

A NEST OF THE ARCTIC THREE-TOED WOODPECKER

WITH TWO ILLUSTRATIONS

By E. G. ENGLAND

The bright yellow crown patch of a male Arctic Three-toed Woodpecker (*Picoides arcticus*) first attracted the writer's attention to this species on June 17, 1937, near Gold Lake, Sierra County, California. The bird was seen in an aspen grove about one hundred yards from the northwest shore of the lake, which is in the Canadian Zone at an elevation of 6500 feet. A few minutes later a female was seen, and a nest was discovered on the southeast side of a live aspen about ten feet from the ground. As soon as it became apparent that the young had hatched, a crude tower was constructed. This reached to the same height as the nest entrance and was placed about two feet away from it. After giving the birds three days to become accustomed to the tower, a camera was secured to it and focused on the entrance preparatory to taking pictures of the birds. A black linen thread was run from the shutter-release to the observer's station, which was in a clump of small aspens about thirty feet from the nest tree.

The birds paid little attention to the camera or the tower. The click of the shutter startled them at first, particularly the female whose alarm was communicated to the male. Both soon became used to it and disregarded it entirely.

All this time and during the previous two days the young birds in the nest continued to make a grinding, purring noise that was audible for a distance of thirty or forty feet. Throughout the observations the young kept up this constant buzzing which increased in volume as the parents approached. The only occasion on which the "purring" ceased was when a Red-breasted Sapsucker (*Sphyrapicus varius daggetti*) flew past the nest tree just as one of the parents sounded a harsh, clicking alarm call some distance away.

On June 25 about seven hours were spent observing the birds and making photographs. From eight until nearly eleven o'clock the visits of the parents were less than five minutes apart and were about evenly distributed between male and female. At eleven o'clock it was noted that the feeding intervals were becoming longer and that the parent birds did not regularly alternate their visits as had been done previously. The visits were then timed. Data for the midday feedings are recorded in the following table:

Time of arrival at nest	Sex	Interval since last feeding (minutes)	Interval since last feeding by same parent (minutes)
11:05	♀
11:29	♂	24
11:36	♂	7	7
11:45	♂	9	9
11:46	♀	1	41
11:59	♀	13	13
(No observations for 30 minutes)			
12:44	♀
12:57	♀	13	13
1:07	♂	10
1:08	♀	1	11
1:12	♂	4	5

In this midday period there were six visits by the female and five by the male, which indicates that the work of feeding is about evenly divided. Of twenty-five visits observed, insects were seen in the parent birds' bills ten times; seven of the insects were large white grubs with black heads; three were black or brown insects. On one occasion the



Fig. 68. Male Arctic Three-toed Woodpecker at nest at Gold Lake, California.

male had two grubs held crosswise far back in his bill; the rest of the time the grubs were held lengthwise. Although the total number of visits to the nest was about evenly divided between male and female, it was apparent that they were not always in rotation but rather that there were three or four visits by one parent, then three or four by the other with occasional alternate visits.

Achilles (*Bird-Lore*, vol. 8, 1906, p. 159) states that these birds never alight directly at the nest entrance. The writer's observations in general corroborated this statement. Both parents usually lit on the opposite side of the tree from the entrance hole and at about the same height as the hole itself. This may have been because the camera was on the side of the entrance hole. Oddly, the male nearly always moved around to the nest



Fig. 69. Female Arctic Three-toed Woodpecker.

from the observer's left (counter-clockwise), the female from the right. This method of approach was varied only once when each bird came to the nest hole in exactly the opposite direction from usual. Also on one visit the female flew directly to the nest entrance.

Both birds always looked anxiously to the right and left before entering the nest, and always peered out to reconnoiter before leaving. On leaving the nest both birds frequently flew to the dead top of a tall lodgepole pine about a hundred yards away and drummed loudly. The female's drumming was noticeably softer and slower than the male's. Also, they drummed more frequently in the early morning between four o'clock and seven o'clock than at other times in the day.

Twice the male carried from the nest some white fibrous matter. This puzzled the observer who was not familiar with the method of nest sanitation employed by woodpeckers. Warren (Condor, vol. 14, 1912, p. 94) states in regard to the nest of an Alpine Three-toed Woodpecker that there were a few of the birds' droppings in the nest, indicating that some, at least, were removed. Irving (National Geogr. Mag., vol. 63, 1933, p. 459) shows a photograph of a female flicker (*Colaptes* sp.) about to depart from the nest with excreta from the young held in her bill. The caption further states that she flies away some distance before dropping it. It is probable that the light-colored material which was being carried from the nest by the Arctic Three-toed Woodpecker was excrement. Whether it was eaten or dropped was not ascertained.

Fifteen feet south of the woodpeckers' nest, and about ten feet higher, was the incompleated nest of a Western Wood Pewee (*Myiochanes richardsonii richardsonii*). When the first picture was taken of the female woodpecker, the click of the shutter so alarmed her that she flew up and lit near the pewee's nest. Promptly and vigorously the pewee chased her away, the much larger woodpecker offering no resistance. Later the male woodpecker lit on the limb which supported the pewee's nest; the pewee tried to drive him away, but he clicked his mandibles so angrily and loudly that the pewee abandoned the attack.

On one occasion the male had just reached the nest entrance when the female arrived. There was a sharp dispute and the male left without entering the nest. He flew to a near-by pine clicking his mandibles and calling harshly.

In the three seasons following the observations of 1937, the Arctic Three-toed Woodpeckers have not been seen in the region. Their nest was occupied in 1938 by a family of Mountain Chickadees (*Penthestes gambeli abbreviatus*) and again in 1939 by the same species. There were three other old nesting holes in the same tree, about two feet apart, and a number of other holes where nests had apparently been started and abandoned.

Chico State College, Chico, California, July 19, 1940.