

NESTING OF THE BLACK-TAILED GNATCATCHER

WITH THREE ILLUSTRATIONS

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IN THE CONDOR for November, 1921 (xxiii, p. 173) the writer described the nesting of the Black-tailed Gnatcatcher (*Polioptila californica*) as observed on the brush-covered "wash" of the San Gabriel River at Azusa, California. The following spring the birds drifted away into new territory, so that although they were seen at frequent intervals, a convenient opportunity to follow their home life in detail was not again offered until 1927, when a nest was built very close to the location of the first brood mentioned in that article. In view of the scarcity of literature on this interesting species, it seemed worth while to determine how closely the procedure previously noted would be followed by what would almost certainly be different individuals of a new generation.

About the last of March a pair was seen carrying nesting material, and on April 1 a completed nest was found, situated about three feet from the ground in a buckthorn (*Rhamnus crocea*). On April 5 the male was incubating two eggs, which were



Fig. 53. FIRST NEST OF BLACK-TAILED GNATCATCHER. THE BLACK CAP OF THE INCUBATING MALE CAN BE SEEN ABOVE THE RIM OF THE NEST. APRIL 12, 1927.

increased to three the next morning and to four on the following morning, these apparently having been laid in the evening or early morning.

The duty of incubation was divided substantially as in the earlier instance. During the day the male occupied the nest more than half the time, being relieved by his mate at intervals of approximately one hour. Soon after sunset, however, the female would take her place there and presently, with head tucked in, would be settled for the night. The gnatcatcher's nest is so deep that only the top of the head and the tail of the sitting bird project above the rim. On unusually hot days, however, the birds are accustomed to stand over the eggs with half spread wings.

On one occasion a good-sized Alligator Lizard (*Gerrhonotus scincicauda webbii*) was found immediately beside the nest, possibly waiting until the bird—which seemed unperturbed—should leave the eggs exposed. The reptile was gently but firmly removed to a safe distance before any damage could be done.

The incubation period, which had not previously been ascertained, proved rather longer than anticipated, being 14 days from the laying of the last egg, the time thus equaling or slightly exceeding that of many of our larger passerine birds. Although the eggs were laid on successive days and incubation was apparently begun with the first, or at least the second, egg, all four were hatched within less than 24 hours, either on the evening of April 20 or on the morning of April 21. The bodies of the young were entirely bare until the primaries began to appear, three or four days later.



Fig. 54. SECOND NEST OF BLACK-TAILED GNAT-CATCHER, WITH FEMALE BROODING. MAY 27, 1927.

On the morning of April 26 it was found that some mysterious fate had overtaken the gnatcatchers. The young were all dead—one in the nest, two in the foliage a few inches away, one on the ground beneath—the parents nowhere to be seen. However, later in the day the old birds were discovered calmly hunting together in the brush some distance away, so the case was diagnosed as one of desertion—a strange dereliction on the part of parents ordinarily so faithful and efficient.

Allowing a reasonable time for the resumption of family duties, the search for a new nest was taken up, with the unwitting assistance of a solitary male gnatcatcher whose wanderings I followed in the belief that it was one of the original pair and which, inadvertently venturing near what proved to be the new nesting site, was fiercely attacked by the resident male and chased quite out of sight. The second nest,

then containing four eggs, was not more than 200 feet from the first, and at a height of about three feet in a small sumac (*Lithraea laurina*), which offered only slight concealment.

The eggs were hatched on or about May 21. As in the former year, the growth of this second brood was probably a little slower than that of the first. The young left the nest on June 5, having occupied it 14 or 15 days, as compared to 9 and 10 or 11 days for the two broods of 1921. This difference is not easily accounted for, but is no greater than that observed in the case of the mockingbird, towhee and other common birds. In some of the slower growing species, such as the Costa Hummingbird and probably the Phainopepla, there seems to be less individual variation in this regard.

Contrary to the disposition of the former pair, the male of this year was of a



Fig. 55. THIRD NEST AND YOUNG OF BLACK-TAILED GNATCATCHER. JULY 14, 1927.

less trustful nature than his mate. He showed considerable fear of the camera and, unlike his manner toward feathered interlopers, would hop from bush to bush with silent suspicion, not daring to brave the unknown danger. As the time approached for the young to leave the nest, the birds' anxiety and distrust increased, though their fear seemed to be for their offspring rather than for themselves.

When a larger bird came near the nest and was not easily intimidated, the male gnatcatcher would dash at it repeatedly, with a rapid snapping of the bill. During the absence of her mate the female undertook to drive away a flock of bush-tits, but with no conspicuous success, as each bird attacked would simply dodge back into the bush. Relations between the gnatcatchers and a Costa Hummingbird which made

his headquarters on the dead top of a nearby bush seemed to be adjusted on a basis of mutual toleration.

The investigations of Messrs. Baldwin and Kendeigh on the behavior of the House Wren (*Auk*, XLIV, 1927, p. 206), in the course of which they noted periods of inattentiveness, during which the birds were presumably resting or seeking food for themselves, alternating at quite regular intervals with periods of attentiveness to nesting duties, suggested a similar inquiry into the habits of the Black-tailed Gnatcatchers. The following is a record of visits to the nest during a period of an hour and three-quarters on May 31, when the young were just beginning to open their eyes.

MALE		FEMALE		MALE		FEMALE	
P. M.	Interval	P. M.	Interval	P. M.	Interval	P. M.	Interval
4:12		4:12				5:16	4 min.
		4:16	4 min.			5:20	4 min.
		4:23	7 min.	5:21	14 min.		
		4:25	2 min.			5:22	2 min.
4:27	15 min.					5:23	1 min.
		4:31	6 min.			5:24	1 min.
		4:37	6 min.	5:26	5 min.	5:26	2 min.
		4:46	9 min.	5:29	3 min.	5:29	3 min.
4:48	21 min.	4:48	2 min.	5:31	2 min.	5:31	2 min.
		4:49	1 min.	5:33	2 min.		
		4:51	2 min.			5:36	5 min.
		4:53	2 min.			5:37	1 min.
		4:55	2 min.	5:41	8 min.	5:41	4 min.
		4:57	2 min.			5:42	1 min.
		4:58	1 min.	5:44	3 min.	5:44	2 min.
		4:59	1 min.			5:45	1 min.
5:02	14 min.	5:02	3 min.	5:47	3 min.	5:47	2 min.
		5:05	3 min.	5:51	4 min.	5:51	4 min.
5:07	5 min.	5:07	2 min.	5:53	2 min.	5:53	2 min.
		5:09	2 min.			5:55	2 min.
		5:12	3 min.				

The above figures do not seem to cast much light on the question of "inattentive" periods, unless it be that these were enjoyed exclusively by the father of the family. However, he deserves a better reputation than this particular tabulation would give him. During the middle of the day the movements of the birds were more leisurely and the intervals longer, but no less irregular. Most of the insects brought to the nest were too small to be identified at a distance.

A few days after the young birds had left the nest, it was found that three of them had disappeared. The presence of a shrike in the vicinity suggested at least one hypothesis as to their fate. The survivor, like those of broods previously known, was not at this stage especially active, often sitting motionless for considerable periods. At one of these times I noticed that the male parent had some difficulty in finding the young one, whose indifference and stolidity were remarkable as the father bird, with a juicy morsel, called and searched through the bush. On his next trip, the young bird still being in the same place, he had no trouble in locating it. Towards the end of June the young one was being left largely to its own devices, though it still expected food when approached by one of the parents.

By this time, as it afterwards developed, the birds must already have embarked on a third venture, for on July 12, I found a nest with four well-grown young,

situated about 100 yards from the second nest, and still farther from the first. This nest, like the others, was placed about three feet from the ground, in a low shrub, *Ericameria pinifolia*. The material of the previous nest, which had entirely disappeared, was probably used in its construction. The growth of this brood also was evidently comparatively slow, for on July 16, before starting on a vacation trip, I found the young still far from ready to leave the nest. On the first of August two young birds were actively following their parents about. After the middle of August they were still vociferously begging for food, and occasionally receiving it, but for some reason had attached themselves almost exclusively to the male parent, paying little attention to the female, who had perhaps ceased to be a dependable source of supply.

Early in August the seasonal change in the plumage of the male began to be discernible. This replacement of the glossy black cap by the gray body-color continued in the same very gradual manner described in the previous article. It was at about this time that I noticed the only indication of a song that I have ever detected on the part of this species—possibly only a musical inflection of the usual call.

Practically all the utterances of the adults seem to be variations of the rather prolonged, mewing call note, which is often repeated from two to four times in succession. The call of the female is thin and plaintive; that of the male is usually stronger and heavier, and sometimes scolding, but is nearly always characterized by the complaining tone which distinguishes the voice of this species from that of the Western Gnatcatcher (*Polioptila caerulea obscura*). More rarely, the male gives utterance to a series of short, harsh, uninflected notes, such as are used by the male Plumbeous Gnatcatcher (*Polioptila plumbea*).

Probably no other California bird is so strictly confined to the brush-lands as is this. The Cactus Wren shares the same territory, but often comes about houses and dooryards, and sometimes builds nests in orange groves and around buildings, while the Black-tailed Gnatcatcher almost invariably turns back when it reaches the limits of the natural vegetation. The most striking contrast between this species and the Western Gnatcatcher is that of the restricted habitat of the former and the wide-ranging habits and distribution of the latter.

Axusa, California, August 22, 1927.