

Animal Life in the Yosemite



THE BIRDS

WESTERN BLUEBIRD. *Sialia mexicana occidentalis* Townsend

Field characters.—Size half again that of Junco; wings relatively long) reaching nearly to end of tail. Male: Upper surface of body mainly intense dark blue; chin and throat the same; middle of back and breast, and sides of body, chestnut brown. Female: Upper surface and throat dull grayish blue; breast and sides pale chestnut brown. Young: Breast mottled with dusky. Of quiet demeanor; movements deliberate. *Voice:* Song of male (seldom heard) a monotonous repetition of the call notes; call note a single soft *kew*, or else a harsh though not loud *che-check*.

Occurrence.—Common at all seasons in Upper Sonoran Zone on western foothills of Sierra Nevada. Recorded at nesting time from near Lagrange and at Snelling eastward to Smith Creek (6 miles east of Coulterville) and to near Bullion Mountain. In autumn and early winter appears at higher altitudes eastward as far as Colby Mountain (near Ten Lakes) and commonly in Yosemite Valley; present also in winter season in San Joaquin Valley at Snelling and below Lagrange. In nesting season lives chiefly about blue oaks; but at other seasons of year frequents berry-producing plants especially the mistletoe on oaks. Flocks (openly) through most of year, breaking into attentive pairs at nesting time.

The Western Bluebird is a species that is likely to be recognized at first sight, even by a beginning student. Nature has produced blue in but a very small number of animals and the species possessing any blue are usually conspicuous because of this color. There are only eight species of really *blue* birds in the Yosemite section and among all of these the Western Bluebird may be distinguished easily on the basis of other features.

The jays, including the California, Woodhouse, Blue-fronted, and Piñon, are all of much larger size, and none of them has any chestnut in its plumage. The California Blue Grosbeak is of about the same size as the Western Bluebird and has both blue and chestnut in its scheme of coloration, but its breast is never solidly chestnut and its bill is stout and conical, whereas that of the bluebird is quite slender; furthermore, the grosbeak is a bird of the stream-side thickets, whereas the bluebird lives as a rule in the more open upland country. The Lazuli Bunting is little more than half the bulk of the bluebird, and the male, who has a buff breast, is white on the belly and of 'lapis lazuli' blue on his back and throat. Both sexes of this bunting have a light wing bar, and the birds keep chiefly to brushy situations. The Western Bluebird may be distinguished from the Mountain Bluebird by its darker tone of blue and by the presence of areas of chestnut brown in its plumage.

In the spring and summer months the local Western Bluebird population is confined almost entirely to the blue oak belt of the western foothills and hence within the Upper Sonoran Zone. The species does nest in small numbers at Snelling, a short distance within the Lower Sonoran Zone, and it also occurs in that season within the margin of the Transition Zone, for example, at

Smith Creek east of Coulterville. Although elsewhere this bluebird is known to nest abundantly in the Transition Zone, here at nesting time it avoids that zone almost entirely. Yosemite Valley would seem a very favorable place for the species to nest, but it has never been known to occur there in the summer season.

In the fall months, however, Western Bluebirds appear at many up-mountain localities not previously tenanted by the species. Several individuals were heard at Glacier Point on September 25, 1915, and flocks were seen on a ridge (Colby Mountain) above Ten Lakes on October 8 and 9, 1915. In Yosemite Valley the species appears regularly during October. It was seen, for example, first on the 7th in 1914, on the 15th in 1915, and on the 23d in 1920. In 1917 Mr. Joseph Mailliard (MS) saw Western Bluebirds in the Valley on September 17 and 27. The birds continue in the Valley, especially in the mistletoe-laden golden oaks along the sunny north wall (pl. 16a) through November and into December. In 1914, they were present even as late as December 28. How much longer they may remain is not known, but on a visit to the Valley at the end of February, in 1916, none was noted. The attraction for these birds at these higher altitudes is the abundant supply of food in the form of mistletoe berries. This food supply, rather than weather, short of extremely severe storms, seems to be the factor regulating the stay of the bluebirds in the mountains. That snow alone is no particular deterrent to the birds' stay is shown by our observations made on the stormy morning of December 10, 1914, at Mirror Lake, when bluebirds were flying about actively, now and again alighting on the snow-weighted mistletoe clumps. Masses of the snow would be dislodged and shower the observer beneath, but the birds themselves seemed in nowise discommoded.

Like other species such as the Golden-crowned Sparrow and Alaska Hermit Thrush which come into the higher zones in the fall, the Western Bluebirds, when once driven out of the higher mountains, do not return again until the following autumn. It has not been possible to ascertain whether this invasion of the mountains is the result of arrival of winter visitants from the Northwest (Oregon, Washington, and British Columbia) or due to temporary expansion of range by birds reared in the nearby foothills. The appearance of bluebirds in the higher country here agrees with the time given for departure of the species from the northwestern states. Furthermore, both adults and young are to be found among the birds occurring in Yosemite Valley.

With foothill species such as the wren-tit, bush-tit, and Bewick wren, which invade the higher mountains, this movement occurs in late summer, in July or early August, and is indulged in chiefly if not exclusively by birds-of-the-year. On the other hand, the bluebird is like the robin and varied thrush in that its autumnal movements about the country are governed by food supply, and this food supply is of a nature (berries) which fluctuates in quantity from year to year and place to place. The reason that the bluebirds appear with regularity in Yosemite Valley during October might well be in the fact that the crop of mistletoe berries there normally begins to ripen about that time. In such case the birds might come, in part at least, from the adjacent Upper Sonoran districts, returning there when the food source has been exhausted.

Western Bluebirds winter along Smith Creek east of Coulterville, according to Mr. Donald D. McLean. We found the birds in moderate numbers in the San Joaquin Valley below Lagrange

and at Snelling, in December and January.

Some censuses will now be given which will serve to show how the numbers of the birds vary as to locality and season. At Pleasant Valley a 5-hour census on May 24, 1915, yielded 20 Western Bluebirds, practically all of them being in pairs. On February 27, 1916, a 3-1/2 hour trip over the same territory gave count of 42 birds, most of which were in flocks. Twenty-three were noted in 3 hours spent north of Pleasant Valley on December 4, 1915, and 15 in 2 hours near Lagrange on December 12, 1915. On November 26, 1914, 20 or more were noted at Fort Monroe; fully 125 were congregated in oaks near the lower (Yosemite) end of the Big Oak Flat road on December 28, 1914; 75 of these were flushed at one time. In December, 1914, the aggregate population of Western Bluebirds in Yosemite Valley was believed to outnumber that of all other birds combined. The birds at Pleasant Valley in December were in groups of 7, 5, 5, 2, 2, and 2.

In the nesting season the two bluebirds of a pair stay close together, usually within a few yards of one another. Then in late May or early June the young are led abroad and the family group stays together for some time. The manner of association during the season of molt has not been observed, but by September flocks have formed which include both adult and immature birds, and in this fashion they spend the winter. The flocks, in observed instances, included from 6 to 25 members. Sometimes other birds are associated. In Yosemite Valley we saw Western Bluebirds in company with Audubon Warblers on one or more occasions, and Mr. C. W. Michael (MS) reports Western and Mountain bluebirds together there during November of 1920. Western Bluebirds and Robins are frequently seen together during the winter months though the two do not flock with each other in the usual sense of the word.

In general demeanor the Western Bluebird is much like other members of the thrush family, being of deliberate or even phlegmatic temperament. When perched it sits quietly, not hopping about as do many small birds such as sparrows and warblers. It ordinarily seeks a perch which will command a wide field of view, as on some upper or outer branch of a deciduous tree. Some time is spent, especially during the summer months, in catching insects, either by darting after such as pass in the air or by pouncing down from a fence post or low branch onto grasshoppers and other ground-dwelling species. Upon taking to flight bluebirds make off in the open, high in the air, uttering their soft call notes now and then as they fly. The high course of flight and the repeated flight calls are suggestive of the behavior of linnets under similar circumstances. Sometimes the flight is so far above the earth that the birds are quite beyond the range of vision of an observer stationed on the ground, only the mellow call notes giving indication of the passage of the birds overhead. When bluebirds are in flocks the formation is never compact or coherent; individuals move here and there among their companions and single birds or groups join and depart at intervals.

The Western Bluebird has two common calls which are used more or less throughout the year, and generally speaking these are the only notes which the bird utters. One of these is a soft *kew*, the other a harsh but not loud *che-check*. These two notes are used by solitary birds or by members of a flock and although given when the birds are at rest they are heard more often when flocks are moving from place to place. On occasion during the nesting season, the male can be heard giving voice to extended series of notes similar to the above 'flock' or 'location' calls. At

Pleasant Valley on May 24, 1915, and near Coulterville on May 11, 1919, this 'song' was heard. In the latter case there was repetition of the soft *kew* about as fast as a person could pronounce the syllable distinctly, though the bird did not maintain perfectly uniform intervals. Interpolated after every ten or so of the soft notes the harsher *che-check* would be given. In other words, the Western Bluebird's song is a very simple affair, just the common call notes uttered over and over again with monotonous persistence.

With the arrival of the warm days of early spring the bluebirds commence their nesting activities. Much time is spent in prospecting for a site, so that it is not until late April or early May that the nest is completed and eggs are laid. Our earliest data are for May 8 (1919) near Lagrange when one pair was seen carrying food to a nest in an old woodpecker hole while another pair had a nest with 4 fresh eggs. On May 9, near Hayward, adults were carrying food for young. In 1915, near Pleasant Valley, adults were seen carrying food on May 16, and young out of the nest were observed there on May 24 and 30. At Smith Creek a brood of 5 young was seen to leave the nest on June 5, 1915.

In spring after the pairs separate off they turn their attention to the oak trees and search for nest holes; for these birds, unlike the thrushes and robin, rear their broods in cavities. Old woodpecker holes are occupied when available, but failing to find one of these the birds will use some naturally formed opening in a tree. The decay of stubs of medium-sized branches often results in the formation of cavities in the heart wood of an oak which are appropriate in form and size for use by the bluebirds. It is not improbable that the mistletoe, which is of such direct service to the birds in winter by way of furnishing them with food, may render additional help in promoting, by its parasitic growth, the death of branches which with ensuing decay eventually afford nesting places for the birds.

The nest found near Lagrange was in a blue oak on a hill top. It was in a naturally rotted-out cavity at a height of 9 feet from the ground. Distant but 17 inches in the same stub was the nest of a Plain Titmouse. The bluebird's nest was 6-1/2 inches below the rim of the opening and the sparse lining upon which the 4 eggs lay consisted chiefly of dry foxtail grass. Another nest seen at Smith Creek, east of Coulterville, was 14 feet above the ground in a black oak. A natural cavity about 11 inches deep by 5 inches in diameter had been filled for a depth of 4 to 5 inches with soft materials. Entrance was afforded to the nest on two sides; on the one was a hole about 2-1/2 inches in diameter, while there was a much larger opening on the other side, so that the nest was easily visible from without.

The food of the Western Bluebird, as with most members of the thrush tribe, changes markedly with the season. In summer the birds live chiefly upon insects; and the young, at least while in the nest, are fed exclusively on this sort of food. But in the colder months of the year, when insects are relatively scarce, the bluebirds, both adult and immature, give their attention to berries. Insects are captured when found, but for the most part the winter food is vegetable in nature.

The most important single item of food for the bluebirds in the Yosemite region during the winter season is the berry of the mistletoe. (See pl. 13*b*). Unfortunate as it may be from the

standpoint of the trees parasitized and therefore from the standpoint of foresters and of nature lovers interested in trees, the oaks and certain conifers of the region are rather generally infested with the mistletoe. By reason of the abundance of the berries of the mistletoe, the Yosemite region is capable of, and does, support in winter a bluebird population in excess of that present in summer. This food supply lasts at the higher altitudes until well into the middle of winter, and the birds remain there as an apparent consequence, despite the inclemency of the weather.

In November and December a large part of the bluebird population of the Valley practically lives in the mistletoe-laden golden oaks along the north wall of the Yosemite. The birds may be found there at any hour of the day and if the observer has the patience to watch an individual or flock of the birds for some time the manner of feeding will be found to be somewhat as follows.

The birds individually will seek perches about clumps of mistletoe, either on adjacent parts of the tree or on the twigs of the parasite itself. Berries will be picked off and swallowed in rapid succession. Each bird, as it gets its fill of berries, flies to some nearby perch and sits there quietly. The process of digestion is a rapid one, and before many minutes have elapsed enough of the berries will have gone from the bluebird's gullet into its stomach to permit of further feeding. Thus the day is spent, alternately in feeding and digesting.

The mistletoe berry consists of three parts, a central hard coated 'seed' containing the plant embryo, a soft sticky pulp surrounding this seed, and a thin enclosing 'shell.' It is the middle part, the mucilage-like pulp, which the bluebirds seek as food. The berries which are eaten are not entirely consumed; were that the case the bluebird could be commended highly for aiding in the control of an obnoxious parasite. But when the berries pass through the bird's alimentary tract the digestive juices merely dissolve off the soft outermost layers. The central, harder part of the berry is voided without its germinative powers being harmed in the least; it also still retains a film of mucilaginous material and this causes it to adhere to whatever it happens to touch.

A means is thus afforded, and often operates, whereby the bluebird, incidentally of course, acts as an agency for the dissemination of mistletoe seeds. It is easily conceivable that should the bird chance to perch in a tree not previously parasitized by mistletoe the dropping of one or more seeds on the branches would afford opportunity for the plant to gain a start in that tree, providing the seed of the oak-tree mistletoe fell on an oak, or that from a conifer fell on another of its own kind of host. Not all the seeds by any means germinate and start a growth; for the conditions of germination must be just right in a number of concurrent respects. But by the very abundance of the berries and the continued patronizing of them by the birds it is likely that some new growths are started each year.

The mistletoe not only interferes immediately with the thrifty growth of the host tree, but it opens the way for early decay of the affected branches so that the wind and heavy snow of winter break them down—a calamity from many standpoints. It is fair to inquire here whether repressive measures should not be taken against the bluebird in an effort to save the trees. To this we would say decidedly *no*, and for the following reasons.

The relation between trees, mistletoe, and bluebirds is an ancient one, arrived at during eons of

adjustment; a state of approximate equilibrium has been reached between the three. The fortunes of individual members of the trio may vary from time to time, but no great change is likely to occur, with general conditions of climate as they are. Furthermore, it is doubtful if any intervention by man could be of lasting effect. The Western Bluebird is but one of a number of birds which stand in practically the same relation to mistletoe, and if the former were to be eliminated some other species, such as the Cedar Waxwing or the Townsend Solitaire, would likely take its place. It would be impractical—indeed, we believe, impossible—to exterminate the bluebirds. Even were all the locally wintering individuals in the Yosemite region killed off—and that in itself would be extremely difficult to accomplish—subsequent years would witness a gradual infiltration of individuals and reestablishment of a normal population. Nor would cutting out mistletoe be economical except in the case of individual trees which it might be desirable to save. Interference by man with the 'natural balance,' save where direct and rather complete control is possible locally, as with ground-dwelling rodents, is never productive of the favorable results which some persons hope for.

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