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NESTING OF THE CLARK NUTCRACKER IN CALIFORNIA

WITH FIVE ILLUSTRATIONS

By JAMES B. DIXON

While the Clark Nutcracker (*Nucifraga columbiana*) is a common and well known bird in a great many parts of California, there seems to be but little known as yet about the nesting habits of this bird. In searching for records of nesting in California the only one found was a reference in the minutes of the Southern Division of the Cooper Club to two nests collected by O. W. Howard in the San Bernardino Mountains in late March.

For each of the past five summers, the writer has spent a few weeks in the eastern part of California in the Mono basin and has found nutcrackers very common throughout that area. They were particularly in evidence during late May and early June in family groups and were most common at elevations of 8500 to 10,500 feet above sea-level.

The only evidences of nesting found prior to 1934 were the assemblages of birds that, in May and June, acted like family groups, and some old unidentified nests found in scrubby bushes on Reverse Peak, which at the time they were found were occupied by chipmunks. I am sure from present knowledge that these were old nutcracker nests which had been taken over and used by the chipmunks after the nutcrackers were through with them.

In April, 1934, I decided to investigate the situation and to endeavor to locate some occupied nests of the nutcracker in this vicinity. I was aided in the field by Ed Harrison, J. Y. Marquette, James Hanson and Ralph Dixon. Arriving at June Lake in Mono County on April 8, 1934, we found the snow fall far below normal and June weather prevailing. On the morning of April 9, 1934, while looking through binoculars at the snow on the peaks surrounding camp, a bird flew into the field of vision. Because of its extremely rapid upward flight, it aroused my curiosity; and following it, I identified it as a Clark Nutcracker. This bird rose almost perpendicularly 400 feet above the valley floor and, leveling off in its flight, landed on the mountain side directly above where I was standing. I watched the tree into which it flew for some time and the bird did not appear again in the vicinity. This observation occurred at 6 a. m. At about 8 a. m., Marquette and I decided to investigate this suspicious action of the nutcracker observed earlier in the day, and accordingly, we climbed the mountain side to the location. After looking around quietly we located a Clark Nutcracker sitting silently on the dead top of a blasted pine tree near-by. Although this bird could see us and without a doubt was aware of our presence, it neither gave

indication of alarm nor paid the least attention to us or our movements. We looked around in the pines and other thick growing trees and could see nothing that indicated a nest; we decided to watch the bird for further developments. The bird acted like a brooding bird and after sitting in the same position for several minutes abruptly dropped down to a perch within a few feet of us. After casually looking us over, it gave a two-syllabled call that caused its mate fairly to explode from a nest in a small scrubby juniper tree near-by. The bird we had been watching then flew directly to the tree from which its mate came and disappeared quietly in the thick foliage. Upon going over to the tree, we found the nest at the end of a slender limb surrounded by heavy branches and the bird was sitting upon it.



Fig. 40. June and Gull lakes, Mono County, California, in late March, showing nesting grounds of Clark Nutcracker.

Fraser's Photo, Pomona, California

The nest was fourteen feet from the ground and on very steep ground which made it seem closer to the ground than it really was. It was made entirely of parts of the juniper tree. The outside portion of the nest was composed of the dead weather-beaten twigs of the juniper tree and was 12 inches across outside, with a maximum depth of $5\frac{1}{2}$ inches. The inside of the nest was padded with the reddish-colored outer bark of the juniper and was $4\frac{1}{2}$ inches across and $3\frac{1}{2}$ inches in depth. The lining was $1\frac{1}{2}$ inches thick and extremely well padded to keep out the cold from below. The outside structure was extremely well wedged into the supporting limbs of the tree and would not easily shake out by movement of the main supporting limb. When found, this nest contained three young birds which we judged to be ten days out of the shell (fig. 44). The parent birds were quite fearless, allowing us to touch them. At times they would have to be lifted off the nest so that we could look at the young birds. The sitting bird would lean sideways when approached and open its bill, acting as though it would peck if disturbed, but neither of the birds ever actually pecked us, although with their sharp, long bills they could have put up a severe resistance (fig. 41). The weather was mild for this time of the year, but both birds

were faithful in their brooding of the young as well as in their feeding of them. This being the first nest located and being easy of access, we accepted it as typical, and it was from this pair of birds that we secured most of our detailed information as regards food, method of feeding, brooding periods and general behavior around the nest.



Fig. 41. Clark Nutcracker incubating.

Photograph taken by Ed Harrison.

In the event one of the parent birds left the nest from any cause, the other bird of the pair would immediately assume brooding duties. This was done without any effort to force such brooding duties upon the mate, as is so often the case with other birds. Insofar as we observed, the duties of brooding and feeding the young were equally borne by the two parents. From casual observation we could not tell which was the male and which the female of the pair. Actual time records taken on the afternoon of the 9th of April, which was a warm sunny afternoon, revealed a change of brooding and feeding duties every thirty minutes on the average.

The food at this time was partly predigested and was broken up and fed impartially to all the young. A large share of the food was secured from the half frozen meadow land on the floor of the valley some 400 feet lower in elevation and at least one-half mile distant in an air line. The food consisted partly of wood-borers secured from rotten logs lying on the ground. These borers seemed to be located by the sense of hearing, as the birds would cock their heads to one side and listen and then go to a rotting log and start digging, invariably securing something which they took away with them as food. They also caught flying ants and other "bugs" in mid-air, in much the same manner as do flycatchers and woodpeckers; after crushing them, the parents fed them to the young birds. The chief source of food at this time was the soft oozy ground in the meadows that were just coming out from under the snow. Apparently they were securing some form of larva that was found

on the hummocks sticking up from the oozy ground. I watched the birds with 8× binoculars as close as one hundred feet, but could not be certain of the identity of the food.

Early in the mornings the birds would be plentiful in the meadows, whence they flew long distances to their nest locations. Some were watched through binoculars for a mile and one-half and were still traveling toward the nesting location, so I am sure the birds travel some distance to reach suitable feeding grounds. We did not see the birds working the trees for pine nuts at any time. One thing we noticed that seemed odd was the habit the birds had of eating snow. They seemed to prefer this method of securing moisture to finding a place where they could drink from a running stream. This snow eating habit was noticed in several places, but was most noticeable around the nests.

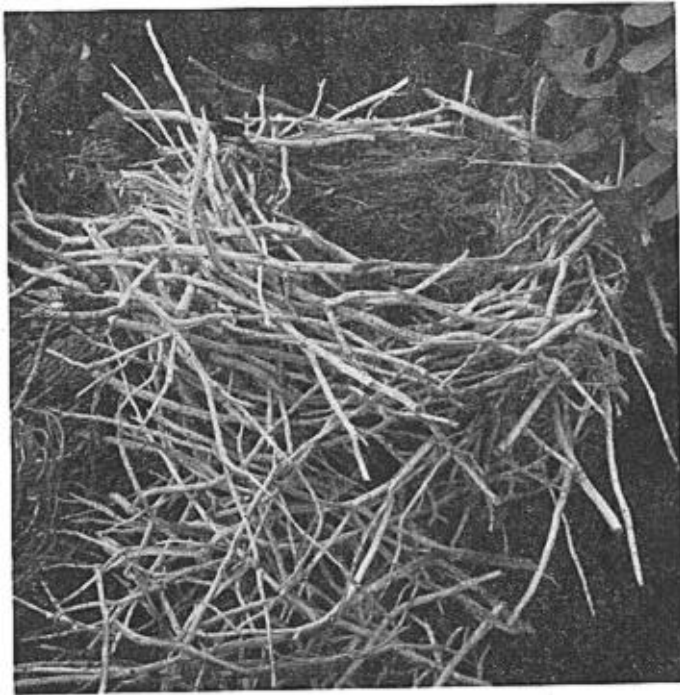


Fig. 42. Nest of Clark Nutcracker removed from nest tree.

Photograph taken by James B. Dixon.

Apparently the female does most of the incubating of the eggs, for we noticed in two instances that the sitting bird was fed upon the nest, but no such feeding took place where there were young in the nest. Five occupied nests were located on April 9 and 10, 1934. Three of these held young birds at this date; the first held three young estimated at ten days out of the shell; the second held four young two days out of the shell and the third held three young which were at least fourteen days out of the shell. The other two nests held eggs. The first one held four eggs in which the incubation in all the eggs was one-half advanced; the second nest held three eggs in which the incubation was two-thirds advanced.

All of the nests were in juniper trees on steep slopes at the 8000-foot level and contrary to our expectations were located in the coldest spots, where the snow stayed

on the ground the longest. It is quite likely that these locations are the freest from the wind which blows so hard at these elevations, and I feel certain the juniper trees are used because of their sturdy build and ability to withstand the wind action. All nest locations seemed to have been selected with protection from the wind in mind, as the nests were either on top of a large limb, or, if supported by a small branch, were surrounded by heavy limbs that gave protection. The only variation in the nest construction seemed to be in a landing platform of sticks which some nest builders provided and others dispensed with. This platform was of juniper twigs the same as the nest and rested upon the same limb which supported the nest. This feature is illustrated in figure 42.



Fig. 43. Nest and four eggs of Nutcracker, showing details of construction.

Photograph taken by James B. Dixon.

Three eggs seemed to be the common number, and the two sets showed very little variation as to size and markings but were different in shape. The set of four eggs measures in inches as follows: .95x1.15; .91x1.22; .92x1.25; .92x1.18. The nests were located from ten to eighteen feet from the ground and were well concealed from below.

The action of the birds during the breeding period seemed truly to indicate their crow, jay, and magpie relationships. The birds were very much in evidence if one looked closely enough, but were sly and quiet and were attending strictly to the business at hand in an efficient manner. This is perhaps best illustrated by the fact that I had asked a number of people who had lived here all their lives, both winter and summer, if they had ever seen a nest of the pine crow, as it is known here. No one had ever seen or heard of a nest, although the birds were nesting commonly close by and in places where one would have thought they would be noticed.

The young birds conduct themselves in the normal crow manner, by trying

to swallow anything that is thrust at them. They open up their mouths upon the slightest provocation, such as a shadow passing over them, a loud noise, or a movement of the tree or nest limb.

The young are well cared for and grow rapidly. The young had left all of the nests noted above by the first day of May and were being fed in the near-by trees for some time thereafter, apparently ascending slowly to higher levels by late May and early June.



Fig. 44. Young Nutcrackers ten days old.
Photograph taken by Ed Harrison.

The Prairie Falcon seems to be the nutcracker's major enemy. A pair of these falcons had a nest on a cliff in the center of the nesting area and during May and June were always trying to catch the young nutcrackers. Although I saw several unsuccessful attempts made by the falcons, I did not see a nutcracker caught; but from the actions of the falcons on numerous occasions I am sure they do catch them sometimes. A pair of Western Goshawks and a pair of Cooper Hawks had nests not far from the area occupied by the nutcrackers, but we never found any feathers around either nest that would indicate that the nutcrackers formed any part of their food supply. Nevertheless, these hawks undoubtedly would rate as formidable enemies of the nutcracker.

The most outstanding thing in our observations was the utter fearlessness displayed by the bird at this season. This attitude seemed to be one of contempt for human association; this seems to hold good at all times, for the nutcrackers do not flock to the back doors for food as do the other birds during exceedingly cold spells of weather during the winter. They have apparently learned to eat snow because at times in the winter everything is frozen up and open water is hard to find.

Escondido, California, August 22, 1934.