

1934

NESTING STUDY OF A PAIR OF NIGHTHAWKS

by

Grace Collet

NESTING STUDY OF A PAIR OF NIGHTHAWKS

On Friday, June 29th, while I was wandering over the hill back of the camp in search of the nest of some arboreal species, a whir of brown wings rose from before my feet and stopped me - astonished and amazed beyond all measure. For in front of me this same brown and mottled bird was performing in a way which, before this time, had been to me only story-book lore. With mouth wide open and tongue lifted the aroused bird was hissing at me, beady dark eyes were snapping at me, a broken wing was dragging on the ground. By the white wing bars I knew my quarry for anighthawk and I knew, too, that the bird did not want me standing where I was. Curious then, I marked the spot in which I stood and followed her, - from ground to stump she fluttered and from one stump to another, emitting appealing cluckings, always eluding me when I came within three feet of her but never leaving me too far behind. At last, tiring of her useless defense of a nest which I was sure was near the place she was first startled, I returned and there, sure enough, I found it. In a cleared bare space on the ground between some bracken fern she had laid the two eggs which she had so valiantly defended. Dull white they were, with confused splotches of grayish brown and lavender gray all over them; large eggs measuring $3\text{-}1/8$ cm. in length and $2\frac{1}{4}$ cm. in width.

Eleven feet from the nest site I then set up a blind, for by her actions I learned that hatching time was not far off.

On the next day, Saturday June 30th, I entered the blind at 8:00 A.M. and remained in it until 11:10 A.M. I found the bird

facing the blind which was southeast of her. During the three hours she was watched, the bird, except for a slight shuffling of the eggs beneath her, remained practically motionless. Only once did she change position and that was at 9:10 A.M. when she about-faced to the west. Subsequently I found on other mornings that she made this same change and thought it no doubt due to the position of the sun which about this time was causing her to blink and close her eyes. As she turned I noticed there was no white on the tail so then I knew it was the female who was incubating. Although Chapman, Barrows, and Forbush state that both birds incubate, during all my hours of observation I never once found the male on the nest. That he was always near, perched lengthwise on a bough of a nearby aspen I was certain- for the slightest disturbance around that nest found him darting anxiously about.

That same evening at half-past seven a thunderstorm was brewing, and, interested in the reactions of the bird at such a time, I went down to observe. To the roaring of the thunder and the bright flashing of the lightning the bird paid no attention- with closed eyes she brooded and did not seem to mind in the least the occasional rufflings of her feathers. Indeed the bird heeded the storm much less than her observer who beat a hasty retreat at 8:30.

Sunday, July 1st., was bright and sunny. At 8:30 A.M. when the blind was entered the bird was again facing it. At ten minutes past nine the bird again turned to the west as she had done the day previous. Feeling by this time that nighthawks were quiescent at least during the morning I gave up my post for the time being and returned at two in the afternoon to remain until five in the evening. This time, too, the only movements witnessed were an

occasional shuffling of the eggs beneath the mother.

Monday, July 2nd., was a busy day and allowed only a half-hour observation near the dinner hour which was again unprofitable from the viewpoint of the bird's activities.

Timing my observation period on Tuesday, July 3rd, (a cool, clear day) by the activities of the nighthawks flying about camp, I prepared to enter the blind at 8:00P.M. As I paused outside the blind I stood listening to a queer noise which I could not interpret. Was it a ruffed grouse drumming-? and, yet it did not sound as Allan's sound tone movies of the grouse had sounded. Suddenly, the same zoom thundered down on me from above and startled, I looked up to see it was a nighthawk. As I looked he dropped again, like a plummet from the sky and suddenly turning directly over me the sonorous zoom again reverberated down the valley. This then was the courtship skyriding which was also used as a defense measure- evidently my male nighthawk had seen me from his high position and had descended from above to frighten me away. It was almost too fascinating a sight to enter the blind, which was however entered at 8:30.

The female was again facing east and to the calling and the zooming overhead she was paying no attention. Indeed by this time I had remarked how little noises meant to her. The rustling of the dry leaves in the blind as the watcher's position changed never even caused her eyes to open. Birds flying near (of other species) were completely ignored. Loud talking on the hill above or even moderately toned in the blind caused no concern. The sharp breaking of a stick , however, within a radius of 30 feet would cause her to listen. Are birds able to hear only sharp noises, then? I left the questioned unanswered.

At 8:45 the eggs were turned and then a few minutes later the bird opened her eyes, cocked her head and became restless. Evidently she knew her mate's call or 'peent', for at the next minute he sailed in, and walking over to the female fed her. He put his mouth in hers which was open and both their throats worked for one minute. He, then, was feeding her by regurgitation. After the feeding the male left immediately. The female shuffled the eggs and left at 8:55. Two minutes later she returned and appeared to be settled for the night. By 9:30 it was too dark to see and I accordingly left.

On July 4th, the blind was entered at 8:30 P.M. Just as the blind was approached both male and female flew over and neither had returned by 9:00 when I left to attend to other duties.

The next day, July 5th, I again began observation at 8:30 P.M. The bird was incubating and dozing at the task. Suddenly her mate's cry aroused her. Sidling and cocking her head she suddenly rose to meet the male at ten minutes after the hour. The feeding was either exceptionally good or very poor because she did not return until 9:30. Both male and female approached the nesting site from the west at all times they were observed.

Friday morning July 6th, I began my observations early-at 4:45 A.M. It was the morning feeding and actions I wished to observe. Nighthawks were calling overhead as the blind was entered, but evidently my pair were early birds as the incubating female appeared to be settled for the day and indeed she was settled until the time I left-6:15. I determined to come earlier the next time.

Saturday, July 7th, was sunny and cool. At 2:30 P.M. word was received that the eggs were hatching. Racing down to the nest, I found one egg had hatched and from it had come a tiny little fluff of gray and white, seemingly rather helpless but in reality quite

praecocial. On picking up the other egg it was seen to be chipped and on placing it near the ear one could hear the soft pecking of the imprisoned bird. The mother, meanwhile, was hissing and crying, drooping her wings and most grotesquely and piteously trying to draw me away- even, she was flying at me from a nearby stump. Finally she retreated but returned immediately with the male who sailed over head with loud peents and finally zoomed down, covering a hasty retreat on my part. Once the intruder of their home was safely hidden, the female quietly slipped back to the nest while the male circled above.

The peace of the mother, from the time of hatching was constantly disturbed. The little one was hungry and persisted in crawling from beneath the warm breast and holding up its mouth for food. So persistent was it that eventually the mother inclined her head and the young seemed to cling to the bill of the mother. I could not see clearly, because of their position, so perhaps the mother had her mouth inside the young one's. Evidently the mother did not feed the young, it being too lately hatched, for it kept coaxing for food. The brooding bird however made no response except to spread the feathers of her breast under which the young finally crawled. So restless was the young that the harassed female had constantly to find the other egg and tuck it under with her bill. Except for a half-hour leave for dinner the birds were constantly watched until 9:15 P.M. At 8:55 the male flew in and fed the young. A few minutes later the female left but returned in six minutes. She, too, fed the young and then settled down to quietness. The egg shell of the first hatching lay nine feet from the nest.

Sunday, July 8th, I visited the nest at 10:00 A.M. for I was sure the other young had hatched. It had, and the egg yolk was still wet, evidently the downy young had been out less than an hour. This bird was the one I used for the one measurement and weighing I was able to make. Shell of this second hatching was not removed, but the young themselves were removed.

At 1:30 P.M. this young bird was weighed and measured, and on being returned to the mother she immediately left for a spot two feet from the original nest and clicking low called the chicks to her. The older one awkwardly traversed the distance but the measured one was quite too small. Nothing could be done but place this one near the other and when I saw the mother apparently settled for the night, I left.

On July the 9th, I returned at 8:00 P.M.. Neither parent nor juveniles could be found. Worriedly, I searched and only after I had entered the blind at 8:55 did she rise for feeding. At a quarter past nine she settled and I flushed her but it was so dark, I was afraid of stepping on the young. Since it was beginning to rain I felt sure an early morning search would easily uncover them. On this first day of the latest hatching the young had been moved a distance of 35 feet.

The next morning at 5:00 o'clock I began an hour's fruitless search.

Wednesday, July 11th, having enlisted the aid of two friends, we again searched the region. Evidently the nighthawks, too, had evoked aid, for six birds in all were flying and zooming directly over our heads. The young must have been very near for the parents were immensely concerned about us. The mother would fly low

clucking to the motionless chicks. Finally a loud clucking attracted us to a stump. It was the female, up to her old strategic game of drawing attention from her offspring. Outwitted, we gave up the chase and acknowledged and paid tribute to the courage of my birds.

SUMMARY

Friday, June 29

Nest discovered. Female employed tactics of broken wing, hissing, and clucking, to lead intruder from nest.

2 eggs laid in bare space between brackens-3-1/8cm. x 2 1/4cm. Dull white with indistinct splotching of grayish brown and lavender gray scattered promiscuously.

Saturday, June 30

8:00 A.M.- 11:10 A.M.-clear, sunny weather.

Little action on part of bird incubating except slight shuffling of eggs.

7:30 P.M. observed bird during a storm- no reactions of interest.

Sunday, July 1

8:30-9:30 A.M. Nothing of interest. No noises except sharp ones evoked any reaction from incubating bird.

Sunny weather.

Monday, July 2

4:45-5:15 P.M. Nothing of interest. Weather clear, cool.

Tuesday, July 3

8:00P.M.- 9:30 P.M. Male zoomed down on observer as a protective measure. Female distinguished mate's voice as evinced by her actions. Male fed female at nest by regurgitation.

Wednesday, July 4

8:30-9:00 P.M. Female rose from nest to do own feeding.

Thursday, July 5

8:30-9:30 P.M. Repetition of July 4th.

Friday, July 6

4:45- 6:15 A.M. Feeding preceded observation period. Nothing learned but that my birds were early birds.

Saturday, July 7

2:30-9:30 P.M.-one young hatched, about one hour old. A fluffy gray and white. Egg shell 9' from nest. Young hungry and restless. Parent could not have fed it but went through the motions of

SUMMARY- continued

feeding by regurgitation. First feeding of young by male at 8:55 P.M. Second and last feeding of young at 9:06 by female.

Sunday, July 8

Second egg hatched about 9:00 A.M. Egg shell was not removed from nest. Young were moved by female who would go short distance and cluck to offspring, who clumsily followed her. Young weighed and measured.

Monday, July 9

Birds lost- found in dark 35' from original nesting site. Not recovered due to darkness.

Tuesday, July 10

Early morning search proved fruitless.

Wednesday, July 11

Elusiveness and wariness of birds ended the observations.

CONCLUSIONS

Total observation hours were nineteen. In this time my interest was thoroughly aroused and many interesting points were made.

The male did not help incubate the eggs, but did remain near in the daytime. He protects the nest by zooming and flying at any intruder whereas the female protects it by enticing intruder away or when under much provocation by flying at him. 2nd egg shells were not removed from the nest although the first one was; the expedient in the second case being to remove the young. Male fed the female by regurgitation during part of the incubating period and she foraged for herself the remaining time. Both male and female fed young. Young are quite praecocial and obedient to calls and warnings of the parents. 24 hr. old juveniles can move a distance of 35' from original nest. Nighthawks enlist the aid of other birds under great stress. The devotion and courage of the parents is truly remarkable, and it is either due to an instinct founded on the principle of self-preservation or due to a real wit and intelligence that they can sometimes outwit man.

DEVELOPMENT OF NESTLING

Date- July 8th, 1934
Time- 1:30 P.M.

Weight	6.0 gms.	Primary	0
Length	62 mm.	Tarsus-toe	19.5 mm.
Tail	0	Foot	4.0 mm.
Bill	2.5 mm.		
Bill-eye	10.5 mm.		
Bill-gape	12.0 mm.		
Bill-nostril	3.0 mm.		
Eye diam.	3.75 mm.		
Extent	62.0 mm.		
Wing-rt.	13.0 mm		
		Right foot	
		No.	Toe
		1	2 $\frac{1}{2}$
		2	4 $\frac{1}{2}$
		3	6 $\frac{1}{2}$
		4	4 $\frac{1}{2}$
			Nail
			1 $\frac{1}{2}$
			1 $\frac{1}{2}$
			1 $\frac{1}{2}$
			1 $\frac{1}{2}$

Appearance of feathers and changes in behavior

Most of down not dried; in places it dried too fast and was not fluffy. Egg tooth very prominent as were the nostrils. Bristles in front of the nostrils. Small web between 2nd, 3rd, and 4th toes. Down gray to black and white. Color of feet, gray. Down on head region 5 mm. long. Evinced no fear during the measurement, peeped occasionally, and could stand rather sturdily. Eyes were not opened.