

Some Nesting Habits of the

LEAST FLYCATCHER

Reported by
M. F. Campbell,
7/27/36.



Photo by Dr. Engles of Cal.

"Food Note"

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Introduction:

Some of a Least Flycatcher's nesting habits are herein reported. "Chebecs" are found nesting commonly in the Douglas Lake region of Cheboygan County which is located in the northern part of the lower peninsula of Michigan.

Discovery and arrangement for study:

The nest was discovered nine feet above the ground fastened to the bole of a paper birch tree at the fork of two small branches. The incubating adult was disturbed and left giving the intruders an opportunity to make a mirrored observation. This disclosed three white eggs.

All further investigations were made from a distance until the evening of the next day, 6/29/36. This time the mirror introduced a nestling with the two eggs.

The immediate vicinity of the nest was avoided until a canvas curtained tower "blind" with a platform on a level with the nest was placed nearby. The nesting habits could now be observed without disturbing the family and a nestling could be removed and weighed and measured as desired.

Incubation:

The eggs were covered by the parent day and night whenever observed. Sometimes movements of the body of the adult indicated that the eggs were being turned. After hatching the nestling fed on yolk for the first day.

Hatching:

Hatching:

The first nestling hatched on 6/29/36. The second on the next day, 6/30/36 and the third one on 7/1/36. The adult carried pieces of shell from the nest and the naked large-bellied nestlings began to stretch for food after the first day.

Young Birds---

Weight and Measurements:

One of the nestlings was weighed and measured daily in order to determine development (Chart I). Weight increased almost a gram per day on the third, fourth, and fifth days. Increase was rapid in wing spread, primaries, and tail (Chart I and II). The activity, weight and growth development record may be noted on (Chart II).

Feeding:

During the first day the nestling did not receive food from the parents but fed on yolk. Then the parents fed them by regurgitation sometimes feeding two instead of just the one at a time. Both parents participated equally. One parent and then the other fed the nestlings in rapid succession but in a definite order for the most part. (See #V from the original notes which were taken while observing habits from the blind.) Sometimes, when food was pressed into the throat it was not swallowed and was removed by the adult and placed in the mouth of another nestling.. Several times the young struggled with a mouthful (such as a large beetle or Mayfly) until prostrate at the bottom of the nest. Food listed (Chart III) indicates an insect diet for the most part. Crane flies, Mayflies, Lice, portion of Grasshoppers, Flies (many Diptera), a beetle and also other Arthropods such as Harvestmen and Spiders. Some

green food which has not been identified looked like the larvae of an insect was used also.

The approach to the nest was gradual. The "food note" announced the presence of food and all heads came up. Feeding was done from the east rim of the nest with 5 exceptions when the west side of the nest was used. The east rim was perceptibly worn. The greatest interval between feedings was 54 minutes. Usually in the morning from 4:40 to 10:40 and in the afternoon from 2:00 to 6:00 the birds were heavily fed. A sudden increase in food demand came on the day when the young were about to fly (Chart IV).

Sanitation:

The adults fed the young and then waited for the reflex which causes the nestlings to void an excreta sac. At first the adults swallowed the waste but later they carried these sacs from the nest. Two or three days before leaving the nest the young birds began to raise their bodies above and over the worn east rim of the nest and voided the waste over the rim of the nest.

Brooding:

The brooding period per day decreased rapidly. It was cool at first but later when it was very warm the parent (usually the female although the male participated) remained astride the nest while the young spread their wings and struggled against her. She held the nest together, kept the young from falling out, and at times with wings spread she kept the hot rays of the sun from the young. The greatest number of minutes of continuous brooding per hour for the dates given along with the maximum temperature for the day are correlated --

Brooding continued--

4

Date	max. no. min. per hour	Max. Temp.
7/1/36	⁴ 48 min.	76 degrees
7/2/36	41	69
7/3/36	46	76
7/5/36	38	83
7/8/36	(No brooding,	101
7/9/36	adult astride	100
7/10/36	nest with wings	102
7/11/36	spread to shield	101
7/12/36	nestlings from sun.)	102

Ready to fly and maiden flight:

The nestlings stretched their head whenever given a chance. They pushed and turned in the nest and were fed continually during the days preceding flight. They stretched and almost caught the food as the adults flew past the nest. They preened and stretched their wings and spread the tail. After flapping and fluttering and spreading the feathers from various angles on the rim of the nest the young perched on the highest portion of the nest and after resting and stretching intervals took the first flight to the twig below. Balancing and bouncing on the perch while the adult fed the young after a muffled "food note". The other parent returned to the nest with food at first but later located the juvenile.

Appearance:

It was difficult to imagine these naked birds which next became fluffy and then appeared to be covered with black pins as the offspring of Least Flycatchers. The fluff disappeared and the black pins unsheathed so that the olive back and creamy-white front was revealed plus wingbars before they left the nest. The female bore away the creamy color on her breast while brooding and the male always was trim and neat and also more wary.

Song and Call:

Twice the male sang an indescribably melodious song which incorporated the well-known "Chebec" song mingled variation. Each time this song was given from a perch high in a tree. The male gave his location by using the "Chebec". From afar came the note and then the food note announced that he carried food. The female announced food in the same fashion and while brooding made queer hissing hiccup notes which were often answered under her by imitations of this hissing by the nestlings. The male had a snapping sound which he used along with a rapid fluttering of the wings when intruders and chipmunks were too near. There were four variations in the wing beat which effected the activity of the nestlings.

(While the melodious song of the male was filling the area overhead with song, the female on the nest gave an interesting whispered response and then the young under her wings murmured.)

Banding:

A metal band was placed on one foot of each nestling on the ninth day (7/8/36) This was two days before flight. The recorded "Chebec" is # 12804. (The other two are #12803 and # 12802 respectively.) Please report any information concerning these maturing Least Flycatchers.

The Nest

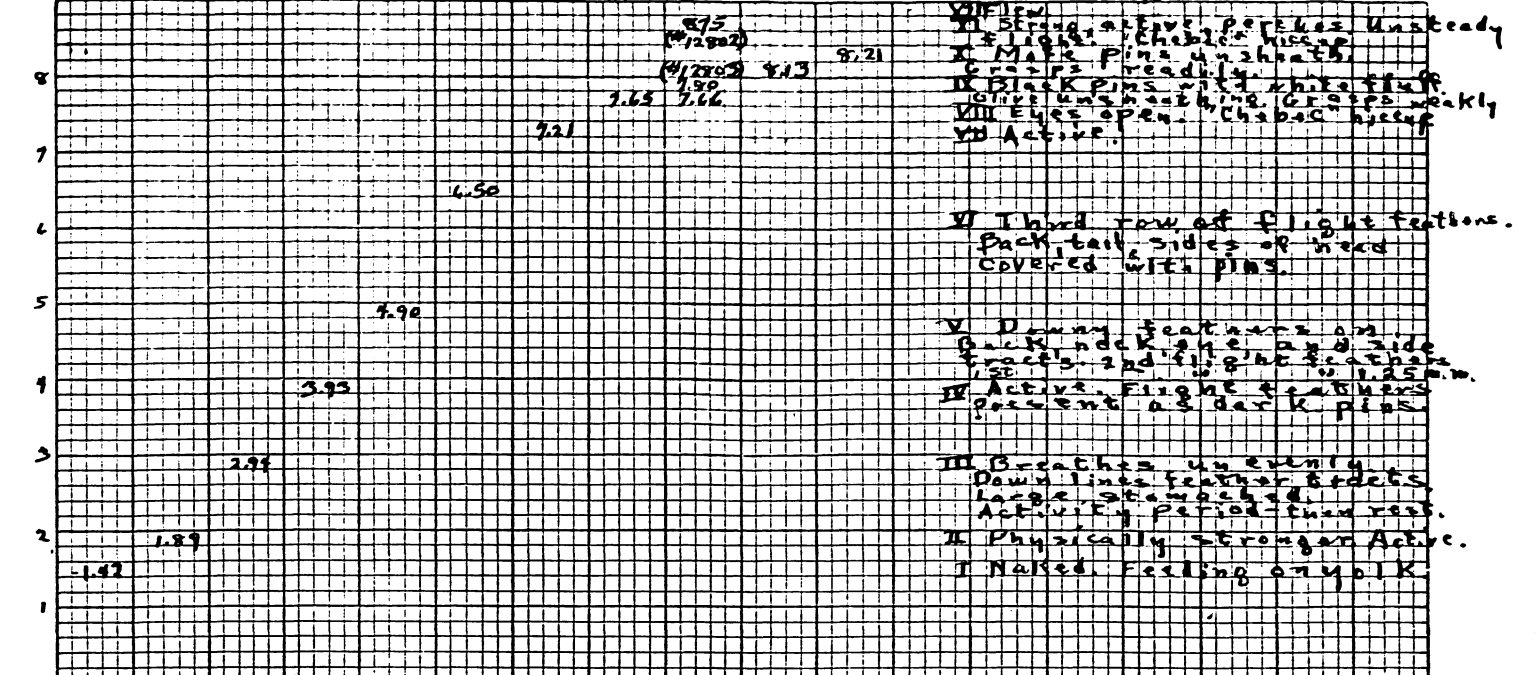
The flycatcher nest under observation was complete before discovery. The nest was fastened to a bole of the Paper Birch sapling at a point where it was in contact with but not suspended by two small branches. The neat, compact, cup-shaped structure was gradually worn on the east rim of the nest. This portion sagged when the young exercised and they were nearly pushed out.

The trimming of strips of woven Birch bark around the bulk of the nest of rootlets and ~~twigs~~ in the cup the cotton, webs, and fluff lined the bottom. This was lumped when the nestlings flew.

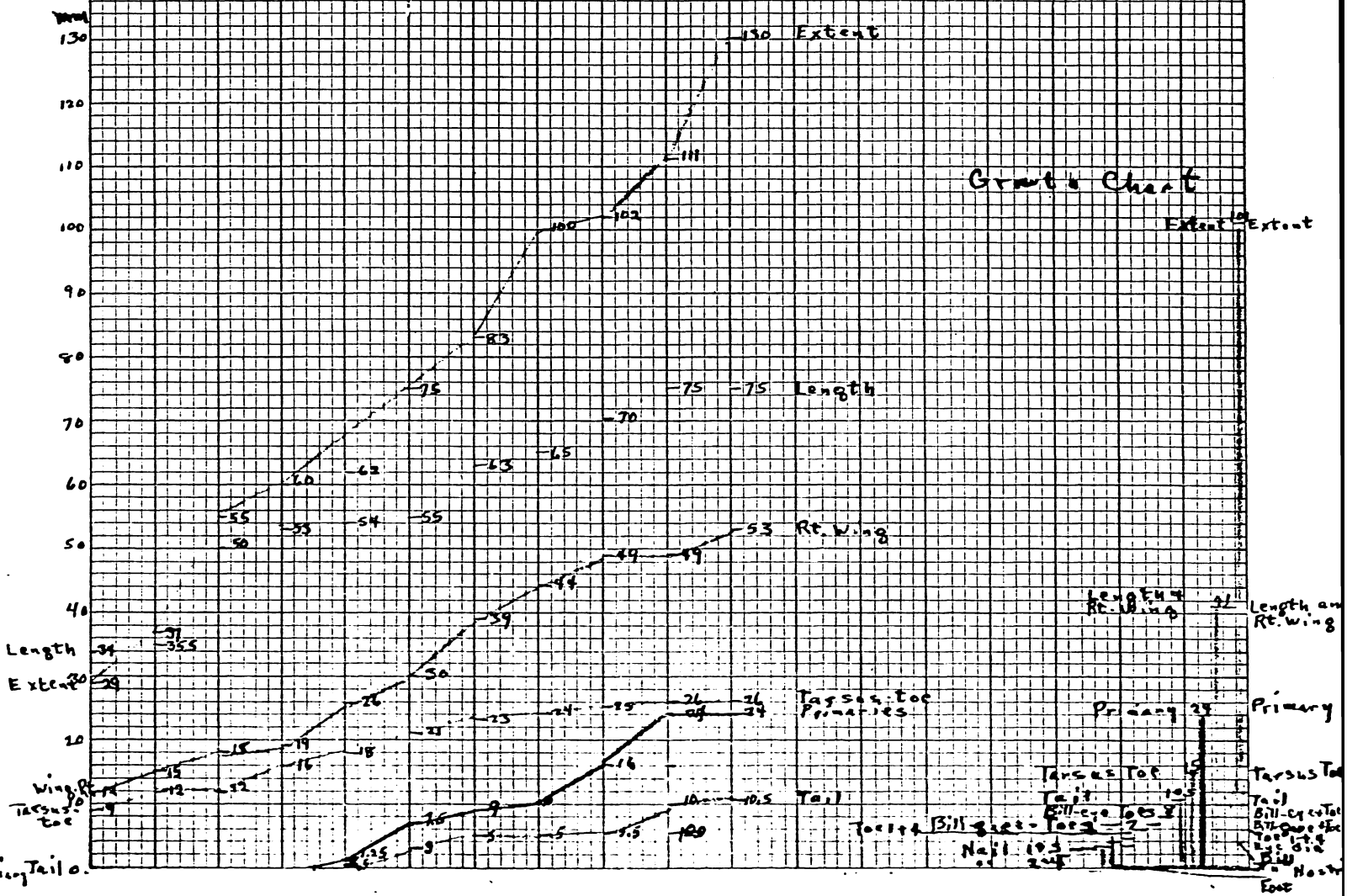
Weight Chart
Gram

Least Flycatcher Daily Development Record
(Band # 12804)

Activity



Day	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Date	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11



Summary of feeding during (hour) observations.

How fed or kind of food. Longest interval between. Adult bringing food.

How fed or kind of food.	Longest interval between.	Adult bringing food.
7/1/36 Regurgitation	32 min.	♀ 10 ♂ 8
7/2/36 Regurgitation and Legs of Harvest-man " " Crane fly Black Beetle (whole) Spider Green food(?) Grass hopper legs	54 min.	♀ 16 ♂ 22
7/3/36 Insects Living May fly	47 min.	♀ 8 ♂ 6
7/5/36 May fly Crane fly Spider Larvae(?)	22 min.	♀ 27 ♂ 26
7/8/36 Spider Lice of bird. Green juicy?	32 min.	♀ 23 ♂ 42
7/10/36	35 min.	♀ 10 ♂ 14
7/11/36 Big Fly (Piptera) Crane fly	24 min.	♀ 23 ♂ 17
7/12/36		(? gone) in evening.

JK Number of times nestlings were fed during hour periods at various intervals during the day. 12
10

Date →	7/1	7/2	7/3	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12
Number of nestlings	2	2+	3	3	3	3	3	3	3	3	1
Hour ↓											
A.M.											
4:40-5:40										21	
5:15-6:15											6
5:40-6:40				12						17	
7:15-8:15		2									
7:30-8:30	8										13
7:45-8:45				12							
8:15-9:15		5									
8:31-9:31	9										5
8:45-9:45				12							
9:00-10:00							18				
9:30-10:30											5
9:32-10:32	14										
9:45-10:45				16							
9:59-10:59							19				
10:30-11:30											5
10:59-11:59							7				
P.M.											
12:40-1:40							4				6
1:40-2:40							11		7		2
1:49-2:49			3								
1:51-2:51		-2									
2:40-3:40							14				
2:49-3:49			6								
3:01-4:01		-10									
3:57-4:57			6								
4:03-5:03		-6									
5:50-6:50									14		
5:05-6:05		14									
6:40-7:40										(2 Flew)	
7:40-8:40										0	
										2	

Heavy feeding period per day come between 4:40 and 10:40. When nestlings are ready to leave nest they eat more per hour. The single nestling gives a record of food taken 7/12. Hours 2:00 to 6:00 are good feeding periods in the afternoon. Last hatched nestling did not feed until 7/5.

7/8/36 (from notes)

9:40 AM Nest is badly
one young flapping

9:42 ♂ fed #1.

9:43 ♀ "Food note"
near by. He dislikes

9:45 ♀ Fed #2 and #3
to use wings and

9:46 ♀ "Food note" and

9:47 ♀ Fed one. She remains on side of nest while they
push and struggle against her. East side of nest is
badly worn. (Three reasons for straddling nest might
be (1) to hold it together while young struggle, (2) to
prevent their falling from nest, and (3) to shield from

sun.)

9:50 ♂ Food note. Fed #1, and removed waste "sac".

9:52 ♀ came back to guard. Three limp heads hang over
the side.

9:53 ♂ Robin note near by - Alarm. "Chebec" of alarm and
snaps bill as "zips" near by.

9:59 ♂ is excited.

10:05 ♂ returns.

10:06 ♀ gave #2 a juicy green bite.

10:08 ♀ fed #1.

10:09 ♂ " #1.

10:10 ♀ returned and left.

10:11 ♀ fed #1.

10:14 ♂ " from west edge of nest instead of east. #3

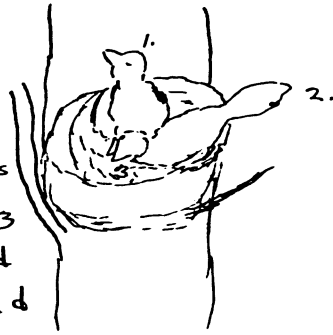
10:15 ♀ " #3. Stretching and capturing of lice by #3.

10:16 ♂ " #2

10:17 ♀ " #2 and carried waste from #3. Three heads over
side.

10:20 ♂ " #3 a fly and removed lice. It is very hot,

etc.



worn down now. ♀ fed one.
wings.

and fed #1. ♂ snaps bill
intruders more than ever now.
Spiders. They all struggle
stretch. Their eyes are open.
fed #3.

Date	Time	Food & number of times fed.	Longest Interval between feedings.	Adult which brought food.	Waste removal	Length of brood- ing period during hour in minutes	Remarks
7/1/30	A.M. 7:30-8:30	Regurgitation (8 feedings)	12 minutes	Adults		8+11=30 by ♀	East side of nest used.
	8:31-9:31	Regurgitation (9 feedings)	24 minutes	♀ ♂ 3x 3x	♀ Fed on "sac".	11+2+6+11=30 by ♀	Food juice dripping fr
	(warmer now) 9:32-10:32	Regurgitation (14 feedings)	32 minutes	♀ ♂ 5x 3x	♀ Removed "excreta sac".	4+11+8+25=48 by ♀	Adult bill. Two young stretch necks Picture was taken.
	P.M. 4:15-4:55	Regurgitation (5 feedings) ♀ feed self.	23 minutes	♀ ♂ 2x 2x	♂ removed waste.	19 minutes by ♀ shifted & settled while brood- ing.	2 young stretch:

Date	Time	Food Number of times fed.	Longest interval between feedings.	Adult bringing food.	Waste removal	Length of brood- ing period during hour in minutes.	Remarks
7/2/36	A.M. 4:00-4:10						Adults guard nest. ♂ in small tree and ♀ on nest.
Cool & Cloudy	7:15-8:15	2	Nestlings fed at 7:57	♀ ♂ 1x 1x	—	5+14=19 by ♀	Nestlings exposed for 40 minutes - 7:15-7:55. observer not discovered until 8:21 A.M.
	8:15-9:15	5	54 min.	♀ ♂ 2x 2x	♀ fed on waste. ♂ fed on waste.	6+1+28=35 by ♀	Exposed 8:21-8:50.
	9:15-10:10	9 (once some thing green & juicy)	27 min.	♀ ♂ 2x 2x	♀ removed.	22+6+9+3=40 by ♀	♀ in wearing off feathers ♂ is alive and cream.
Cool. Windy	P.M. 1:51-2:51	1-2-1 and ♂ ate it. 4	26 min.	♂ 1x	♂ removed waste " ♀ "	3+15+21+2=41	Sun in most part of time. while brood-Third egg hatched. ing ♀ moves ♂ dazed by shock. Flew body at time, off.
	3:01-4:01	10x Black beetle Hard shelled insect Spider (moist) Insect legs. (spider was moistened by ♀ due to throat move- ments.)	14 min.	♂ ♀ 7x 3x	♂ removed waste 3x. ♀ fed on waste.	14+6+5+2=27 by ♀	Large hard insect fed to #1, #2, then #1 which struggled with mouth- ful until prostrated on floor of nest. Third nestling was fed (attempt) once but food was removed. This one is feeding on yolk.
Cooler	4:03-5:03	6x Green food?	41 min.	♂ ♀ 3x 3x	♂ fed on waste.	5+1+3+39=48 by ♀	It is marvelous how nest holds up. Practically every feeding takes place from brim of nest on east side. Is worn down. ♀ removes food from 3rd nest- ling when can't eat it. Food note given.
	5:05-6:05	14x Grasshopper Leg.	15 min.	♂ ♀ 3x 5x	Ad. fed on excrement ♂ removed " excreta sac.	6+5+2+4+16=33 by ♀	

Date Time Food Longest Adult waste Length of Remarks
 Number interval bringing removal brooding
 of times between food food period
 fed. feedings. during hour.

7/3/36 ^{A.M.} 10:57-11:22 (Took pictures with out portraits)

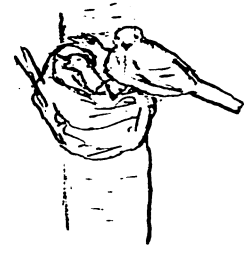
Warmer 1:49-2:49 B
 Insects 47 min. Ad. 21+24 min. Two young stretch
 2:02-2:49 a little.
 Exposed 23 min.
 Perhaps due to visitors.

2:49-3:49 6 41 min. ♀ ♂
 2x 2x 21+22+3=46

3:57-4:57 6 19 min. ♀ ♂
 Living 4x 2x ♀ removed ♂+10+3+11=32 ♀ alarm when young
 May fly "excreta sac" push head out from
 underneath her.
 ♀ stands on edge of nest
 and shades young from
 sun with body.
 ♀ shields them again.

P.M.
 40 min 4 11 min. ♀ ♂
 8:35-9:15 2x 2x ♀ at "sac" ♂+11+4+9=29 Adults always feed
 Dark ♂ took "sac" away from east side of
 nest.
 ♀ " " " ♀ remains on nest as
 becomes twilight
 changes to dark.
 sound of Nighthawk,
 Robin, Red-eyed Vireo & Whippoorwill above.

Date	Time	Food & Number of feedings of nestlings	Longest interval between feedings.	Adult bringing food.	Waste removal	Length of brooding period during hour.	Remarks
7/5/36	A.M. 5:40-6:45	12 May fly by ♀ Crane fly by ♀ Spider by ♂	18 min.	♀ 6X ♂ 6X	♂ 4X removed waste.	14 + 1 + 16 + 4 + 3 = 38	♂ + ♀ consult both on nest as large birds fight above in sky. Same procedure re. time ♀ brooded until ♂ "food note" signaled her to leave. ♀ brought food after short flight and then broods. Nestlings obey warning ♀ rests on sunny rim.
	6:40-7:10	3 Crane fly by ♀ Larvae by ♂	10 min.	♀ 1X ♂ 2X		8 + 4 + 8 = 20	Nestlings are fluffy white. ♀ fed one a juicy morsel. Sounds whisper from under ♀. All three nestlings are fed by adult broods by standing above them and allowing space for ventilation. Sometimes their heads hang out of nestlings while brooding. Litter must be bed on warm day. perches on rim often with open mouthed the young cool selves. Very hot
	7:45-8:45	12 May fly by ♂ " (pl) - ♂	11 min (plus)	♀ 4X ♂ 4X	♂ removed waste.	3 + 7 + 4 + 1 + 12 = 27	
	8:45-9:45	12 May fly by ♀ " by ♂	15 min.	♀ 6X ♂ 6X	♂ removed "sac" ♀ " " "	♂ 4X " = 4 + 2 + 6 = 12 ♀ 4X " "	
	9:45-10:45	15 Warm May fly by ♀ Third nestling is fed regularly.	22 min.	♀ 8X ♂ 8X			
	10:45-11:25						



Date	Time	Food Number of feedings of 3 nestlings	Largest interval between feedings	Adult bringing food.	Waste Removal	Length of breeding period dur- ing hours or periods.	Remarks.
7/8/36	A.M.						
Clear, Sunny, Hot.	9:00-9:59	17+1=18 Spider by ♀ (for 2) (one fed on own lice)	8 min	♂ 1X ♀ 16X	♀ 1X ♂ 1X	None	Ugly, black nestlings do not have neat or appeal- ing appearance of adult Tiny nestling sounds contin- uous Eyes are open Parents are very excitable and wing and snap continuously at intruders of fed two birds after each of two trips. Astride nest and apparently holds them in, shakes them and holds nest together ♂ "snaps" continuously stretch against panes astride nest. Try to copy inflection with whisper as ♀ "tikips" astride 13 min. at one time
	9:59-10:59	19 (Juicy green?) Two by ♀ once.	12 min.	♂ 10X ♀ 8X	♂ (once)	None.	
	10:59-11:59	7	16 min.	♂ 5X ♀ 2X			
	P.M. 12:40-1:40	4 2 fed at one time.	32 min.	♂ 3X	♂ 2X		♀ spends much time on rim. Moves around to shield young from sun and keep wind from blowing young out of nest. 20+10+4 Spread feathers to shield from sun.
	1:40-2:40	11	13 min.	♂ 8X ♀ 2X	♀ 1X		
	2:40-3:40	14 Spider by ♂ Juicy Green by ♀ for two.	17 min.	♂ 9X ♀ 5X	♂ 1X ♀ 1X		



♀ left only long enough
for ♂ to feed young.

Date	Time	Food & No of times 3 Nestlings are fed.	Longest interval between feedings.	Adult bring food.	Nest	Length of brooding	Remarks
7/10/56	P.M. 1:30-1:40	4	35 min.	♂ 21 ♀ 22			Nest is sagging. Bodies in worn (least) bottom of nest. Heads up and over sides of higher rim. Nestlings are pushed backward almost out of nest. Hang with feet. Young are very active.
	1:40-2:40 (very hot)	7	31 min.	♂ 6X ♀ 1X	"Excreta sacs" are thrown or voided over rim of nest.		♀ astride nest with wings raised to shield. From 1:45-2:00, then off 1 min, and on at 2:01-2:05 then 2:06 to 2:08. ♀ with moist green on edge of bill on return. ♂ shields young until ♀ returns. 1 min + 4 min.
	5:50-6:40 warm	14	15 min.	♂ 6X ♀ 7X	♂ took "excreta sac" 1X.		More olive now. Always snapping bill at intruders.

Date	Time	Food & Nb. of feedings	Longest interval between feedings.	Adult brings food.	Nest	Length of brooding	Remarks
7/11/36	A.M.						
	Warm 4:40-5:40	21	24 min.	♂ 10x ♀ 11x	over side, once carried		Preen feathers. Flap wings ^{Saker} over. Stretch. ♂ snaps bill continually.
		Big fly.					
	5:40-6:40	17 3 Big flies 1 Cranefly	10 min.	♂ 6x ♀ 11x	"		Young. stretch wings, over & over - preen & delouse. Adult snaps.
							Quite obvious
	P.M.						
	6:40-7:40						Two nestlings have flown. Adults are feeding them below in foliage etc. Hear food note and adults.
	7:40-8:40	2x	8:26 fed last nestling	♂ 1x ♀ 1x			Reassuring "chirp" and food note as care for ven- turing young.
		Feeding two out of nest.					

Date	Time	Food & No. of feedings	Longest interval between feedings	Adult brings food.	Waste Length of brooding	Remarks
7/12/3	A.M. 6:15-6:15	6X Fly	14 min.	?	1X	Nest almost destroyed Young does not respond until coaxed by "Food Note" Preens & stretches stretches wings and turns around.
	6:20-6:50	2X	20 min.	?		
	A.M. 7:30-8:30	13				Preens, stretches wings, crawls up to highest point of nest and perches spreads tail. Flaps wing again again
	8:30-9:30	5				
	9:30-10:50	5				
	10:30-11:30	5				
	12:40-1:40	6				
	1:40-2:40	2				

Poked stick out of blind and at first the nestling dropped down on perch but 2nd time this one flew to twig below.

Parents continue to feed this nestling and lure it away to the cover of the small trees.

Summary:

Observations were made from a curtained tower "blind" platform.

1. Least Flycatchers' nest commonly in Cheboygan County in a cup-shaped nest at the fork (of a tree) which is 8 to 15 ft. from the ground.
2. Three white eggs in the nest hatched. One hatched each day.
3. Weight increased a gram per day on the 3rd, 4th, and 5th days. Increase in growth was rapid in wings and tail.
4. Nestlings fed on yolk for the first day. Then for several days they were fed by regurgitation and later were cared for on an insect diet.
5. Approach to the nest was gradual.
6. A reflex caused the young to void an excreta sac after feeding. This was disposed of by the adults at first but later the nestlings voided this sac over the worn east rim of the nest.
7. The nestlings were brooded during the first half of the period but later the adults shielded them from the weather by remaining astride the nest.
8. After ample preparation the birds were ready to fly from the highest point in the nest.
9. The naked birds were covered with down which remained on the tips of the black pins which pushed out and unsheathed so that the fledglings were similar to the adults when out of nest.
10. An unusual song was warbled by the male to which the family responded apparently. The location "Chebec", "food warble", and hissing notes of the family were in evidence continually.
11. The nestlings were banded (#12804, #12803, #12802) respectively. Charts record daily development, growth, activity, and feeding.
12. Hourly periods are summarized from the daily minute by minute record. Forty minutes of "blind" notes are included.