

(6, 7, 8, 9) yield twenty-three species, all but eight of which still live. Three new genera of Raptores are represented and one new family is represented by the anomalous *Teratornis merriami*.

The discussion of the other four horizons is still in manuscript by Miller, and further study is required before publication. Results which are conclusive, however, though thus far unpublished would raise the number of fossil species known to the coast to the total of one hundred and fifteen. Of these 19.1 per cent are now extinct.

Anomalies in distribution are noticeable in the record of *Phoenicopterus* in Oregon by Shufeldt, and of *Sarcorhamphus*, *Catharista*, *Pavo*, *Ciconia* and *Jabiru* from Rancho La Brea by Miller. It will be noticed that most of these anomalies are cases of genera now more southern in their distribution.

BIBLIOGRAPHY

1. Cope, E. D., Journ. Acad. Nat. Sci. Phila., Ser. 2, IX, 1894.
2. Lucas, F. A., Proc. U. S. Nat. Mus., XXIV, 1891, p. 133.
3. Cope, E. D., Bull. U. S. Geol. Surv. Terr., IV, No. 2, May 3, 1878.
4. Shufeldt, R. W., Journ. Acad. Nat. Sci. Phila., No. 9, p. 389, 1892.
5. Miller, L. H., Univ. Calif. Publ., Bull. Dept. Geol., vol. 6, no. 4, p. 79.
6. Miller, L. H., Ibid., vol. 5, no. 19.
7. Miller, L. H., Ibid., vol. 5, no. 21.
8. Miller, L. H., Ibid., vol. 5, no. 30.
9. Miller, L. H., Ibid., vol. 6, no. 1.

A COLLECTION OF WINTER BIRDS FROM TRINITY AND SHASTA COUNTIES, CALIFORNIA

By LOUISE KELLOGG

IN FEBRUARY of this year Miss Alexander and the writer undertook a month's trip into Trinity County, partly as a preliminary survey for further work during the summer, and partly because we wanted to see how much and what kind of a collection of birds and mammals a person could make in the mountains in the winter. Hopes were entertained of getting all sorts of unusual birds that might come there as winter visitants, and in one respect at least these hopes were realized in the finding of the Bohemian Waxwing. Then, too, we had an interest in seeing what the winter pelage of such small mammals as do not hibernate might be.

We went from Redding by stage to Weaverville over the snow-covered Trinity divide, and hearing there that a good trapper was working at Helena we went on some eighteen miles farther to that town, if such it may be called, which is situated at the junction of the Trinity River and its North Fork. The town consisted merely of a hotel, a store and a couple of houses, and it was interesting to find that it was a settlement of native sons and daughters, whose parents had been drawn there by the gold excitement of earlier days. The narrow canyon of the North Fork opens out enough to make a little farming possible; but the wooded hills are close on every side and higher mountains are in sight just beyond. The life zone was considered high Upper Sonoran, some of the principal trees and shrubs being

the digger pine, Douglas fir, oaks, ceanothus and poison oak. After some cold, snowy days, the weather was delightful and we put in two weeks here, devoting most of the time to getting small mammals, but meanwhile collecting and observing birds.

From Helena we went back by way of Weaverville and stopped off at Tower House, in Shasta County, at the lower end of Clear Creek valley and about eighteen miles from Redding. It stormed during most of our week's stay but we managed to get enough specimens to keep busy. As a result of the trip we have decided that winter collecting in the mountains is very enjoyable as well as very much worth while.

All of the specimens were collected for the Museum of Vertebrate Zoology of the University of California, and the numbers where cited are those of the bird collection in that institution.

Oreortyx picta picta. Mountain Quail. Quite numerous at Helena on dry, brushy south slopes. Specimens taken, nos. 17299-17302, are distinctly of the coast form.

Lophortyx californica vallicola. Valley Quail. One flock was seen each time we passed a certain wild rose thicket on the road, near a ranch about four miles above Helena. The one specimen taken, no. 17303, is unquestionably *vallicola*. At Tower House they came close around the buildings and were seen feeding with the chickens.

Dendragapus obscurus fuliginosus. Sooty Grouse. Some were seen on the high ridges at Helena by the trapper, Mr. Knowles; but the two specimens obtained, nos. 17304, 17305, were sent by him from Hay Fork, in the southern part of the county, after our return. These specimens are clearly of the northwest coast race.

Astur atricapillus striatulus. Western Goshawk. One adult specimen, no. 17306, sent in from Hay Fork by Mr. Knowles.

Dryobates villosus hyloscopus. Cabanis Woodpecker. An example, no. 17307, was shot by one of the men in the orchard at Helena.

Dryobates pubescens gairdneri. Gairdner Woodpecker. Two specimens taken, one, no. 17308, at Helena, and one, no. 17309, at Tower House; in size and dark coloration of the breast these both resemble more closely typical *gairdneri* than the lighter form *turati*.

Sphyrapicus ruber daggetti. Red-breasted Sapsucker. Reported common during the summer, the trees in the orchard bearing abundant evidence of their presence. Two specimens taken at Helena, nos. 17310, 17311.

Phloeotomus pileatus abieticola. Northern Pileated Woodpecker. One was seen by Mr. Knowles at Helena, and he afterwards sent in one from Hay Fork.

Colaptes cafer collaris. Red-shafted Flicker. Very common at Tower House where they fed on the ground in the orchard.

Sayornis nigricans. Black Phoebe. Only one seen, at Tower House, March 2.

Cyanocitta stelleri frontalis. Sierra Nevada Jay. Not particularly numerous. The two taken, nos. 17316, 17317, at Helena, are not exactly *frontalis*, being clearly intermediate in coloration towards *carbonacea*.

Aphelocoma californica. California Jay. Only two or three noted.

Hesperiphona vespertina montana. Western Evening Grosbeak. We saw none at all ourselves but on our return through Weaverville Mr. Hupp gave us one specimen which he had shot out of a large flock in the trees in front of his house. He had been born and raised in Weaverville, and had been in all parts of the

county both summer and winter, and said he had never seen these birds before. The specimen, no. 17319, is peculiar in having the whole back of the head yellow, instead of the usual restricted frontal band of that color.

Carpodacus purpureus californicus. California Purple Finch. Seen only at the ranch four miles above Helena.

Spinus pinus. Pine Siskin. A large flock was seen once at Helena, another in crossing the Trinity divide beyond Lewiston, and another at Tower House.

Passer domesticus. English Sparrow. These birds have invaded Weaverville, which is fifty-five miles from the railroad; and a small colony was preparing to nest at Tower House.

Zonotrichia coronata. Golden-crowned Sparrow. Seen in flocks together with the Intermediate Sparrow, but not as numerous as the latter.

Junco oreganus thurberi. Sierra Junco. Large flocks of juncos were common everywhere.

Melospiza melodia merrilli. Merrill Song Sparrow. Four specimens, one from Helena and three from Tower House, have been referred to this species rather than to *rufina* on account of the heavy, blackish streakings of the back, and the less diffused and darker streaking of the breast; they are also slightly grayer dorsally than *rufina*. In as much as they exhibit some tendency toward the more narrow and sharply defined streaking of *montana*, this may be considered as further evidence that there is intergradation between *montana* and *rufina*, the name *merrilli* having been applied to some such intergradient form.

Melospiza melodia rufina. Rusty Song Sparrow. Seven specimens, three from Helena and four from Tower House. Compared with breeding birds from Vancouver Island which have been referred to *rufina*, they are practically identical although according to the currently stated distribution of *morphna* they should be that form. In view of the facts that the two previously recognized forms (*rufina* and *morphna*) are attributed to parts of the same geographic area, and that no appreciable differences are to be found, throughout the whole area, it is to be inferred that there is only one form—*rufina*.

Passerella iliaca unalaschensis. Shumagin Fox Sparrow. One specimen, no. 17351, from Helena.

Passerella iliaca meruloides. Yakutat Fox Sparrow. Fox Sparrows were quite numerous at Tower House in manzanita brush along the edge of an irrigation ditch. One example of this form taken, no. 17352.

Passerella iliaca megarhyncha. Thick-billed Fox Sparrow. Most common.

Pipilo maculatus megalonyx. Spurred Towhee. More towhees were seen at Tower House than at Helena; at the latter place the two kinds were quite common.

Pipilo crissalis crissalis. California Brown Towhee. Seen at the ranch four miles above Helena, but more numerous at Tower House. The three specimens preserved, nos. 17359-17361, are slightly grayer and larger than *crissalis* from the San Francisco Bay region. There may yet be found sufficient grounds for the recognition of a northern form, *P. c. carolae* McGregor (Bull. Cooper Orn. Club I, 1899, p. 11), though the material as yet available does not warrant it.

Bombycilla garrula. Bohemian Waxwing. It was a great pleasure and surprise to encounter this picturesque bird. A large flock was seen near Tower House on our way in to Weaverville and a dead one picked up in the road; also on our return we saw at Tower House what was presumably the same flock. At Helena the birds came in to the orchard in the afternoon to feed and roost for the night in the trees. They seemed especially fond of the rotten apples left on the trees or fallen

on the ground, and they showed so little fear that it was possible to approach within a few feet of them, and when one got too close they would only fly up into the trees nearby. They kept up an incessant soft twittering noise, and for several days we had excellent opportunities for observing them at close range, until the throwing of some apples into their midst caused them to fly off, and they did not return before we left. Nine specimens were preserved, nos. 17362-17370.

Vireo huttoni. Hutton Vireo. Only seen once at Helena, mingling with a flock of chickadees.

Thryomanes bewicki drymoecus. San Joaquin Wren. Not at all common; specimen taken at Helena, no. 17372, is slightly darker than average *drymoecus*, being somewhat intermediate towards *calophonus*.

Baeolophus inornatus inornatus. Plain Titmouse. Several noted at Tower House.

Penthestes rufescens rufescens. Chestnut-backed Chickadee. Quite common at Helena.

Chamaea fasciata henshawi. Pallid Wren-tit. Less numerous at Helena than Tower House, where their song was most noticeable on bushy hillsides. A series of fourteen was taken, nos. 17376-17389. It is interesting to note that these are the very light interior form rather than, as would seem more natural, the darker coast form.

Psaltriparus minimus minimus. Bush-tit. One flock was seen at Tower House and three specimens were taken. Near topotypes examined, from Salem, Oregon, show a light pileum but the back and breast not appreciably so. Specimens from Pasadena have pileums as light as the topotype; but others are dark and in no case does a decidedly light back accompany the light pileum. Specimens from Horse Creek, Siskiyou Mountains, have a dark pileum like that of those from Tower House, so that, with such a range of variation, it would seem the more reasonable course at the present time to consider the sub-species *californicus* is not well established.

Regulus calendula. Ruby-crowned Kinglet. Not common at either locality.

Myadestes townsendi. Townsend Solitaire. Numerous at Tower House.

Hylocichla guttata nana. Dwarf Hermit Thrush. Seen quite often, so considering their retiring habits they must have been quite common.

Planesticus migratorius propinquus. Western Robin. Common at both localities.

Ixoreus naevius. Varied Thrush. Quite common at both localities, with robins, but not as easily approached.

Sialia mexicana occidentalis. Western Bluebird. Large flocks seen at Tower House.

NESTING NOTES ON THE DUCKS OF THE BARR LAKE REGION, COLORADO

By ROBERT B. ROCKWELL

PART I

THE most important subject which confronted us, when we began a three years' study of the nesting birds of the Barr Lake country north of Denver, was that of determining the status of the different species of ducks as