

A Nesting Study of the
Least Flycatcher
(*Empidonax minimus*)

James L. Beeghly

1933

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On June 27, 1933 I found a nest of the Least Flycatcher in a small crotch in a beech tree in lower Manville. The nest was nine and a half feet from the ground and in back of a row of occupied cabins at a distance of about twenty-five feet. The nest measurements were as follows: outside and inside diameter two and a half and two inches respectively, outside and inside depth two and a half and one inch respectively. The nest was a cup-shaped structure, lined with fine grasses, plant fibers and hair. The bulk of the nest was composed of plant down, and grasses neatly woven with a trimming of birch bark and string. There were two white unmarked eggs $\frac{21}{32} \times \frac{17}{32}$. The weight of one of the eggs was one and one-tenth grams. Three to five eggs is the usual number for this species.

While I was first examining this nest the female returned, perched on a nearby tree and uttered the usual che-be note several times, but did not appear to be greatly excited over the intrusion. As soon as the measurements were completed, I concealed myself as best I could in a bushy place about forty feet away and watched the nest through field glasses. Presently the female went to the nest and settled herself upon the eggs. In the course

of an hour she voluntarily left the nest unattended five times but always returned in from three to five minutes. So far nothing had been seen of the male.

On the following day, Mr R. L. Brown who also observed this nest daily and whose notes and suggestions were of great assistance to me, visited the nest and discovered that one of the eggs had just hatched. The nestling had a little wet down on the wings, on the back of the head, around the eyes and on the back. That day an observation tower was erected about two feet from the nest. Setting up a blind was deferred for several days to give the parent birds a chance to become accustomed to the tower.

The female left the nest when the tower was erected and when the nestling was removed for measuring but returned and again took up her position on the nest as soon as everything was quiet. That evening an observation blind was laid on the platform but not put in position. Early the next morning I went to the nest and found it unattended. From my "hiding place" I saw the female come to the nest feed the young one and take up her brooding position. In a few minutes I heard the male calling near by and then saw him fly to the nest with a large white grub. The female left the nest while the young bird was fed. After this it perched on the edge of the nest for about half a minute and in the meantime the female

had returned and both parents sat on the edge of the nest looking down at it for a few seconds. It was the first time I had seen the male and female together at the nest. During the rest of this study it was very unusual for the male to remain at the nest for even a few seconds after feeding. His shyness about the nest was one way by which we could usually distinguish the sexes. Also when seen at close range from the blind he appeared to be of a little grayer plumage than the female whose feathers have more of an olive-brown cast. In the incident just described, the male soon left and the female resumed her brooding. During the next half-hour she left the nest unattended twice but on each occasion returned as usual in three or four minutes. On one of her return trips she brought a small insect.

There were now two young in the nest as the other egg had hatched. The egg shells were evidently carried off as no trace of them could be found. From that morning's observation it was noted that both parents assist in feeding the young; so far only the female has brooded them. The male was often seen perched high in the same or nearby tree while his mate was on the nest.

Daily growth records were kept of the young and this work was divided up between Mr Brown and myself. A yellow string was loosely tied about the leg of the older nestling so that one could be distinguished from the other.

7. when taken from the nest.

On July 30th, two days after the first egg had hatched, the blind was set up. On the following day when I went to observe, the female was on the nest and did not leave when I entered the blind. She now seemed quite accustomed to having people come near the nest. Even when a ladder was placed under the nest and mounted so that the young could be removed for measurement she did not leave until my hand was about a foot or a little more from her. Then she would suddenly fly off and usually perch on an electric light wire several feet away and utter a few "clitic" notes in protest accompanied by a twitching of her tail. If I would withdraw from the nest about twenty-five feet but still remain in plain view she would most always come to the nest inside of three minutes and brood the nestling that was always left for her. Both of the young were never taken from the nest at the same time.

Occasionally in brooding the young and particularly if the day was warm the female was quite restless and stirred about on the nest. Now and then she would raise herself up a bit and move her feet about as if changing the position of the young to afford her more comfort. On one occasion she got up, perched on the edge of the nest and poked her bill about the young for a bit, finally resuming her brooding. As for her position on the nest she

usually faced the wind. When either parent came to the nest the approach was nearly always from the north or north-east.

As a rule, if the female was on the nest and the male came with food for the young, he would perch a short distance from the nest and give one or two call notes. This seemed to be a signal for the female to leave so that the young could be fed. At any rate she would leave, sometimes staying nearby and returning as soon as the male left and at other times not returning for several minutes. However, the male always left as soon as his duty had been performed. On the other hand, if he brought food for his mate, at which duty he was quite faithful, he flew directly to the nest without stopping to call, fed her and departed immediately.

On July 3, Mr Brown recorded two interesting observations. The first occurred when the male came to the nest and gave his mate a bug which she after half-rising uttered a "creeping" note as if she were telling the young to open their mouths and then fed one of them with the bug the male had brought. A little later he noticed a different and interesting change in the female's behavior when the juvenile whose growth record he had been taking was returned to the nest. Usually when this was done she merely flew quickly to some nearby branch but this time she remained on the nest until his hand almost touched her when she suddenly flew up and dived quickly.

and violently several times, and his head and then almost standing still in mid air, made a noticeable clicking sound with her bill. This was kept up until he left the vicinity. The reason for this sudden outburst was not apparent. This action was not observed at any other times.

A rather amusing incident occurred one day in connection with the feeding. The female was on the nest and the male came to the nest with a large white grub ^{which he} placed crosswise in her bill so that one end protruded on each side. Then he attempted to bite off one of the protruding ends but she waddled him and gave most of the grub to one of the young. He seemed quite disturbed at being slighted thus and remained on the edge of the nest longer than usual, jerking his tail rapidly and with the feathers on his crown quite ruffled. Then he flew to a wire cable below, uttered a few "che-bee" notes and left.

The duty of keeping the nest clean fell upon the male who was often seen carrying away fecal sacs. This was done when he left the nest after having brought food. The fecal sacs were probably carried a short distance and then dropped.

Up until the time the young were seven or eight days old, the male had done most of the feeding because the female was

on the nest most of the time. But at this point the female discontinued her brooding almost entirely and joined her mate in almost constant trips to the nests. The young were growing rapidly and also there was hardly room any more for her. Whenever she did brood them she had to sit rather lightly and to one side so that she was almost sitting on the edge of the nest leaving the young in plain view. Now that both parents were engaged in feeding, the young were fed as often as every two or three minutes. The activity of the young was increasing daily, it consisting of moving and squirming about stretching their neck a little and moving their wings in rather weak fashion.

In nearly every case only one of the young were fed on each trip to the nest. One morning I noticed the position of the young birds in nests and watched how the feeding was distributed. The same juvenile was fed on four successive trips to the nest, the first three times by the male. During the next six trips to the nest the other juvenile was fed five times three of these times by the male.

It was interesting to compare the activities of each parent about the nest. The female always seemed more at ease and after each trip to the nest would usually linger for a bit. With the male it was usually a case of dashing to the nest, depositing his load in the opened mouths of the young and leaving as soon as possible. On only two or three occasions

was he ever seen to linger about the nest as his mate did.

The food consisted of grubs and insects of various kinds, especially large flies.

By the time the two young were eleven and twelve days old they had become more active than ever and I knew that their period in the nest was nearly over. When their daily growth was recorded in the laboratory at this age, they would scramble off the scales when being weighed and if laid on their backs to be measured, it was no trick at all for them to turn over and sit up. Considerable strength was developed in the toes and they could perch on all sorts of objects.

In the thirteen days that one of the young was in the nest, it increased in weight from less than a gram to over eleven grams and its extent from wing to wing had increased from nineteen to one hundred and twenty-two millimeters.

It had changed from a helpless bundle of skin and bones to a quite active creature almost entirely feathered except for a very narrow strip on the mid-ventral surface where the white breast feathers did not quite meet. Other details of growth and activity are shown in the table.

In the early evening of July 10th when the oldest of the two nestlings was thirteen days of age, things really began to happen and I was fortunate

9.
enough to be on hand at the time. At
6:45 PM I went to the nest, removed
my charge and took it as usual to the
laboratory for its "daily dozen", leaving
the other juvenile in the nest. I returned
in about half an hour and mounting
the ladder to replace the young bird,
I was surprised to find that during my
absence the other juvenile had disa-
ppeared from the nest. After replacing
the young one I had, a search was begun
in the grass and bushes below the nest
but it was unsuccessful. The parent
bird, probably the female, was calling
near by. Then I noticed that the juvenile
which had just been put back in the
nest was perched on the edge rather
unsteadily. That was something new
so I immediately climbed up into the
blind to see what would happen. In a
few minutes it stretched its wings
several times and then fluttered almost
straight down to the ground and sat
in the tall grass there. The female
came that way and flew from bush
to bush in an excited manner. I
got down out of the blind, picked
the juvenile up and put it back in
its nest to see if it would repeat
the performance which it did almost
immediately. I never expected the
young to leave the nest in the evening.
I picked the young bird up and let it perch
on a wire cable about two feet from the
ground and it was content to remain

there until nine o'clock at which time
it was put back in the nest. It remained
all night perched on the edge of the nest.
The parent birds had evidently quieted
down for the night as nothing had
been seen of them for two hours. The
next morning at a quarter to five the
young bird was still perched on the edge
of the nest but had disappeared when I
returned at seven. Very soon though,
I heard the "cheeping" notes of a young
bird close by. Investigation disclosed
both of the young birds perched on
low twigs, six or seven inches from
the ground and about twelve feet apart.
The female approached with food and
withdrew about ten yards and watched
one of them being fed. Both of the
young were placed side by side on the
low twig of a fallen branch and photo-
graphed by Frank Hinds. Later in the
morning I returned and found one
of them in the same place but the other
one was about thirty feet away in a
low bush. Once again they were put
side by side as another person wanted
to take a picture, and that was the last
I saw of the young Least Flycatchers.