

A Study of the Nesting Habits of a Towhee.

surrounding Leak S. Decker. The
ant on the nest, however, was
blended with the July 1931. It that the
was a slender bird. The nest was
nest measurements were as follows:
Outside diameter. 6 inches
Inside diameter. 3 1/2 inches
Inside depth. 3 inches
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When I checked the nest at the time

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The finding of a bird's nest is always a matter of chance. It seemed to me I should never find one, when the finding and studying of one was a part of my classwork at the Biological Station of the University of Michigan, located on Douglas Lake, Cheboygan Co., Michigan in July 1931. On July 7 a good friend told me of the location of a Cedar waxwings' nest, and on our way to that location, we accidentally flushed a towhee or chevrink from her nest. I chose to study the latter nest in preference to the cedar waxwings'.

The nest was located in a region just west of the Grapevine Pt. trail and north of the ridge which runs back of the Station. This is a region of open woods. Aspen saplings and *Pteris Aquilina* dominate the vegetation. The nest itself was located on the ground just under a small sumach.

The nest was a deep cup-shaped structure built of strips of bark and of coarse grasses, lined with finer grasses, set deep in the ground, and well surrounded with dry leaves. When the female bird sat on the nest her colors and the edges of the nest blended so well with the ground, that the whole effect was a splendid example of protective coloration. The nest measurements were as follows:

Outside diameter 6 inches.

Inside diameter 3½ inches.

Inside depth 3 inches.

There were two oval-shaped eggs, cream-colored and speckled all over with pale reddish brown spots, with some concentration of the spots around the larger end. I did not take measurements of the eggs. Reed gives the size of a Towhee's eggs as .90 x .70 inches. The usual number of eggs is given as four or five.

From July 7 until July 18 I observed the incubation of the egg. They hatched on July 19. Forbush in "Birds of Massachusetts" gives the incubation period to be twelve to thirteen days. Evidently I found the nest at the beginning of the incubation period. Barrows in "Michigan Bird Life" states that there are usually two broods

yearly, one in June, the other in July or August. Therefore I probably observed the second brood of this particular pair.

For the first ten days of my observations I never approached the nest closer than fifteen feet while the bird was on the nest. I found that altho she must have heard my approach thru the dry leaves which covered the ground, she was not easily frightened off the nest. She always left the nest by walking quietly away from it. In all my observations, neither bird ever made any noise within a distance of fifty feet from the nest with the exception of July 26 when we frightened them by taking the young out of the nest.

Altho Forbush states the male bird sometimes assists in incubation, I never found the male bird on the nest, nor did he come up to the nest. But he usually was in the immediate vicinity because I heard his frequent calls. She was always seated facing east toward my point of observation and the trail, with the exception of two evenings when I found her facing west.

In the early days of incubation, in answer to the call of the male, she left the nest frequently. On bright sunny days she remained off for several hours, thus letting the nest entirely unattended. On cloudy days and as the day of hatching approached she remained on the nest more closely. While the bird was away from the nest she usually was near the male.

Interpreted from a human standpoint it seemed to me they were an affectionate couple who thoroughly enjoyed each other's company. Both birds called the familiar "turkey" alternating with the "cheerink" call frequently. Her voice seemed weaker than the male's. At one time I heard the call eight times in three minutes, at another the male called twenty-two times, repeated successively while she was on the nest. Only one time did I hear the male really singing. This was in the morning of July 12 when I was attracted by very vigorous singing from a tree about one hundred feet away from

the nest. I had never heard him sing and wasn't sure it was the towhee until I had identified him. He was sitting at least ~~thirty~~ twenty feet up in the pine tree and his song might be interpreted as "dick you, fiddle, fiddle, fiddle."

On July 19, because of the Inland Water Trip taken by the Ecology class I missed a very important act in this life drama. On my return to the nest. July 20, I found the eggs had hatched and I will never know what happened to the egg shells nor the action of the parents during that important event. From then on my observations became very interesting to me and I am inserting my notebook notes just as they happened and I wrote.

July 20. 4:30 P.M. after an all day bird class I find that there are two baby birds in nest. I am glad I built the blind of aspen branches on Saturday. It is located three feet from nest and I sit on a crate high enough to see in the nest. The babies are downy, scrawny things almost naked with eyes closed.

7:20 P.M. The parents are both playing on a tree seven to nine feet above the ground twenty feet away from the nest. They call 'zip 'zip'.

7:30 P.M. The birds fly to nearer tree 10 feet from nest. He has a big green caterpillar in his mouth. She leaves the tree. He calls 'Towhee', 'Towhee' fourteen times. I discovered she is on the ground about 25 feet over, scratching for food. She comes back on a tree closer to him and answers his call once with a weak 'Twee'.

7:45 P.M. Both have something in their mouths, but she goes quite a distance away. He stays near and calls, she answers.

7:55 P.M. The male brings his green caterpillar to the young. They stretch their necks and open their mouths, but evidently aren't hungry because he eats it all himself. The female sits on nearby tree and calls continuously. He sits on edge of nest and looks at young. She disappears.

8:20 P.M. She is scratching on ground for food.

8:25 P.M. She comes and sits on the nest, brooding young under wings. He is on ground three feet away. It is getting dark. Perhaps they are settled for the night.

July 21. -

8:00 A.M. I find mother bird on nest, eyes wide open as if she were aware of my presence.

8:25 A.M. I hear the "zips" of male around. She hears them too.

8:45 A.M. She left nest and called. He came and fed them each one half of a green caterpillar. He cleaned nest by eating the excreta. She called "chevink" continuously while he was there. She was not visible from my seat.

8:50 A.M. She came back, looked at young but did not feed. Both went away to play. Zip! zip! zip!

9:25 It starts to rain. Parents are near. Zip! zip! The female comes with a big green caterpillar, feeds them part of it, eats remainder of it herself and eats excreta found in nest. She then settles over young. In two minutes he comes to nest, gives her a cherry. She gives it to one of the little birds. Then he leaves and she settles down again.

9:30 A.M. I left to get my slicker and change to dry clothes.

10:20 A.M. Came back, the sun is shining again. The bird is not on the nest. I hear zip! zip!

10:30 A.M. It clouds up and begins to rain. I hear a call "chevink".

10:35 A.M. She comes over to nest with food for one. She settles down on them as if reluctant to do her duty.

10:45 A.M. He brought food. She took some, fed one baby, he fed the other. Both looked at them. He cleaned the nest. He left as quietly as he came. She sits on nest again. It is still raining.

10:50 A.M. It stopped raining and sun was shining.

11:05 A.M. She left the nest. Hear her calling when some distance away.

11:14 A.M. Hear Turkey, turkey, turkey in distance.

11:25 A.M. I measured birds. Near birds. "zipping" around, but don't believe they are conscious of my actions.

11:30. Both brought food to the nest and both helped clean the nest. The female settled down over the young and he hopped away.

On July 22 after a cool rainy day, I visited the nest for one hour and a half.

6:45 P.M. Bird was on the nest facing the blind.

7:50 P.M. He approached the nest and she left the nest and called "chewink" from a short distance. He stood for a few minutes about six inches from the nest holding a large caterpillar in his mouth. Then he came to the nest, fed the birds, and cleaned the nest. Then he sat on the edge of the nest and one might interpret his expression that of pride and possession.

8:10 P.M. Hear a zip, zip of the female to my left. He heard her too I think. He raises his head slightly.

8:15 P.M. She calls again from another location. "Chewink! Chewink!" This time the babies responded by stretching up two necks, mouths open, but there is no food. They make no sound.

8:20 P.M. Another signal from her and he hops from the nest to a tree immediately back of the nest and away further with a zip! zip! She has in the meantime brought just one small berry which she gives to just one bird and then settled on nest.

A two day Ecology trip caused me to be absent from the nest for two days and it was not until Sunday July 26, that I again visited the nest. About 9:30 A.M. I came accompanied by a friend who had never seen a towhee's nest. We found her on the nest, but two people make more noise than one and I believe she heard us, because she left the nest almost immediately, but in the same usual quiet way. After a few minutes, we went to the nest to see the little birds. Almost at once, much to our surprise both parents appeared, attempted to fly at

us, then flopped away with outspread tail feathers dragged behind, as if feigning injury. I, however, took the time to measure both birds and they continued to make a great lot of noise thruout.

With their mixed diet of cherries and insect larvae the baby birds had almost grown up in the four days interval between measuring. The first time, they were downy babies with eyes closed and no voices. At the second measurement they were well covered with pin feathers, eyes open and a voice.

Here is a record of their size:

	July 21.	July 26.	
Length	50 mm	80 mm.	
Tail	0 mm	5 mm.	
Bill	6 mm	10 mm	
Bill eye	7 mm	10 mm.	
Bill gape	7 mm	17 mm	
Bill nostril	4 mm	5 mm	
Wing right	20 mm	50 mm.	
Primary	0 mm.	25 mm.	
Foot body	45 mm	90 mm.	
Tarsus	10 mm	25 mm.	
Tarsus toe	25 mm	50 mm.	
Right. Toe		Right	
1	9 mm. 1 1/2 mm.	1	15 mm 4 mm.
2	15 mm 1 1/2 mm.	2	20 mm 5 mm
3	9 mm 1 1/2 mm	3	15 mm 4 mm
4	9 mm 1 1/2 mm.	4	15 mm 4 mm.

After the measurements were taken we quietly retreated to the blind. The birds quieted down and proceeded to play around on the trees. After 20 minutes my friend left the blind. I stayed one half hour longer. The birds never came back, but acted as if satisfied that the birds were safe.

In the evening of July 27, after 7:30 I made an hours observation of the nest during which time the male was sitting on the edge of the nest and the female was scratching and calling near by. He was sleeping and so were the young birds.

On July 28, I found that the little birds had left the nest eight days after they had hatched. That accounted for the sharp 'twee, twee' calls I heard on my way to the nest. Forbush states: "The young usually remain in the nest ten or twelve days, if not disturbed, until their wings grow strong, but if disturbed, they may leave it before they are able to fly." Hence I conclude that my Sunday's visit had perhaps disturbed the family and the wisest move was to leave. This act of course concluded my nest study.

Summary: 1. An observation of eighteen and one half hours was distributed over the period from July 7 until July 25 inclusive. No observations were made on July 19, 24 or 25.

2. The eggs were incubated for eleven days of that time by the female alone who left the nest frequently for comparatively long periods.

3. Both male and female helped in the feeding of the young.

4. Both male and female cleaned the nest by eating the faeces.

5. When the nest is intruded upon by a human, the parents feign injury by spreading and dragging their tail.