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HOME LIFE OF THE BLACK-TAILED GNATCATCHER

By ROBERT S. WOODS

WITH SEVEN PHOTOS ON FOUR BLOCKS

ONE of the most restricted in distribution of all the birds in the United States is the Black-tailed Gnatcatcher (*Poliottila californica*), which is found in certain arid, brushy sections of the Pacific slope of southern and Lower California. The observations set down herewith were all made on the San Gabriel Wash at Azusa, in Los Angeles County.

The habits of this species differ somewhat from those of the Western Gnatcatcher, and the name "gnatcatcher" does not appear to be so appropriate to it. Baird, Brewer and Ridgway (North American Birds, 1874) state that "at times it will dart about in the air in pursuit of small insects"; but after watching these birds many times at all seasons of the year the writer has found this to be a decidedly rare occurrence, although they sometimes do hover momentarily to pick something off a branch; and an occasional snap of the bill at other times suggests flycatching activities even if one does not actually see the birds. In the locality mentioned, at least, the food is practically all obtained by search through the branches of shrubs. The birds do not seem to care for water, either for drinking or bathing.

The Black-tailed Gnatcatchers do not wander much during the course of a year, and ordinarily it is possible to locate a pair at almost any time within an area of a few acres. They also confine themselves rather strictly to the brush, only casually visiting adjacent orchards or gardens. The call-note varies considerably, but may be distinguished from that of the Western Gnatcatcher by a certain querulous tone and it is very thin and plaintive in character.

The nest is deeply cup-shaped, sometimes slightly constricted at the top, and is compactly and neatly constructed of small pieces of grass, bark, fiber, paper, cloth, string, etc., and lined with small feathers, rabbit fur and soft cottony material. The interior measurements of three nests were $1\frac{1}{2}$ inches in diameter, by $1\frac{1}{4}$ inches in depth.

The nest shown in figure 29a, into whose construction small bits of newspaper had entered largely, was found on June 25, 1920, just as the young were ready to leave. The four young birds were arranged in two layers, and of one of those in the lower layer only the beak was visible; yet on leaving the nest all seemed equally vigorous and well developed. One of the bottom ones, how-

ever, remained in the nest an hour or two longer than the others (fig. 29b). The four were seen together in the neighborhood for some time.

About March 1, 1921, a pair of gnatcatchers (possibly from the brood just mentioned, which had passed the winter in the vicinity) started a nest near the top of a low sumac bush (*Rhus laurina*) about 2½ feet from the ground. The work proceeded rapidly at first, most of it being done by the male, and then gradually slowed up. By the middle of the month the nest, which was ready for the lining, seemed to be deserted, and a week later was found overturned and partially destroyed. This suggested a search for a new nest, which was found a day or two later about 125 feet away in a clump of cactus and weeds and about two feet from the ground. It was complete except for part of the lining, which was added to from time to time until finished, after which the birds showed no further interest in it.

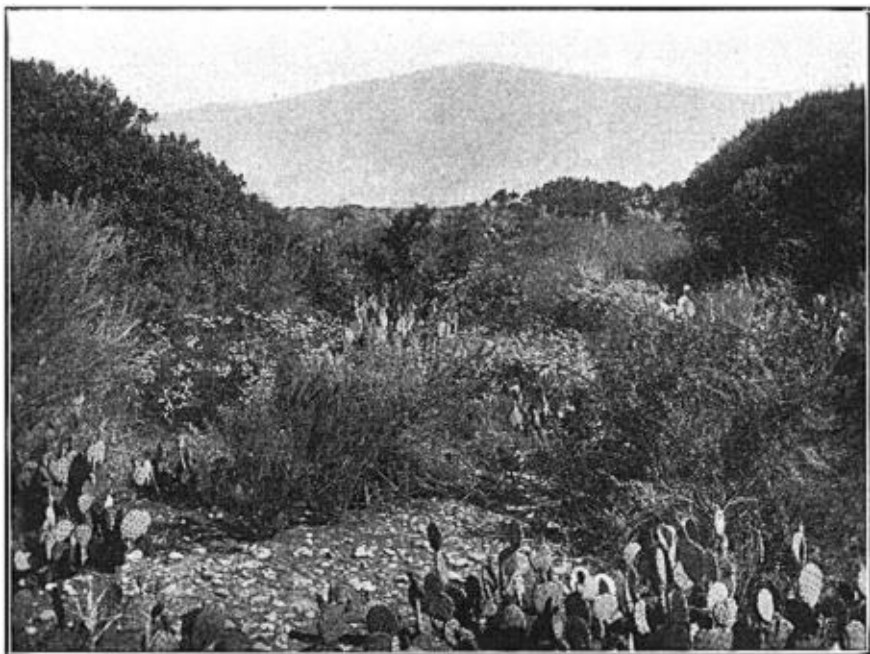


Fig. 28. HABITAT OF THE BLACK-TAILED GNATCATCHER, SAN GABRIEL WASH, NEAR AZUSA, CALIFORNIA; PHOTOGRAPHED JUNE 30, 1921; A NEST WAS SITUATED IN THE CENTER OF THE LOW BUSH IN THE RIGHT FOREGROUND.

On April 22, by following the male gnatcatcher for a while, I located a third nest in a buckthorn bush (*Rhamnus crocea*) about 250 feet from the last. The site was much the best of the three, being about 2½ feet from the ground and in the midst of such a thick mass of twigs that the nest could not be clearly seen from any direction (fig. 30a). There were three eggs, grayish or bluish white speckled with reddish brown. The duty of incubation was divided between the two parents and the eggs were seldom left uncovered even for a moment. The birds showed no resentment at the presence of a human spectator, though the approach of another bird within perhaps fifty feet of the nest was often the cause of fierce demonstrations on the part of the male gnat-

catcher, and they would scold vigorously at the appearance of a cat even outside of the nesting season.

The young were hatched out on May 3 and left the nest nine days later, on May 12. They remained in the same clump of bushes until the next day, when in response to urging by the parents they made several moves to other bushes. It would seem to require a well developed memory for location to enable the old birds, on returning from a distance with food, to find the young ones; for they sit quietly in the interior of a bush surrounded by many other similar bushes. On two such occasions I saw the mother bring food to a bush which the young had left some time previously. After searching for a while and then calling without answer from the young ones she appeared to recollect and flew at once to them.

The food furnished consisted of a large variety of small insects and spiders. The larger insects were first thoroughly beaten against a branch. The



Fig. 29. *a*, FOUR YOUNG BLACK-TAILED GNATCATCHERS. *b*, SAME NEST LATER, WHEN ONLY ONE YOUNG REMAINED. NEST ILLUMINATED BY SMALL MIRROR; BOTH PHOTOGRAPHS TAKEN JUNE 25, 1920.

largest insect noted was a walking-stick which, being nearly as long as the young bird, required considerable swallowing. One of the brood disappeared a few days after leaving the nest, but by the first of June the other two were beginning to hunt their own food and could be distinguished from the mother only by the greater amount of white on their outer tail feathers.

On June 8 an inspection of the nest showed that a section of it had been removed, and it was found that only a small portion of the unused nest previously built remained. A short search in the vicinity of the latter revealed a nest containing three eggs, about 50 feet away. The situation (see fig. 28) was similar to that of the nest used before, except that the foliage was less dense, and was also very similar to that of the nest found the previous year. The nest (fig. 30b) appeared a little looser and bulkier than those built of new materials. As previously, the male seemed anxious to do his full share of the incubating and would sometimes almost force his mate from the nest. While

on the nest he maintained a vigilant watch, frequently peering over the edge and closely scrutinizing the ground beneath. The female evidently occupied the nest at night, as well as part of the day. The two young gnatcatchers were not allowed to loiter near the nest.

On June 21 newly hatched young were found. The exact time during which they occupied the nest was not determined, but it was at least a day or two longer than in the previous case. This was not due to their remaining until a later stage of growth, but to an actual slower development. The nest



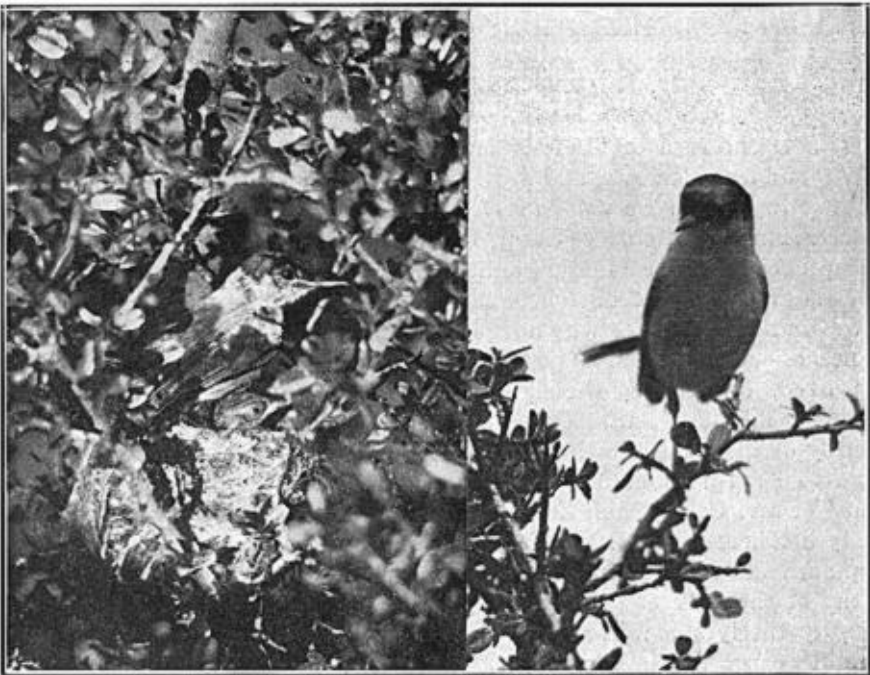
a *b*
 Fig. 30. *a*, MALE BLACK-TAILED GNATCATCHER NEAR NEST, THE LATTER BEING SITUATED IN DENSE GROWTH AT LOWER LEFT; PHOTO TAKEN MAY 10, 1921.
b, FEMALE GNATCATCHER ON ANOTHER NEST; PHOTOGRAPHED JUNE 10, 1921.

being only partially shaded, the male was accustomed to stand in it a large part of the time during the heat of the day in order to protect the young from the sun (fig. 31a). The nest and its surroundings were left in a perfectly clean condition. The young remained with the parents until early in August, after which the original pair continued to occupy the same territory, while the young drifted off together to other hunting grounds.

A certain degree of individuality was noticeable among the various gnat-

catchers. In the case of the pair nesting in 1920 the male invariably followed the female from bush to bush while hunting together. This female was notable for the decidedly brown tone of the back and wings, contrasting with the clear gray of the male. The male whose photographs appear herewith showed at all times an independent and fearless disposition. His mate, after each brood was hatched, at first refused to visit the nest while a person was near, but soon gained confidence. Under other circumstances she occasionally indicated marked curiosity by approaching silently to within arm's length or hovering close above one's head.

It does not seem to be generally known that the black cap of the male Black-tailed Gnatcatcher is present only in spring and summer plumage. Hav-



a **b**
 Fig. 31. *a*, MALE BLACK-TAILED GNATCATCHER SHADING YOUNG FROM SUN; ILLUMINATED BY REFLECTED LIGHT; PHOTO TAKEN JUNE 30, 1921. *b*, MALE BLACK-TAILED GNATCATCHER; PHOTOGRAPHED MAY 13, 1921.

ing previously noticed the absence of black-capped birds during the fall and winter months, I was able, by systematically watching the male here shown, to observe the changes in the color of the cap. About the middle of February black patches appeared on the crown and quickly spread over the entire top of the head. The reverse change in the fall took place much more slowly and in the form of a gradual obscuring and replacing of the glossy black by gray. The first signs of gray could be detected about the middle of July and it required approximately a month and a half for all traces of darker color, with the exception of a permanent blackish streak above the eye, to disappear. The change appeared to be complete before the new tail feathers were entirely

grown out. It might also be mentioned that the white edgings of the tail, which in fall and winter are conspicuous and readily apparent in flight, become much restricted or entirely wanting in summer plumage.

Owing to the nature of their feeding grounds not much can be said as to the economic value of Black-tailed Gnatcatchers, but they consume large numbers of moths, which doubtless include some injurious species.

Los Angeles, California, September 10, 1921.

NOTES ON FALL MIGRATIONS OF FOX SPARROWS IN CALIFORNIA

By JOSEPH MAILLIARD*

WITH the idea of learning more about the fall movements of some of our fox sparrows, and particularly those of the Yolla Bolly Fox Sparrow (*Passerella iliaca brevicauda*), in the autumn of 1919, in company with Mr. Luther Little as assistant, I made a trip to a place on Eel River, near the southwestern base of Mt. Sanhedrin, on the summit of which the latter species is known to breed. The week of September 15 to 20 was passed here, but we found that there was no good fox sparrow country within workable distance of our headquarters. That some were passing through the locality was proved, however, by the sight of two individuals on the morning of September 20, neither of which was secured for identification; but these were evidently of the smaller billed, dark group from the northwest coast, southern Alaska to British Columbia, designated by Swarth as the "Unalascensis group" (Univ. Calif. Publ. Zool., vol. 21, 1920, p. 89).

My brother, John W. Mailliard, arrived on the afternoon of September 20, and placed his services and car at our disposal for the ensuing week. On account of the lack of good country for observation here it was decided to run up to Lierly's, a well-known hunting resort at a more appreciable elevation and nearer to the summit of Mt. Sanhedrin. During the next day the party identified 37 species of birds, but the only fox sparrow seen was again one of the above group. On September 22, my brother and Little went up to the top of Sanhedrin to ascertain if the Yolla Bolly Fox Sparrows were still there. Several of these were obtained. Having proved this point, we moved next day to Glenbrook, Lake County, just north of Cobb Mountain, at an elevation of 2300 feet. Near this spot is a large tract of brushy territory containing a considerable mixture of ceanothus and manzanita brush, upon the seeds of which the fox sparrows largely subsist.

On the morning of the 24th we went up a few hundred feet higher into this brush country, and immediately commenced to get results. Fox sparrows were not so very numerous but would occasionally appear or could be "squeaked up" from time to time. While none of this genus had been found here during our visit from April 28 to May 3, of the previous spring, the local-

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