AT LEFT, FEMALE AT RIGHT

and, rap loudly as I could, wouldn't show himself again. So here was a regular bird flat—Chickadees living upstairs with an entrance in front, at least on the side that faced the road, and Sapsuckers on the lower floor with an entrance at the back. It reminded me of an experience the previous year, when I had found Sapsuckers living in the same tree with a family of Pine Squirrels.

We hadn't been long at the new camp before I discovered that we were in the midst of a regular paradise for hole-nesting birds. The old fir stumps were very numerous and many of them occupied. Within a quarter of a mile of camp there were nesting, to my knowledge, four pairs of Mountain Chickadees, three of Red-shafted Flickers, three of Mountain Bluebirds, two of Rocky Mountain Nuthatches, and one of Red-naped Sapsuckers. The reason for the abundance of these birds is probably due partly to the number of nesting sites and partly to the scarcity of squirrels, animals that are undoutedly the worst enemies of hole-nesting birds.

The scarcity of squirrels is in turn probably caused by the lack of trees large enuf to furnish the seed these animals depend upon for winter food supply.

Only a few of the nests near this camp were in good positions to obtain photographs, but these few were quite near camp so that little of my limited time was lost, going and coming. In back of the stump containing the bird-flat, was a large boulder which assisted in bringing the camera on a level with the Sapsucker's nest. This nest evidently contained eggs. The birds took turns at incubation and changed places frequently, but they were very wary of the camera and of me, so I gave it up until a Sunday, when there was plenty of time.

On Saturday evening I went to the nest and set up a dummy camera, made of my tripod and camera case, leaving it over night to get the birds "camera broke", as one of my friends exprest it. The next morning I set up the real camera, and with the canvas cover of my bed-roll constructed a blind in a corner between two convenient boulders, connecting the blind and camera by a thred. Waiting here was not at all tiresome, for the Chickadees up stairs were feeding their young frequently and furnisht considerable entertainment. The male Sapsucker soon appeared to change places with his mate. The blind and camera made little difference to him and I soon had my first picture. I took several pictures that morning with little trouble except that I had to leave the blind each time to change the film. The birds changed places regularly about once in half an hour. I had some difficulty in distinguishing the two birds, for the only mark of difference I could discern was a small patch of white on the chin and upper throat of the female, while the entire throat of the male was deep red.

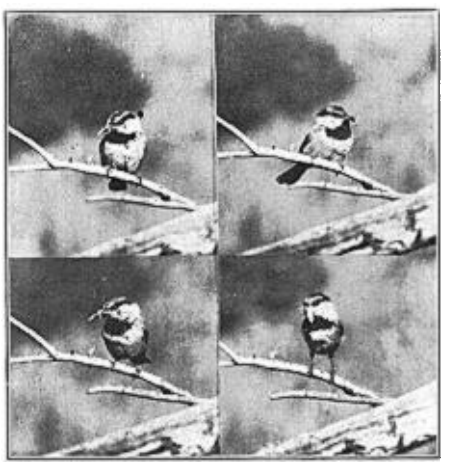

Fig. 69. MOUNTAIN CHICKADEE WITH FOOD FOR YOUNG, SHOWING FOUR POSES

When leaving the nest to fly to a nearby tree, the birds often indulged in a peculiar flight entirely different from the usual one. In this flight the bird rises in the air and hovers and flutters in a curious way. There was something familiar about it, as tho I had watcht it many times before. Finally as I was pondering this, a Solitaire rose in flight-song on the other side of the gulch and then I realized what it was. This flight of the woodpecker was the same as a song-flight in every way. The arch of the shoulders, the trembling of the wings, and the manner of spreading the tail were exactly the same; and the familiarity was caused by this flight combined with the black and white markings which made the bird, from where I viewed it, resemble a male Bobolink.

On the opposite side of camp from this nest was a thick grove of aspen, and here one day I discovered a Sapsucker, probably one of the same pair, engaged in drinking sap from the aspens. Series of holes had been drilled into numbers of these aspens, usually near the top of the tree where the diameter was but an inch or two. The holes here were all fresh, but not far away I found more aspens, alders and willows that had been drilled, some of them apparently a good many years ago. I believe that these birds could hardly be considered very destructive in Montana, for the trees they attack are all small ones and of very little value.

On the side of the hill just west of camp I found another pair of Mountain Chickadees feeding young. The nest was as usual in a fir stump and the entrance was about eight feet up and facing south. At this nest I again made use of a large boulder which lay on the southeast side of the stump. The birds were very tame and the boulder was large enuf so that I sat on it beside the camera with no blind or attempt at concealment. There were several dead branches near the entrance to the nest, which the birds used as perches when going to feed the young. I attempted to get pictures by focusing the camera on portions of these branches; but the Chickadees were perverse little creatures, and chose almost any perch except the one on which the camera was focust.

After many attempts I finally got a saw and removed all the branches but one, after which I had more success. Both birds fed the young frequently and, after the first time or two, didn't appear to mind my presence in the least. So far as I could see the food was always insects, often a bill full of amber-colored gall-flies that were very abundant among the young firs, and occasionally a smooth, pale green or light gray caterpillar. On the evening of June 26, as we were preparing to move camp the next day, I decided to open this nest to see the young and get pictures of them if possible. I sawed out and removed a piece of thick bark from in front of the nest. As soon as I toucht one of the young, however, the whole brood popt out, one after the other, so fast that I could hardly count them, tho I believed the number was five. Two of them were well able to fly and I could not catch them. The other three I caught and put back in the nest and closed the opening I had made. The sun was too low to take pictures then and I hoped these young might stay so that I could get the pictures early the next morning. I was disappointed, however, for tho I reacht the nest early, the young had left and could not be found, tho the parents were in the neighborhood and calling excitedly.

Fig. 70. MALE MOUNTAIN BLUEBIRD AT NEST ENTRANCE

In the rear of my tent at this camp was an old aspen stump in which a pair of Mountain Bluebirds (*Sialia currucoides*) were nest-bilding. They were evidently starting a second brood, for I remembered seeing Bluebirds with nesting material in the middle of April. A short time later I found another Bluebird's nest not far from camp in a fir stump. This nest was in an old flicker hole on the south side of the stump. The hole had never been completed and was so shallow that the yellow mouths of the six young could be seen from some distance away. My first attempt to get photographs of these birds, based on experience with eastern Bluebirds, failed entirely. The birds were very suspicious and wouldn't approach if I were within a hundred feet of the nest. I finally had to resort to a blind. I used my bed cover again and bilt the blind and set up the camera in the morning before breakfast, leaving it until the noon hour when the sun was right for pictures. I was fortunate in getting into the blind while both the parents were away, something I did not succeed in doing a second time. I found it entirely useless to wait for these suspicious birds if they had once seen me go into the blind. I ob-

tained two pictures on this first occasion, but never got another after that. The male gave me a good picture, but the female thrust her head into the shadow of the opening. Efforts to take pictures of the young were also useless, for up to the day they left the nest, June 26, they would become frightened as soon as handled and couldn't be induced to perch or pose in a satisfactory manner.

We moved camp again June 27, going south to Little Pipestone Creek. Here the country was less rocky in character and the elevation somewhat lower, 5,200 feet. There were many open grassy hills intersperst with clumps of tall firs and groves of aspen. I had little time now to hunt for nests and found nothing noteworthy until July 6. Then I saw a pair of Williamson Sapsuckers (*Sphyrapicus thyroideus*) about a group of old fir stumps, and soon discovered the nest in one of them. The nest was about eight feet up and contained young that were very noisy.

It seemed at first as tho there was no chance to photograph these birds; but I soon notist a dead limb on a nearby stump, to which I believed I could fasten the

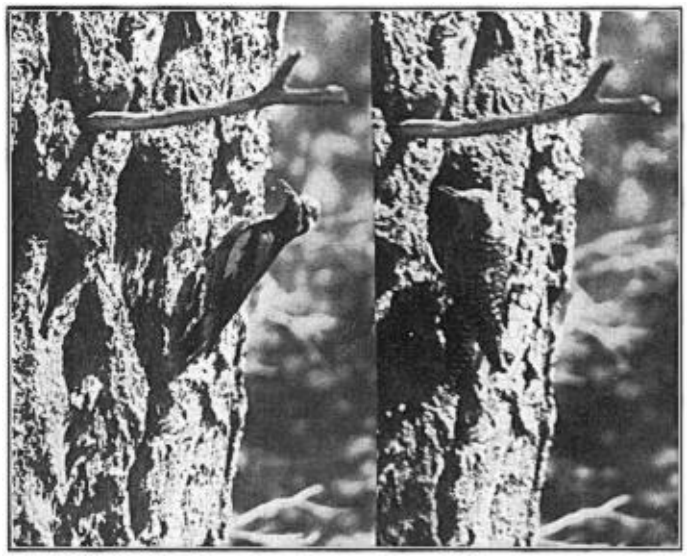

Fig. 71. WILLIAMSON SAPSUCKERS AT NEST HOLE; TWO PICTURES: MALE AT LEFT, FEMALE AT RIGHT

camera. When the opportunity came, I placed the camera on its tripod, straddled the tripod over the limb and lasht the whole thing firmly to limb and tree with a long rope. I experienced some difficulty climbing and focusing without disturbing some of the ropes, but I finally managed to do it. Even now the light was not very good, for there was less than an hour during the day when the nest hole was in sunlight and this light was not from in back of the camera but to one side so that it produced long shadows. The birds were not very shy and I believe I might have easily workt without a blind, but I had little time to waste in waiting, so bilt the blind and attacht a thred to the camera. Even now I had the trouble of coming out and climbing the tree to change the film after each picture. The young birds were well grown and the parents did not enter the nest hole but merely thrust their heds into the opening to feed the young.

Occasionally while the parents were away a young bird would come to the

opening and sit there until the parents' return, apparently enjoying his view of the outside world. That this was not always the same bird was shown by the fact that the hed was occasionally black and white and occasionally brown, for the sexes are markedly different even at this stage. Altho the young were well grown at this time, July 8, they had not left the nest on July 13, when we moved away from the vicinity.

FROM FIELD AND STUDY

Unexpected Birds at Santa Barbara in the Summer of 1910.—1. *Oidemia deglandi.* A small flock, fifteen or twenty birds, I should say, past the entire summer here, where they were seen constantly by Mr. John H. Bowles and myself. It had not occurred to me that their presence could be worthy of record until I read in the new A. O. U. Check-List that non-breeding birds of this species had been found in summer "as far south as Monterey." I saw nothing of the species here in the summer of 1909.

2. *Marila affinis.* Two birds, a drake and a duck (or young male), were seen on the 6th, 15th and 16th of June, in a small fresh-water lake just outside of the city.

3. *Æchmophorus occidentalis.* A single Western Grebe was seen off the beach on the following dates: June 11, 13, 14, 19, 20, 26, 28, July 5, and August 29 and 30.

4. *Limosa fedoa.* A Marbled Godwit appeared on the beach, where it permitted a close approach, June 4.

5. *Catoptrophorus semipalmatus inornatus.* A single Willet was found on the beach June 24, and July 8 and 24.—BRADFORD TORREY.

A Correction.—In THE CONDOR for November, 1909, I publisht an article on the nesting of the Broad-tailed Hummingbird (*Selasphorus platycercus*) in Gallatin County, Montana. Since then Prof. Wells W. Cooke has called my attention to the fact that the Broad-tailed Hummingbird is not ordinarily known to breed in Montana, while the Rufous Hummingbird (*Selasphorus rufus*) is known to breed there, tho not previously from that part of the State. Since the identification was by sight only, and that of a female bird, it is most probable that the bird which I saw was the Rufous Hummingbird. I was misled by the statement of the ranges of these species in the manuals, which led me to believe that the Rufous Hummingbird could occur only as a migrant in Montana, while the Broad-tailed, being found as far north as Idaho and Wyoming, might occur in southern Montana.—ARETAS A. SAUNDERS.

The California Towhee in Oregon.—The California Towhee (*Pipilo crissalis crissalis*) I have found to be fairly common at Kerby, Josephine County, Oregon. They are, however, so shy and keep so completely hidden in the thickest brush, except for occasional glimpses when flying from one thicket to another, that it is almost impossible to collect specimens. I have not succeded in finding a nest, but have taken some skins which seem to differ appreciably from skins taken farther south.

I saw California Towhees first in 1901 on the East Fork of the Illinois River 3½ miles north of the California line, and I have seen them along the river in suitable places for about 12 miles farther north. This area includes all of the level, open river valley in these parts, the high mountains or foothills coming right down to the river north and south of it. There seem to be suitable places along the West Fork of the river, but I have not seen any of the birds there. I have not seen them earlier than May or later than October.—CHARLES W. BOWLES.

Southern California Breeding Records of the Western Grasshopper Sparrow.—The Western Grasshopper Sparrow (*Ammodramus savannarum bimaculatus*) is recorded by H. W. Henshaw as breeding on the coast near Santa Barbara in 1875.

J. E. Law has noted the species all thru the summer months in the San Fernando Valley, Los Angeles County, and on one occasion took an adult female containing a fully formed egg.

J. S. Appleton has found this bird a fairly common resident of the Simi Valley, Ventura County. He took a set of 4 eggs advanced in incubation May 11, 1896, and a set of 5, incubated about one-half, May 15th of the same year. Both nests were on the ground in a barley field.

I found several pairs of Grasshopper Sparrows, all apparently breeding, in a barley field near Gardena, Los Angeles County, in May and June, 1910. On June 2, I found a nest containing 4 young just beginning to fly, and collected the female bird.—G. WILLETT.