

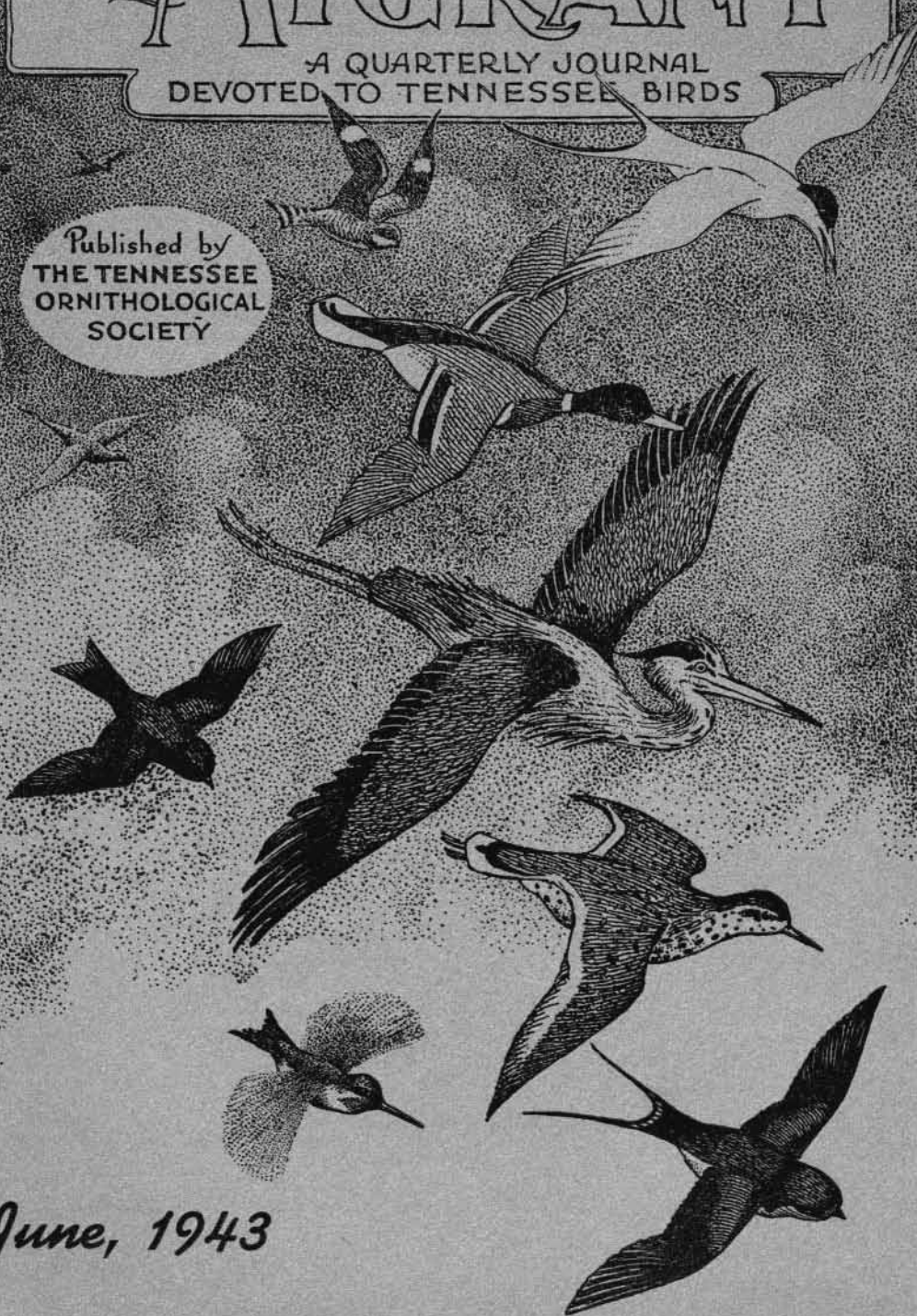
THE MIGRANT

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DEVOTED TO TENNESSEE BIRDS

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Top—Young Peregrines in their tree-nest eyrie, Reelfoot Lake, Tenn.
Left—The nest tree, being climbed with ropes and spikes.
Right—Spofford at the nest cavity, holding up one of the young.

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PEREGRINES IN A WEST TENNESSEE SWAMP

By WALTER R. SPOFFORD

That Peregrines Falcons* are regular visitors to Reelfoot Lake in the fall and winter months is well known to sportsmen who have frequently admired their meteoric stoops at rapidly flying waterfowl. Less well known is the fact that at least one pair of these rare but spectacular falcons nest in the dense swamp forests surrounding the lake. First reported by Mr. Ganier in 1932, an eyrie was photographed by the writer just ten years later (MIGRANT, XIII, p. 30 and photos, this issue). Hoping to revisit the eyrie, Sam Clark, Jr., Conrad Jamison and the writer, spent April 23rd-25th wading through the swamps around the lake.

On the afternoon of the first day the tiercel appeared over the fields and alongside of the car as we drove along a highway near the lake. An hour or two later we approached a tall broken stub, the eyrie of the previous year, which we fully expected to find reoccupied. To our surprised disappointment, there were no signs of falcons, and only a few old Barred Owl pellets were in the nest. An hour's search and several hours of observation from various vantage points were equally fruitless, and that evening we decided to spend the next forenoon at "Cranetown" before resuming the quest.

It was late the next afternoon and after many hours of tramping and wading, that finally our efforts met some success. Though much of the swamp was well wooded, it was now apparent that relatively few places held the large dead broken-off stubs which we believed essential for nesting sites. Returning to the vicinity of last year's eyrie, we were greeted with the harsh scolding *Kack! Kack! Kack! Kack!* of the old falcon and immediately saw her take off from a tremendously tall live cypress. Circling close overhead, she was soon joined by her equally noisy tiercel. The eyrie was obviously close at hand, and we closely scanned the few available trees. One dead stub was a smaller duplicate of last year's nest, and another was an eighty foot trunk topped by a horizontal snag, and half way up, burned nearly through, an obviously inaccessible site. We hoped that this was not the nest! The giant live cypress, and a closeby only lesser giant seemed to interest the falcons. We left the swamp, planning to return more quietly for observation.

*In preparing this paper, Dr. Spofford has used the terms of the Falconer, as follows: Peregrine, the European name for the Duck Hawk (*Falco peregrinus anatum*); Tiercel, the adult male of the species; Falcon, the adult female; and Eyess (Eyas), the young. —Editor.

At six-thirty p. m., we again made our way ever so carefully into the swamp. Soon we heard the falcon calling, several short wails, a long pause, and then wails again. The falcon was obviously awaiting the return of the tiercel with food, nor had she long to wait. Suddenly, *Kleechip! Klee-chip!* announced the tiercel in and almost immediately we heard the food calls of the eyesses. We were not close enough to see where the calls came from, but the direction was that of the giant live cypress, not the 'impossible' dead snag. All was now quiet, and dusk was at hand. Transient Whip-poor-wills called all around us and a single Chuck-wills-widow could be heard; Barred Owls barked and whooped, and the rush of wings announced an occasional low flying "V" of Cormorants. Slowly, ever so quietly I waded close under the big trees. The dead snag was now a silhouette, and a large falcon perched there, feeding on what glasses revealed to be a duck. Suddenly a smaller bird, a tiercel, walked out on a limb a few feet below. Were these two eyesses, and already full summed? No, for the tiercel suddenly flew into a dense clump of cypress and was seen no more. The falcon fed for a few minutes, and then flew to a dead limb one hundred feet directly overhead. Cautiously I moved my glasses up, but her sharp eyes pierced the black gloom of the swamp; she cackled loudly, then flew into the dense cypress tops where the tiercel was last seen. Now it was black night and only the indescribable bedlam of the owls could be heard.

We were up at four the next morning, and it was perceptably graying in the East as we carefully worked in toward the eyrie. Several Chuck-wills were calling and frequently the ringing whoop of an owl was heard. Clear singing of Olive-backed and Wood Thrushes were the only other morning sounds. At about five-thirty the falcon short-wailed several times, paused a few minutes, wailed and again paused. As it grew light she could be seen perched in the great live cypress. Suddenly the tiercel also wailed, paused, and wailed again from his perch in the other live cypress. Quickly he flew directly to the falcon and mating took place, the tiercel holding his wings high with some fluttering, and several low wailing calls were heard. The tiercel now flew to the dead snag, preened for five minutes, and then flew off, quickly followed by the falcon, as if to speed him on his way; and then she was back, wailing as before. In a remarkably short time *Klee-chip!* announced the tiercel's return; coming in low, with an upward flip he tossed a Grackle over the cypress and the falcon dove to catch it before it had fallen but a few yards. Returning to her perch, she deplumed it for a moment, and then flew directly to the giant live cypress, to a short dead stub set steeply into the main trunk some two-thirds up the tree, full ninety feet above water level. Into a large hole in the base of the limb the falcon disappeared and immediately the food calls of eyesses were heard.

The sun was now up, and shone brilliantly on her faintly orange-tinted breast heavily marked with black, as she walked out onto a nearby limb, teetered a moment to catch her balance, and then re-entered the eyrie. Now the tip of her tail and wings could be seen as she fed her young. Soon she climbed up the edge of the nest opening, walked out onto a limb, and flew to the perch in the next tree where she recommenced her waiting wails.

After two hours to allow for our own and the falcons' breakfast, we

again approached the eyrie. From a distance of nearly two hundred yards we could easily see at least one large whiteish eyess standing in the nest entrance enjoying the morning sun. Five laborious hours later, first Sam Clark and then I looked in on four three-weeks old eyesses. Meanwhile both parents had been much concerned circling close overhead with continuous *Kack! Kack! Kack!* notes and frequent short stoops directly at the climbers.

The floor of the eyrie was less than two feet across, and well open to the east. Many feathers and wings of their prey formed a covering for the dead wood floor. Blue-winged Teal were abundant on all nearby water, especially the flooded cornfields, and these formed the bulk of their food, but traces of Redwing and Grackle were also present. This is the only eyrie in the more than fifty that the writer has visited in the Appalachian system, where ducks form any appreciable part of the 'Duck Hawk's' diet, domestic pigeons having elsewhere constituted by far the staple item. Later, when the ducks have gone north, the Green Heron is a frequent capture, at this swamp eyrie.

Two of the eyesses were very large, obviously falcons, while the smaller pair were tiercels. The feet of the largest falcon were conspicuously large, seemingly larger than those of my trained Gyrfalcon. All four had yellow feet instead of the traditional blue of the young. The tiercel's were lemon yellow and the falcon's chrome. The cere and lores were blue. Last year the feet of the two eyesses were the usual blue.

Since we had interrupted the hunting of the parents, we brought the young a pigeon which we fed them. After banding and photographing the young we left and an hour later were on our way back to Nashville.

NASHVILLE, TENNESSEE, June, 1943.

THE CONNECTICUT WARBLER, A SPRING VISITANT

By B. H. ABERNATHY

Although the Connecticut Warbler (*Oporornis agilis*), judged from records, appears to be very rare in this section, its presence in Tennessee during spring migration season is probably more general than has been supposed. Its fall migration route lies east of the Alleghanies.

Four years ago, about the tenth of May, I heard in the dense undergrowth west of my lawn a very unfamiliar song. Judging the song to be that of some unusual warbler, I spent a half hour diligently trying to get a glimpse of the bird, but he always eluded me. The song is not unlike that of the Kentucky Warbler in quality as well as like that of the Northern (Maryland) Yellowthroat in enunciation except for the fact that it is timed a bit more slowly and has a sort of stitch or broken note. Instead of the "witchety," he says "wit-che-ty" each time, as though he were yet struggling carefully and slowly to master the notes. Chapman, quoting Farwell, also likens the song to that of the Northern Yellowthroat but more vigorous and resonant.

For three or four mornings he kept leading me this chase. Then I called Dr. G. R. Mayfield to come out and help me find and identify the bird. The next morning early he came, and we finally got our glasses on the bird. By the white ring around the eye, which we plainly saw and which was

made conspicuous by the slate-blue color of the head, we knew it to be the Connecticut, though we had no record of this bird's presence near Nashville for eight years.

Each year since that date about the tenth of May I have identified at least one bird about my yard. This year on May 12th, I saw one at the accustomed spot. Feeling sure that I recognized the bird, I listened and watched for two more mornings before I heard his note. Then on Sunday, May 16, the day of our T. O. S. Field Day, I skirted the borders of my six acre lawn and canvassed the extensive, thinly timbered thickets across the road. In an area of twenty acres or less I definitely located four males, singing, one of which I watched at a distance of not more than fifteen feet. When the bird count had been compiled that afternoon, members were especially interested in my report of these birds and late the following Wednesday afternoon, the 19th, Dr. Mayfield and Mr. Ganier came out to check on them.

The hour being late, no Connecticut song note could be heard but Dr. Mayfield and I were finally rewarded by seeing the bird in the thicket at the edge of my lawn rise in a shrub to look us over, at twenty feet distant, then disappear again into the cool shade below. Meanwhile, Mr. Ganier had gone to the extensive buckbush-covered slope to attempt to flush one of the three previously seen there. These birds, according to northern observers, are reputed to rise from the bush when disturbed, seek the lower limb of a tree and await there quietly for further developments. By watching carefully ahead, he finally flushed one of the birds, at twenty feet, and the procedure above described was duplicated. Not having had opportunity previously to secure a bird of this species, he collected the specimen which was a perfect male, and has added it to his collection.

The group of three birds in the large thicket were in the vicinity of a wet-weather brook. Since their summer haunts are about marshy places, the brook may have caused them to tarry there. Last year, Mrs. Laskey reported one in Warner Park on May 19. (MIGRANT, 1942; 73). I would suggest that members of the T. O. S. be on the alert next spring, during the first three weeks in May, for their unusual call. The bird is shy and stays down near the ground under the dense foliage but his song is distinctively a give-way, once you have heard it.

NASHVILLE, TENN., June, 1943.

SOME OBSERVATIONS ON THE GRASSHOPPER SPARROW

By ALFRED CLEBSCH

The name of the Grasshopper Sparrow (*Ammodramus savannarum pratensis*) is well chosen. Not only is the song of this sparrow so good a duplicate of the grasshopper's fine buzzing that to tell them apart one has to learn the little accent the bird starts with, but also the short flight to duck back into the grass reminds of the insect and the habitats of the two are usually the same.

We had spent a dark and windy day in woods along river and creek, and the morning bringing more threat of clouds and rain decided to try open up-land for better luck and visibility. So on May 31 the three of us, Mr. Ganier and my son Eddy, besides me, drove a few miles northeast of

Clarksville and stopped at the abandoned Gracey Branch right-of-way of the L&N railroad.

There we found a field just right for Grasshopper Sparrows. It was an old lespedeza field with grass and weeds, small bushes and dewberry vines here and there so as to furnish all the needs of the birds' nesting territory. It is usual to find a number of pairs established in a suitable location, some expanse with grass or clovers not too thick but high and dense enough to hide their movements on the ground, some small growth of sturdier kind to give a nest a bit of shelter or furnish an occasional perch for the male to render his song. Weeds and bushes, old hay stacks, fence rows and even transmission wires serve the latter purpose.

The Grasshopper Sparrow is a "flathead" like the Meadowlark and the Dickcissel, who live and feed where he does and in similar fashion. His actions are much like those of his northern cousin, the Savannah Sparrow. With large and sturdy feet and legs he runs through the grass rather than to take flight. A slow approach to a spot where a bird has been seen to alight brings poor results and better chance comes by hastening there. Size and plumage add to the resemblance, the chief difference being the breast plumage which is white with brown streaks in the Savannah and plain buff or dingy in the Grasshopper Sparrow. Both have the crown divided by a light strip, mottled back, and yellow at the bend of the wings. These are short and well rounded, a characteristic found in other birds that use a dense habitat. The tail of pointed feathers is short in proportion to the body. Of the two sparrows, the Grasshopper Sparrow is the darker and the smaller.

In a 30 acre field bordered by hedge rows we found a dozen or more of our birds. Other suitable fields were adjoining and certainly visited by them. Here were also Indigo Buntings, Cardinals, Field Sparrows and a Bachman's Sparrow. A Meadowlark circled us in the air in evident concern for a well hidden nest. In a group of trees near the road we found Orchard Orioles, Red-eyed and Warbling Vireos, Bluebirds and Yellow Warblers.

The Grasshopper Sparrow's song, so high pitched that it is without musical quality, is audible from a good distance and we were lured into the adjacent fields before we found three nests in an area of not more than 5 acres of the field first entered. These nests were on easy slopes draining toward the lowest part of the field and all were carefully tucked away beneath the grass. During the morning we found one with 3 eggs which had been incubated for about a week. Their color is white and they are speckled with brownish spots especially toward the larger end.

The nest is usually made in a teacup-like depression in the ground, scratched and hollowed out by the birds to a depth of about an inch. This one was of that type and stood in the scant shelter of a coarse bunch of grass. Its rim was nearly flush with the ground. Surely most of the nests are unharmed by the mowing blade that comes to cut weeds and sassafras shoots to give the lespedeza a freer growth and is set high enough to go above its green carpet.

About the middle of the morning a hard shower soaked us and when we came back after lunch we brought a 75 foot drag rope to flush incubating birds. Search for the nests involve covering a great deal of ground afoot for the birds are close sitters and do not flush from their eggs until almost

trod upon. While using the rope we found the other two nests, the first of which held a set of five fresh eggs. It was placed under a little sawbriar vine and its construction was not very elaborate. When the last nest was betrayed by the bird flushing close ahead of the rope, the peepings of young birds made it easy to find. But somehow it had been upset and torn apart; maybe it was done by one of us in our hasty retreat in the rain. Two of the little creatures had already strayed from the bare dirt cup in which the rest of the quintuplet nestled. To restore matters we rearranged the best we could the little pile of dead lespedeza stems which had surrounded it, retrieved the stragglers and soon had the satisfaction of seeing the alarmed parents come back to the scene.

The study of this species was continued whenever there was chance during the following weeks. One June 10, Eddy and I visited a farm on the east side of lower West Fork Creek that was known to us as good territory for Grasshopper Sparrows. Here they were associated with Dickcissels in a lush field of red clover and timothy, but we had to refrain from trampling down the crop. However, in a neighboring field of timothy and lespedeza interspersed with weedy patches, we found a nest with 4 fresh eggs. Contrary to the rule this nest was set flat on the ground, its back laid against a small bank of dirt. There was a little clearing among the weeds and the top of the structure rested against a leaning green weed and some dead stalks. It was flanked by a raked-up, loose batch of dead grass on one side and some standing stubble on the other. The structure the birds had set in there was a rough globe of 4 inch diameter with a $1\frac{1}{2}$ inch round opening on the side toward the leaning weed. It had a thick and firmly woven sill from which the sides and the arched roof rose. A little bundle of cut grass was worked into the side of the nest. Stems and blades of the same type of grass were used throughout, the stems selected becoming finer toward the inside. A little mattress of the hairlike fibres of red sprangle-top grass made the final bedding. The fact that the nests found before consisted chiefly of dead lespedeza stems which were also available here, shows that the birds use what comes to hand.

Another field on this farm had recently been cut over and raked. Several Grasshopper Sparrows were in the lespedeza that was coming up, but they were quite nervous and shy. In contrast to this were our birds in a field on highway No. 76, two and a half miles from town, which we visited two days later. Here they allowed close approach and a number of times we were startled by one getting up right at our feet. On June 17 still another field on the West Fork Creek farm was visited. Young birds were out of the nest on that date and well able to fly. Ranging in a pure stand of timothy, they were still being fed by the adults who called to them with a cricket-like chirp.

Here we had the opportunity to hear an addition to the repertoire of these birds. A male followed up his fine steady buzz by a warbling twitter that took as much time again as the buzzing. It resembled somewhat the chatter of the Meadowlark, but, while of course weaker, it was also more varied and could justly be called musical.

Mr. Ganier writes me that near Nashville he has found nests with fresh eggs in the early part of July, but we are not prepared to say if that means they raise a second brood, or whether these nests represent a second at-

tempt after the first one had come to grief. As the birds are late nesters to begin with, —in spite of their fairly early arrival in the spring,—the latter assumption would seem more likely to be correct. My notes for their occurrence here show the dates of April 7 for arrival and September 4 for departure. (For Nashville arrival dates see MIGRANT 1936, page 7.)

The statements Dr. Frank Chapman makes about the Grasshopper Sparrow in his handbook are very fitting. This is a bird that may easily be overlooked, but when searched for and found will furnish material for interesting observations close to home

CLARKSVILLE, TENN., June, 1943.

EDITOR'S NOTE:—A series of male Grasshopper Sparrows, collected at Clarksville and at Nashville during the breeding season, by Messrs. Clebsch and Ganier, have been examined by Dr. Alex Wetmore of the U. S. National Museum and were determined by him to be the eastern race, as named in the first paragraph of the above article. —A. F. G.

SOME OBSERVATIONS ON THE NESTING AND DEVELOPMENT OF THE PROTHONOTARY WARBLER, *PROTONOTARIA CITREA*

By HENRY MEYER AND RUTH REED NEVIUS*

The Prothonotary Warbler, *Protonotaria citrea*, a species commonly considered rare in the Knoxville area, has been nesting since 1936 with increasing frequency in nesting boxes at the Island Home Bird Sanctuary which is located on the Tennessee river just southeast of Knoxville, Tennessee. The accessibility of these nests suggested that a nesting study of this warbler might be successfully undertaken in this area.

During the spring and summer of 1939 four nests built by two pairs of birds were available for study. In addition, an unmated male was present in the area. Approximately 175 hours of field study were devoted to gathering information concerning the habits of these birds and the twelve young which were reared by them between April 14 and July 10, 1939.

SPRING ARRIVAL AND TERRITORIAL RELATIONSHIPS

Most birds have been found to isolate themselves during the breeding season on relatively small areas from which other individuals of the same species are excluded. Having established himself on such an area the male sings; song enabling a passing female to recognize the presence of an unmated male, and also serving as a warning to other males that the area is already occupied. The Prothonotary Warbler appeared to follow this general plan.

Three males established territories. Male 1 arrived April 14. By the next day he was singing on an area 550 feet long and for the most part not more than 200 feet wide. It included three kinds of habitats: (a) a grassy terrace on which several nesting boxes were located, (b) river banks densely covered with small trees and bushes, and (c) a small open orchard which constituted the connecting link between the terrace and the river bank.

*Contribution No. 12, Department of Zoology and Entomology, University of Tennessee, Knoxville.

Male II arrived on April 18 and occupied a narrow territory along a brook confined by wooded slopes and which contained two lotus ponds. The area was about 400 feet long and 100 feet wide. A nesting box was on a stake above one of the ponds.

Male III appeared May 5 in the terraced area being claimed by Male I. During the day, the 2 males sang energetically and flew often only a few inches apart. Male I maintained his territory and Male III disappeared. Later, Male III (or another male) occupied a neighboring lawn and began nest building. Observers watched a pair at this nest, which was left incomplete because of the disappearance of the female. For over forty days this male sang intermittently near the nest, being last heard July 1st.

During the period of establishing territories the males visited several nesting boxes, looking into them, entering them, and singing from the tops of them.

Male I carried nesting material into a few of these boxes. By the afternoon of the second day after arrival he had, however, concentrated his attentions upon one box. On the third day he had almost completely filled this box with mosses and some bark, rootlets, and dead leaves. He did not add a compact lining or cup although he was still carrying material to this box on the fourth day.

The second male investigated at least five boxes and carried moss into at least one of them. He did not, however, build a nest nearly as complete as that of Male I.

The mate of Male I arrived April 20. On this day this pair communicated by their full call-note. Twice the male was seen pursuing the female rapidly in a small semi-circle and pausing, called a soft, full note which was later heard only when the two sexes were together.

The mate of Male II came April 22, four days after the latter's arrival.

Combat with other species found within the territories of these birds was observed. Combat with the Bluebird was most frequent but one or more indications of opposition was noticed with the Flicker, Downy Woodpecker, Acadian Flycatcher, Tufted Titmouse, Robin, and Cardinal.

NESTING SITES AND NEST BUILDING

Roberts (1899) observed the Prothonotary Warblers are "found only in bottom land and apparently do not pass up the wooded deep ravines of tributary rivers." Pearson ('36) stated that the usual site of the nest is two to fifteen feet high in a stump over water. However, the literature is replete with examples of curious departures from the usual nesting site. For example, Ijams ('37) reported that individuals departed from the usual habitat, occupying nest boxes which were "not closer than five hundred feet from the Tennessee River."

The nesting boxes and sites examined by the males are not necessarily the ones used by the females. The nests built by the males are rather to be regarded as "dummy nests." The nests used for egg laying and rearing of the young were built by the female unaided, although the males occasionally sang from a box top or entered a box ahead of a female. Barnes (1899) and Chapman ('07) reported that the male carried some material which was left outside the nest. Walkinshaw ('38) reported a like behavior of the male.

The materials used for nest construction varied according to availability. Table I shows the location and materials of the nests observed in this study.

TABLE I. NESTING LOCATIONS AND MATERIALS

	Pair I, Nest A	Pair I, Nest B.	Pair II, Nest A.	Pair II, Nest B
Location	orchard, over plowed ground	over lily pool, by residence	over lotus pond in wooded ravine	over lily pool by building
Material lining	grass stems	hackberry leaves, rootlets, grass, some moss, hairs, bark	grass, moss	horsehair, pine needles
Bulk	moss	hackberry leaves	Titmouse nest covered by moss, some bark	thin moss layer, cedar bark, moss

A variable amount of time was required for nest construction. The first nest (A) of Pair I was begun April 20 and required seven days for building. A three-day period elapsed before laying of the first egg. The second nest (B) of Pair I was begun May 7, following failure of the first nest. Ten days were spent in construction, followed by a five-day period before laying of the first egg. The first nest (A) of Pair II was begun April 22, and required six days for building. On the third day after nest completion the first egg was laid. The second nest (B) of Pair II was begun June 8. Construction required four days and the third day thereafter the first egg was laid.

EGG - LAYING AND INCUBATION

The nests were visited about 4:30 in the morning (Central Standard Time) in order to determine the time of egg laying. Table II. summarizes the time of laying of the 3rd and 4th eggs in Nest A, and the first three eggs of Nest B of Pair I.

TABLE II. EGG-LAYING TIME OF PAIR I.

Date	Nest A		Nest B		
	May 2	May 3	May 23	May 24	May 25
Female enters nest	5:00	5:15	4:44	4:47	4:45
Female leaves nest	5:28	5:48	5:20	5:20	5:15
Minutes on nest	28	33	36	33	30

Two factors may be related to the earlier hour of laying in Nest B. Daylight was coming earlier as the season advanced, and the weather was warm as contrasted to a cold period during the laying of the first set of eggs. It may be of further interest to state that the time of sunrise on May 2 was at 5:02 and on May 23 was at 4:42.

Of eighteen eggs the average length was 18.39mm. and the average width 15mm. Their average fresh weight was 2.08 grams. The total weight of fourteen eggs freshly laid was 28.75 grams; their total weight at hatching was 24.75 grams. The total loss of weight during incubation was 4.0 grams or 13.91 per cent loss.

Incubation was entirely by the female, began the night before the last egg was laid, and required thirteen and one half days. Of the eighteen eggs laid, twelve (66.66 percent) hatched, all the young birds living to leave the nest.

The male of each pair frequently fed his mate, often singing before coming to the nest. During feeding a soft short note was uttered. The female was usually fed while on the nest, though she occasionally left the nest just after being fed. Walkinshaw ('38) observed a female usually leaving the nest to be fed. In the morning of the eighth day of incubation one female in a 90-minute period was on the nest 73 minutes (81 per cent). At noon of the eleventh day this female during another 90-minute period was on the nest 23 minutes (25 per cent). Late afternoon of the second day during a 45-minute period she was on the nest 31 minutes (69 percent).

MORPHOLOGICAL DEVELOPMENT

The young on the day of hatching had orange-red skin. The mouth lining was red. Down was distributed over the frontal and occipital areas of the capital tract, spinal tract, femoral, alar, and humeral tracts. Feather sheaths of the alar tracts penetrated the skin the first day after hatching. On the second day after hatching the eye-slits began to open. Feather sheaths of the humeral, femoral, and crural tracts emerged on the third day; those of the dorsal and ventral tracts emerged on the fourth day, and those of the capital and caudal tracts on the fifth day. On the fifth day sheaths began breaking. The egg tooth in ten young persisted throughout the nestling stage. On the ninth day in two young the egg tooth scaled off. Throughout the nestling stage the birds were weighed daily. Several measurements were made in accordance with those described by Baldwin, Oberholser and Worley ('31). Table III records the weights and some of the measurements made.

TABLE III. WEIGHTS AND MEASUREMENTS OF DEVELOPING NESTLINGS

Age in days	Weight	Tot. length	Length of closed wing with feathers	Culmen	Length of second primary	Unsheath- of second primary
1	2.05g.	31.25mm.	6.0mm.	3.09mm.	0.	0.
1	3.11	44.75	7.67	3.42	.58mm.	0.
2	4.75	50.33	11.30 (5)	4.13	2.63	0.
3	6.33	54.58	15.60 (5)	4.56	3.21	0.
4	8.25 (11)	62.84	20.90 (5)	6.79	7.54	0.
5	10.44 (11)	68.08	26.0 (5)	7.83	11.79	0.
6	11.35 (11)	70.25	31.40 (5)	8.42	14.92	.18mm.
7	12.10	74.25	35.50 (5)	8.83	17.83	6.79
8	11.98	77.42	39.70 (5)	9.17	21.92	11.08
9	11.82	81.17	42.70 (5)	9.71	24.42	14.83
10	11.83 (6)	88.50 (6)	46.33 (5)	9.93 (7)	27.16 (6)	16.83 (6)

Unless indicated in parentheses the average is of twelve nestlings.

BEHAVIOR DEVELOPMENT

On the day of hatching the young lay quietly with the head drawn under the body. One placed on the balance for weighing moved restlessly until it managed to regain that position. When one day old they no longer lay with the head under the body. They could creep on wings and legs. When three days old the nestlings while feeding made sounds audible twenty-five feet away. At five days they could grasp objects with the toes, clinging to the nest or to the observer's fingers. At six days they could, if turned on the back, right themselves. At seven days they could follow the movements of objects held near the head; evidence of developing fear was then noted as the nestlings responded to abrupt movements by stiffening the body, opening the mouth, and uttering a loud, quick note. When eight days old their response to an adult carrying food became specific; when the male sang before coming with food, the young called. One eight-day old bird supported his weight clinging to a finger. At eight days, in one nest, the young were first observed facing the entrance. In other nests this occurred at nine days. At nine days two disturbed nestlings spread their tails fanwise in adult manner. At ten days the young made their first attempts to escape from the nest. Five observers reported the departure of the young from one nest. The adult Prothonotary Warblers *chipped* and sang in the tree above the nest but they did not bring much food. The first young bird left the nest at 5:50 P.M., flying onto the screen of the porch beside which the nest was located. As each of the other two left the nest an adult waiting on top of the box flew just in front of the young bird, thus guiding it to shrubbery near the nest. Ten minutes after the first bird had left the nest all three had gone.

PARENTAL CARE

The adults shared feeding duties, and both removed fecal sacs. During the first three days the female steadily brooded the young. One female, observed from 4:55 to 8:10 A. M., when the young were one day old, spent a total of 70 minutes off and 155 minutes on the nest. Trips from the nest lasted an average of 8.6 minutes, while periods on the nest averaged 19.4 minutes.

One female followed a definite route to the nest; another flew directly to the entrance. Both females uttered a weak *tchip* in approaching or leaving the nest. The males approached after singing nearby. At one nest when the young were eight days old, activities were noted the eight and one-half hours from 8:30 A.M. to 5:30 P.M. The young were fed an average of sixteen times an hour. If both adults arrived at once with food, they paused, quivered their wings, and uttered a weak note. Then the female fed first. Once the male gave his food at the nest to the female, and she gave it to the young. The adults were seen carrying spiders and insects, small green caterpillars frequently being used. Mr. H. P. Ijams saw a male offer a ten-day old nestling a mayfly. An incubator-hatched bird accepted egg-yolk, ants, ant larvae, crickets, earthworms, and spiders.

The adults displayed when excited by intruders. One female, scared from the nest, spread her tail and rotated her body, crying a shrill note. As the young left one nest the female looked on quietly while the male although he had previously ignored the observer, came near and displayed. One male returned daily to the nest for two weeks after it had been vacated by the young.

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LITERATURE CITED

- Barnes, R. M., (1889). "Nesting of the Prothonotary Warbler." *Ornithologist and Oologist*, 14:37.
- Baldwin, S. P., Oberholser, H. C. and Worley, L. C. (1931). "Measurements of Birds." Cleveland, Ohio; Scientific Publication, Cleveland Museum of Natural History, 2, 1-165.
- Chapman, F. M., (1907). "The Warblers of North America." New York: D. Appleton and Company.
- Ijams, H. P., (1937). "Prothonotary Warblers." *The Migrant*, 3:41.
- Pearson, T. G., (1936). "Birds of America." New York: Garden City Publishing Company, Inc.
- Roberts, T. S., (1899). "The Prothonotary or Golden Swamp Warbler (*Protonotaria citrea*) A Common Summer Resident in Minnesota." *The Auk*, 16, 235-246.
- Walkinshaw, L. H., (1938). "Nesting Studies of the Prothonotary Warbler." *Bird-Banding*, 9, 32-46.
- _____ (1941). "A Comparison of Nesting Conditions in Tennessee and Michigan." *The Wilson Bulletin*, 53, 3-21.

NOTE: An extensive Bibliography on The Prothonotary Warbler is contained in a Thesis entitled, "A Study of the Nesting and Development of the Prothonotary Warbler, *PROTONOTARIA CITREA* (BODDAERT)" by Willie Ruth Reed. This thesis is filed in The Library of The University of Tennessee, Knoxville, Tennessee.

Univ. of Tenn., Knoxville. (H. M.) and Rt. 1, Greenville, Tenn. (R. R. N.)

THE SEASON

MEMPHIS AREA—Local observations have been considerably curtailed this spring due to gasoline rationing and the fact that so many of our members were away in the Armed Forces. The writers were in the Memphis area during late April and early May (before enlistment) and missed the earlier migration. An exceedingly large influx of migrants was noted on April 22; Burdick listed 29 species of Warblers on that day alone.—The Annual Spring Field Hike was held May 2, at Raleigh on Wolf River, instead of at Lakeview. On this account, most of the water birds usually found were not recorded. Of the 110 species listed, 5 Cape May Warblers were probably the best find of the day. Two of these were collected by Burdick and Mrs. Coffey noted 3 others nearby.—Philadelphia Vireos were found to be fairly common this spring, the first of these transients being taken near Raleigh on May 2. A late Blue-headed Vireo was seen at Germantown on May 5. Northern Water-Thrushes were noted frequently this spring by the writers and several specimens were taken. An early Black-billed Cuckoo was recorded at Germantown on April 27. Two Upland

Plovers were also seen on this date. Notable among the birds unusually common at Memphis this spring were those of the genus *Hylocichla*; the Willow and Grey-cheeked Thrushes being particularly numerous in low-land areas. Hermit Thrushes were found as late as April 30, by Tucker. He also noted a Mourning Warbler on May 5 at "Five Points" and Burdick saw three east of Memphis, one of which he collected, on May 12. Wilson's Warblers were first seen on May 4. Nashville Warblers were unusually common during late April, the daily total running as high as 75.—Olive-sided Flycatchers were recorded by Burdick on May 9 and 12, these being the first spring records for the Memphis area. They were perched on high dead tree-tops and the first was calling. They were collected along with Least Flycatchers on May 5 and 12, and a Yellow-bellied Flycatcher on May 11.—A Slate-colored Junco seen on April 29, constitutes a very late record for this region. Large migrating flocks of Eastern Kingbirds and Nighthawks were noted almost daily this spring.—A trip to Mud Lake on May 1, yielded no unusual species. A few Soras and Lesser Yellowlegs were seen. A pair of Painted Buntings were noted at Lakeview boat dock. Burdick found several pairs of these at Germantown, apparently nesting. Along the grass-grown levee, Grasshopper Sparrows were common and Burdick found several pairs of these at Germantown, apparently nesting. Mrs. Coffey, Misses Smith and James, Messrs. Kent, Keeton, and Powell, spent May 16 listing birds along the south shores of Horn and Mud Lakes. Birds of special interest, from a large list, were a Bald Eagle, a Least Bittern, 3 Amer. Egrets, 5 Great Blue Herons, 3 Yellowlegs and numerous "Peeps." The levee was reported as swarming with Dickcissels and Grasshopper Sparrows, while Ruby-throated Hummingbirds were numerous.

AUSTIN W. BURDICK AND ROBERT TUCKER, Memphis, Tenn.

CLARKSVILLE AREA—In last issue's "Season" we spoke of the possibility that a pair of Red-tailed Hawks and a pair of Great Horned Owls had exchanged the nests they occupied the previous year. This exchange actually took place and was confirmed when on March 21, Clarence Collier, Jr., climbed to the nest in the white oak tree in which the Great Horned Owls had raised a brood of two young last year. He was half-way up the tree before the Red-tailed Hawk came off the nest. Three eggs, incubated 10 days or two weeks, were in it. The nest of another pair of Red-tailed Hawks was located high up in a very large beech tree. To judge from the actions of the adult birds it evidently had young in it on March 25.—Barred Owls had a young owllet, 4 or 5 days old in a nest in a hollow tree on April 1.—About the middle of April, we heard of another Osprey killed at the fishing lake of a resort in this neighborhood, the fourth victim belonging to this species shot there in recent years and the sixth for the county.—During our study of Grasshopper Sparrows on May 31 a large bird flying in the distance attracted our attention as well as that of the Crows of the vicinity. When they looked like blackbirds in comparison to the size of the big fellow, we trained our glasses and realized we were watching an immature Bald Eagle. We lost sight of him when he descended to a perch in some woods far off, but the Crows kept on gathering there and their excitement lasted for quite a while. The long neck and majestic flight further distinguished it from the Red-tailed Hawk. Eagles are not known to mate until several years old so this one was doubtless wandering. —

Another rare find was that of a Least Bittern which flew up ahead of us on June 10 as we canoed up West Fork Creek.—On May 29, Edward Clebsch found a Black-crowned Night Heron at a pond on the Jim Bailey farm, 6 miles east of town. Along the way to this place, on June 9, he identified a female Bob-o-link among Dickcissels and Grasshopper Sparrows in an alfalfa field. This record is supported by a similar occurrence, on June 2, 1940, when a female Bob-o-link was collected here by me. — T h e Swainson's Warbler seems to be making good in extending its distribution. A male was heard repeatedly during the end of May within a stone's throw from my present home on Porter's Bluff Lane above Red River. Two pairs were found on West Fork Creek, but the search for other nesting sites could not be developed.—The Prairie Horned Lark is another species that seems fairly well distributed now, although we have had very few data in the past on its summer residence here. For this year we have four records for well separated localities, in up-land near Red River, McAdoo, Spring & West Fork Creeks, dates April 3, May 30, May 31, June 10, respectively.—The Dickcissel also seems commoner than we previously knew this species to be. It is now inhabiting not only alfalfa and red clover fields, but also lespedeza. The development of these clover crops in our county may actually be a factor in the re-entry of this bird into a territory where he had become rare.—We are still confident that we shall yet be able to make record of the nesting of the Broad-winged Hawk here, as this year is the second time that we have seen these Hawks on dates near the summer solstice.—Acadian Flycatchers were late with their nesting this year. On June 10, when they usually have young out of the nest, 4 out of 6 nests that we examined along Red River and West Fork Creek, were still empty, one had 3 fresh eggs and another 3 young just hatched. Another nest with 3 fresh eggs was found on June 24.—An unusual Cardinal nest was one built inside a rustic building behind some lattice work.—On the wooded bluff rising from Red River just below my home, I found a Worm-eating Warbler feeding on June 27; there was probably a nest somewhere near.—On May 13, as I was returning home on Porter's Bluff Lane at 3:30 A. M., C.W.T., before the moon had set, and as I was listening to the comical slow recitative of two Chats, a rare wild song burst forth from under the bluff. It was too new to me to attempt a rendition; it was long and had considerable rise and fall in it. The singer made himself known when he wound up with the typical, but rapidly given calls of the Kentucky Warbler. Little would I have thought such a rich piece of music could come from an otherwise rather monotonous caller. The White-eyed Vireo, in a beautiful whisper-song given in the fall, and the Grasshopper Sparrow's song described elsewhere in this issue, are other examples of the unexpected talent of some of our birds. —ALFRED CLEBSCH, Clarksville, Tenn.

NASHVILLE AREA—The season since April has been one of not too much activity on the part of the birds or on the part of most of the observers in the field. The weather has been normal with perhaps an excess of rain. Warblers seemd to be present in fair numbers this spring.—The following notes were made on trips taken with Mr. Ganier: On April 11, the West Meade area was visited and only 4 adult Red-headed Woodpeckers were seen. This was the place where a large number of these birds were observed during the winter. Among the warblers noted on that trip

were 7 Blue-wing, 5 Prairie, 5 Myrtle, 4 Black-and-white, and 1 Palm. A Kingbird seen on that date constituted the earliest Nashville record. Blue-gray Gnatcatchers were recorded rather commonly also, eight being seen. On May 15, in Cumberland River bottoms, our best finds were one each of Prairie Marsh Wren, Northern Water Thrush, Bay-breasted Warbler and Black-billed Cuckoo. On May 23, we searched Turnbull River, near Craggie Hope. An interesting find was a nest of the Sharp-shinned Hawk, built 50 feet up in a pine and containing 5 eggs. On June 20, we searched the Stewart's Ferry Pike area, near Gladeville, and among the interesting birds recorded were 19 Grasshopper Sparrows, 3 Lark Sparrows, and 1 Bachman Sparrow. All of the summer resident sparrows occurring in middle Tennessee were recorded on this trip. Our list covered 53 species for the day, including also a Barred Owl being chased by Crows along Stone's River. —Mrs. Laskey reports that the Phoebe population is back up to normal again after the disastrous winter of 1940. On May 19, she found an injured Coot which had attempted to alight on a concrete highway.—Dr. Spofford had some interesting notes from around his home. A pair of Sparrow Hawks took possession of a nesting box placed for them in the latter part of March. On May 1, there were six eggs in the process of incubation; on May 16, there were 6 downy young. On May 23, all were banded and of these, 4 were females. On May 30, 2 left the nest and the parents were feeding the other young in the nest about 4 times per hour. Since then these hawks have been seen chasing a Cooper's Hawk that frequents the neighborhood, apparently not trusting him about their young. A number of interesting nests have been discovered by Dr. Spofford within 100 yards of his home. Among them are the Sparrow Hawk, Flicker, Bewick Wren, Carolina Wren, Mockingbird, Orchard Oriole, Summer Tanager, Cardinal, Chipping Sparrow, Bluebird and Starling. Perhaps most interesting was a nest of the Yellow-throated Vireo, usually a bird of the deep woods, but which raised a brood successfully. He estimates that there are probably 30 species occurring within 200 yards of the house.—Mr. Ganier reported a flock of 20 Cowbirds on a lawn on May 13 and 12 in a flock (at Clarksville) on May 30. These were evidently northern birds still in migration since local Cowbirds had paired in early May and had begun laying.—Mr. B. H. Abernathy found Connecticut Warblers again in May, as described on another page.—A curtailed spring field day of the Nashville T. O. S. Chapter was held on May 16, through the Overton Hills to Radnor Lake, and 95 species of birds were listed. The most interesting nest was that of a Blue-gray Gnatcatcher which returned to incubate her eggs in an elm sapling while members viewed her from a yard's distance.—CONRAD JAMISON, Nashville, Tenn.

THE ROUND TABLE

RANDOM NOTES FROM MEMPHIS:— The Purple Martins arrived at my nest boxes, March 21, 1943, but did not begin nesting until the last of April. On May 10, I examined the boxes and counted 13 Martin nests and I believe there were 25 of the birds sleeping in the boxes nightly. An English Sparrow nested in the 30 room box, just 3 doors from a Martin's apart-

about 4 pairs of Martins from my neighbor's box and I believe his "tenants" moved in with mine, for there was considerable fighting about my boxes for several days afterwards. Martins consume many dragon flies and almost every flight reveals these insects being brought in. It is interesting to see a Martin drop a dragon fly, then swoop swiftly downward in order to catch a better hold. On June 21, an examination of the Martin nests showed 39 young, an average of 3 to the nests.—A Robin's nest was found 15 feet up in the fork of a weeping willow at my house on March 27. From the roof nearby, 3 eggs were seen in it. On April 22, a cold rain set in and the mother bird sheltered the young for half the day with wings opened umbrella-fashion. When the male brought food, she would move back to permit their being fed. Probably they took turns at sheltering. The young left the nest on April 26 and another brood, from a nest in a pear tree, left on May 24.—A Cardinal's nest was found in an evergreen next to the house on April 11. Three young were later seen in it and they left the nest on May 2. The old male was a banded bird and to my knowledge, has nested adjacent to the house since 1939. To my regret he was found dead in the yard on May 6, but careful examination revealed no external injury.—A Flicker roosted in a box that I had erected for it during the latter part of March, but by April 4, it was found to be then occupied by a grey squirrel. I put an inverted metal protector about the pole to keep the squirrel down. Later, I saw the squirrel make a desperate leap to the pole from a tree and quickly enter the box. Suspecting young, I got a ladder and found that this was the case. Although I at once removed the metal guard, the squirrel removed her babies away during the night.—Seeing Crested Flycatchers prospecting about in early May, I erected a box for them in a walnut tree. A Starling took a fancy to the box and began carrying leaves into it but my air rifle stopped this unwelcomed guest with the first shot. On May 14, the Flycatchers were observed inspecting the box and two days later were seen carrying grass, hair, paper and other materials into it. By June 26, the young had left the nest, for a parent and a bob-tailed young one were in a nearby tree. Examination of the nest box showed it crammed nearly full of nest materials and around the top side, where they would show plainly, were three pieces of snake sloughs (shed skin) without which no Flycatcher's nest would be complete.—SCOTT HUTCHESON, 2109 Harbert Avenue, Memphis, Tenn.

BIRD NOTES ON A TRIP TO REELFOOT LAKE:—Although Red-shouldered Hawks and Barred Owls are the common raptores of Reelfoot Lake, last year the Red-tailed Hawk and Great Horned Owl were also reported. On our visit of April 23, 1943 the ground beneath the owl's nest was searched for pellets and examination of them showed that Cormorant and Egret were included in the owl's diet. (Ganier has suggested (1932) that Duck Hawks might also feed on young Egrets, which nested only a few miles from their eyrie, but careful examination of the pellets in eyries during two years showed no trace of Egret remains).—The activity of a pair of Red-tailed Hawks, observed during April 23-25, indicated that they were nesting close by and less than a mile from the Duck Hawks and Great Horned Owls.—Several other raptores were seen, including Cooper's and Sharp-shinned Hawks, the last mentioned I believe being new to Reelfoot lists. An Osprey was observed carrying a fish and both immature and adult

Bald Eagles were seen overhead.—Black Vultures that were found nesting last year in a hollow log near the owl's nest, were again found to have eggs on April 23, much earlier than the May 15th date of 1942.—At "Cranetown," the season seemed to be much later than last year and only the Double-crested Cormorants were in full nesting activity. A few Ward's Herons and Egrets had eggs but most birds were in early stages of nest building. Several Anhingas were seen but no Night Herons. Many Turkey Vultures were flying overhead; last year the writer saw only Black Vultures.—Blue-winged Teal were especially numerous in almost all flooded fields or ditches. A Pied-billed Grebe, Greater and Lesser Yellowlegs and Solitary Sandpipers were seen in similar situations.—In early May of this year, Mr. Harry Adams reported a Hooded Merganser with 7 young in a ditch near the Spillway. —WALTER R. SPOFFORD, Nashville, Tenn.

NESTING OF PURPLE MARTINS:—I have been experimenting for some years with bird houses—Martin houses in particular—So sometime ago, I decided to make a house with removable nest compartments and have found this plan very interesting and practicable. The house is built as a shell with only three walls, roof, and guide strips for nest drawers to slide in and out on. Walkways are provided on the outside for the birds to walk around on. The drawers usually contain three nest compartments, with entrance openings in the ends and sides to coincide with openings in the outside walls. One end of these drawers, when in position, forms the fourth wall. With this arrangement, any drawer containing interesting nest and contents, can be lowered to the ground for inspection by visitors and then returned without damage being done to the nest or contents. Last year after the first Martin arrived, on February 25th, I made weekly inspections but found no eggs until May 10th. I had begun to feel that they were holding off on account of my disturbing them but after they got started they went ahead with the task of rearing a brood. I can safely say however, that they were never happy during my inspections of their quarters.

The nests are composed of coarse materials, such as tiny twigs, walnut leaf stems, bermuda grass runners, etc., plus a substantial mud wall on the side facing the opening. The mud is added to provide rigidity to this wall, to keep it from flattening down and thus permitting the eggs or young to roll out of the entrance door. During the incubation period, fresh green leaves are placed under the eggs each day, perhaps to offset the dryness in their sun-heated home. The nest compartments are 6 by 6 inches, but instead of building in the center, they get back in one corner as far as they can. I believe they would rather have these rooms 9 inches in length.

Only 10 rooms of the 22 were occupied by Martins, the remaining 12 being taken possession of by English Sparrows in spite of the fact that their nests were removed each week. No Martin's compartment housed more than one brood in a season. My record shows that from 4 to 6 eggs were laid in each nest and that nearly 100 per cent of them hatched. They are tidy housekeepers and any droppings from the young are immediately removed by the adult birds. At the end of the season, however, I found the nests covered with mites. Last year, while standing on a ladder and reaching up to remove a drawer, I found a snake curled up in one of the nests.

It had succeeded in climbing the pole upon which the box was erected. Yes; I now use a glove.—LOUIS G. GUTH, R. 1, Box 545, Memphis, Tenn.

PROTHONOTARY WARBLER VS. COWBIRD:—In a Prothonotary Warbler's nest in a tree hole, on West Fork Creek, a set of 6 eggs was found on May 16 and in addition it held an egg of the Cowbird. We are at a loss to know how the female Cowbird managed to lay an egg in the cavity apparently much too small for her. The close quarters probably accounted for the fact that the transgressor had not removed any eggs of the host. The following additional note on Prothonotary Warblers may also be of interest. In our yard on top of Porter's Bluff on Red River, a 4-compartment Dodson Bluebird house is set up. Most of the summer it is taken by a pair of Bluebirds, but when this year, their second brood did not come off, I decided to clean and re-set it, as it was badly leaning. After removing two Bluebird nests,—one with 5 spoiled eggs,—and an unfinished Chickadee nest, I took from the fourth compartment what I recognized too late as the fresh nest of a Prothonotary Warbler. But already the following day the Prothonotary's stirring song was heard again and both male and female examined the different rooms. With much energy the male set to building again. While he labored with many a bill-full of moss and other material, the female, instead of helping in the good work, seemed bent only to argue about the whole affair. Occasionally she was seen slipping into first one, then the other of the remaining compartments. Now they have built nests in three compartments and the female is sitting on the one opposite the room where her mate spent so much labor on a well appointed nest.—ALFRED CLEBSCH, Clarksville, Tenn.

COWBIRD EGGS IN A WATER-THRUSH NEST:—On May 11, this year, the writer found a typical nest of the Louisiana Water-thrush in the Bull-Run section, west of Nashville. It was located in a shady ravine and 4 feet above a tiny wet-weather brook, tucked under drifted leaves from the slope above. On close inspection, the nest was seen to contain 3 Water-thrush eggs and 2 of the Cowbird, all fresh. It was suggested by my companion that maybe the Cowbird had removed an egg of her host, since the Water-thrush usually lays 4 or 5. Sure enough, on searching among the leaves that had been packed in around the nest, another egg of the Water-thrush was found, undamaged, and about 5 inches from the entrance. This egg was most likely removed by the Cowbird in order to make room for its own. In a recent issue of *The Wilson Bulletin* (53:211-221), H. W. Hann describes eggs of the Ovenbird being thus removed by Cowbirds. Of between 20 and 30 nests of the Louisiana Water-thrush recorded by local observers, none that I know of have contained eggs of the Cowbird.—CONRAD JAMISON, Nashville, Tenn.

A FLICKER FEEDING HER FLEDGLING:—On the hot afternoon of August 9, 1941, a female Flicker poked into the ground for several hours. As she worked the lawn for ants in the shade at the rear of our house, she was followed by a large fledgling, vociferously squawking for food the entire time. Sometimes he poked his long bill into the ground near her, but frequently hopped very close to her, giving little shrieks. She did not feed at each of these importunities but several feedings were given while I watched through 8x binoculars from an open window. While the youngster inserted his bill into hers from the side and near the base, she opened her

beak slightly and made some rapid forward movements of her head so the fledgling could feed on the regurgitated insects, presumably ants. At one time the mother bird worked for several minutes at what appeared to be a cicada in its pupa case which she freed from the hard outer shell by striking it repeatedly with her beak. She made several attempts to swallow it before it finally went down. Immediately afterward, she gave the youngster a feeding. The first bit of food he received contained the cicada, still in one piece, which he attempted to swallow but rejected when it did not go down readily. It landed several inches away. The mother allowed him to resume feeding at her beak when he had finished, she retrieved the cicada and swallowed it.—AMELIA R. LASKEY, Nashville, Tenn.

LATE NESTING OF THE YELLOWBILLED CUCKOO: On the morning of Aug. 29 my attention was called to a pair of Yellowbilled Cuckoos in a small clump of low cedar trees. On looking more closely I noticed a nest with one or more young in the nest. After feeding one of the young, the female flew away accompanied by the male. That afternoon the nest was deserted. On the morning of August the 30th, another nest was discovered within two hundred yards of the first nest and by a roadside about 10 feet up. Examination showed four eggs, apparently not so far incubated. It was evident that these young birds would still be in the nest as late as mid-September. However, the female must have deserted the nest soon afterward since daily visits thereafter failed to find her at the nest. Both nests were in Idlewild Wood, located on Stone's River, one and one-half miles above Stewart's Ferry bridge. For the past several years observations have revealed that the Cuckoos call on into late August and early September. The reason for this is seen in these two late nesting records. It may be too that the activity of the Screech Owl in the spring and summer make the raising of a brood somewhat difficult during these early months.—G. R. MAYFIELD, Nashville, Tenn.

A DOUBLE NEST OF CAROLINA WREN:—I have seen and heard of Wrens building their nests in queer places and doing unaccountable things and the following is a good illustration: A pair of Carolina Wrens built a nest in a garage on top of a 2x4 "plate" and behind a wire screen. This nest had the opening on the front side; then another nest was built on top of the other and the hole for this was in the top. When examined, 5 eggs were found to be in the lower "apartment" and 4 in the upper one. The nests were quite bulky. I am sorry to say that the nests were deserted before any of the eggs hatched, probably because of their having been disturbed.—JANE FARRAR, Nashville, Tenn.

JUNE NOTES ON BARN OWLS:—During the latter part of June, 1943, the writers revisited the Barn Owl nesting sites described in this journal for December, 1942, p. 57. At the Franklin, Tenn., site, on June 18, we found 2 young, both females, so well advanced in age that they flew from the nest cavity after we had banded them. Eight days later, June 26, the young owls were noted in the nest cavity and were being fed by the parents. The Woodmont site was visited on June 19 and again on June 29. Each time an adult female flew from the nest cavity, but on climbing to examine, no eggs or young were found. The female birds can be distinguished from the males by their greater size. The Belle Meade site was visited

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Bruce P. Tyler, Johnson City; Alfred Clebsch, Clarksville.

*The simple truth about birds is interesting enough,
it is not necessary to go beyond it."*

PLEASE NOTIFY THE SECRETARY OF A CHANGE IN ADDRESS

on June 19, and found to contain three young, the oldest of which was between 4 and 5 weeks old. We decided to watch their feeding activities and did so the following night, at which time the moonlight was very bright. During the time we watched, from midnight until 4:15 a.m., the male and female, each fed the young twice. The average time spent in the cavity during feeding was 4 minutes; the maximum being 6 minutes and the minimum 3 minutes. Three of the four times, the owls flew directly into the cavity without perching. On June 25, a roosting cavity was found 6 miles south of Franklin, Tenn. Although no owls were seen at the time, there were fresh pellets and other evidences of Barn Owl occupancy. From this site a fledgling of this species was shot on January 3, last, by a farmer who lived near the tree. He was told of the beneficial qualities of these birds and requested to protect them in the future.—WILLIAM SIMPSON AND CONRAD JAMISON, Nashville, Tenn.

APOLOGIES: Four pages of items, chat, news-notes, etc., made ready for this issue, have had to be deferred until our September number because of necessary curtailment in the number of pages we may publish. Sorry. —Ed.

Our former printers having "gone to war," this issue is being produced by the Winters Printing Company, whose card appears on a cover page.

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