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WINTER HOME OF CHIMNEY SWIFTS DISCOVERED IN NORTHEASTERN PERU

By BEN B. COFFEY, JR.

Although the banding of Chimney Swifts (*Chaetura pelagica*) has the same general objectives as the banding of other species, probably every Swift bander has hoped, more or less secretly, perhaps, that one of his banded Chimney Swifts would turn up in some out-of-the-way place and thus give us a clue as to the winter home of the species. The writer has been no exception in this respect but after banding more than 35,000 at Memphis, Tennessee, over a period of twelve years, it did seem that a report of this nature was past due.

On the first of August, 1944, I received from the Fish and Wildlife Service at Washington a few of their brief, form notices of recoveries of banded birds. Glancing thru them for items of special interest I suddenly realized that staring me in the face was the notice of the long hoped for event. Going thru them again more calmly I learned that not one but *five* of our banded Swifts had been captured the previous winter in far away Peru, approximately 3,000 miles from the place of banding. The notice, which had been transmitted thru the Department of State from the American Embassy at Lima, stated that bands from thirteen Swifts altogether had been turned in and that they were reported killed during December, 1943, on the River Yanayaco in Peru. Thru correspondence with other banders and with the Fish and Wildlife Service, our Editor developed the following tabulation as the complete list:

Band No.	*Locality of Banding*	*Date Banded*	*Bander*
38-21419	Tenn., Memphis	10- 4-37	B. B. Coffey, Jr.
39-95532	Tenn., Memphis	9-21-38	B. B. Coffey, Jr.
39-96804	Tenn., Memphis	9-21-38	B. B. Coffey, Jr.
40-57724	Tenn., Memphis	10- 8-39	B. B. Coffey, Jr.
40-82881	Tenn., Memphis	10-13-40	B. B. Coffey, Jr.
39-71442	Tenn., Nashville	8-31-38	J. B. Calhoun
39-83055	Tenn., Nashville	9- 5-38	J. B. Calhoun
140-44267	Tenn., Nashville	10-13-40	A. R. Laskey
37-108787	Ala., Opelika	10- 3-36	H. S. Peters
38-169645	Ga., Macon	9-17-39	R. J. Fleetwood
239-12620	Ill., Lake Forest	8- 8-39	P. E. Downing
139-36718	Conn., New Haven	5-24-40	H. L. Hutchins
38-87399	Ontario, Kingston	5-19-40	R. W. Smith

None of the Memphis birds had been captured at any intervening date.

The one banded in 1937 was in at least its seventh year, and had made the long round trip to South America at least seven times. (The one banded by Mr. Peters exceeded these figures by one.) The two banded at Memphis in 1938 were fully adult birds and when killed were at least six years old. The others may have been immature birds of the season, for during October it is difficult to differentiate.

A study of the locations of original banding and years involved develops further conclusions. If all of the birds discovered in Peru had been banded in or near Memphis, it might seem that the Yanayaco River location was the winter home of the particular lot that were in the habit of passing thru Memphis. On the contrary, the makeup of the Peruvian flock was highly mixed and had come from or thru all the scattered points shown in the above table. We may therefore conclude that this wintering location is a popular rendezvous for Swifts originating anywhere within their breeding range. Dr. F. M. Chapman and others had predicted that this general region would be found to be their winter home, not only because other regions had been searched by ornithologists but because "the presence as permanent residents of five species of *Chaetura* shows that the region (Amazonia) offers a favorable habitat for birds of this genus." With tropical vegetation, summer warmth because of proximity to the Equator, and under such conditions an abundant insect life to provide food, one can see that the Swifts have here found what to them must be a real vacation land wherein to while away the months that lie between the annual tasks of rearing a brood.

One might well wonder why they feel the desire to fly thousands of miles northward each spring to breed. Perhaps it is because the rainy season there (May to September) would prove inimical to young Swifts striving to reach maturity, perhaps they may weary of the eternal summer of a tropical latitude, perhaps again the pungent atmosphere of soot-aged chimneys in which they first drew the breath of life lures them back. But more likely it is because the great and irresistible migratory urge comes upon them as is does upon so many species of birds, and mobile as they are, impels them to carry out the great journey back to all parts of eastern North America to procreate their kind.

MEMPHIS, TENN., AND FORT SILL, OKLA., September, 1944.

BANDING TERMS:—Most Swift banders classify as FOREIGN BIRDS those which they find among the individuals they have trapped which were banded at some distant banding station. When the original bander is notified of this, he sets it down in *his* records as a RECOVERY. Birds which a bander has previously banded and which return to him at some later season are listed as RETURNS. Such birds captured during the *same* season are listed as REPEATS. Birds picked up dead or otherwise reported by non-banders (because such finders do not keep records) are always some bander's RECOVERY.

MORE ABOUT THE CHIMNEY SWIFTS FOUND IN PERU

By ALBERT F. GANIER

Lieut. Ben B. Coffey, at the time of preparing the preceding article, was also making ready to be transferred from Fort Still to another place of service and thus occupied, requested the writer to secure such additional information as might later become available. Accordingly, he directed correspondence to various governmental departments and individuals with the following results.

A letter addressed to Secty. Cordell Hull of the U. S. Dept. of State and referred by him to his Division of Foreign Service brought the following response, dated August 14: "In reply to your letter of August 9, 1944, referring to the banded chimney swifts reported by the American Embassy at Lima, Peru, you are advised that the birds are reported to have been killed by Indians on the river Yanayaco, which is located in the region between the Putomayo and Napo rivers.

"The bands were transmitted to the American Embassy at Lima by a student in the Library School of the National Library, who was given them by a friend, who in turn was presented them by the Indians. In view of the many persons involved, the Department feels that an attempt to secure more definite information on the subject would be futile." There was also appended a list of the bands returned.

It seemed, however, that a matter of such ornithological importance should not be dropped without further effort to ascertain just where and how the birds were taken, how many, and what other information might be procurable. He therefore at once directed an airmail letter to the American Embassy at Lima, requesting our Consul there to call in the student mentioned and to secure from him the information desired or to request that he secure it. A reply, dated August 31, was duly received and in which the only information proffered was that "A copy of your letter has been forwarded to the American Vice Consul at Iquitos, Peru, with the request that he make the inquiries indicated in your letter, as persons from the Putomayo and Napo Rivers call at that port fairly frequently." Since this procedure promised to lead nowhere, the writer again addressed a letter to the Embassy at Lima, to renew his request that the student be found and the information at first requested be elicited. It was pointed out that unless this clue was followed, probably all further information on this lot of 13 Swifts would be lost forever. At date of going to press, no reply has been received but we will give the results of this correspondence in our next issue.

The Yanayaco River not being shown on any detailed maps of Peru that were available, the writer addressed a letter to Dr. Gilbert Grosvenor of the National Geographic Society asking that he give us the exact location of the stream. In Dr. Grosvenor's absence, Chief Cartographer J. M. Darley courteously replied and marked the location upon a map that had been enclosed. A reproduction of this map is shown in the center of this issue, it having been traced from the Geographic Society's fine sheet map of South America. Mr. Darley referred to it as the *Yanayacu* River.

Dr. F. C. Lincoln of the Fish and Wildlife Service had been written to on August 8 to request that he inform us of the origin of the five Swifts

not banded in Tennessee, but he being very busy at the time with other matters was unable to give the information requested until three weeks later. He also advised us that he had prepared a formal announcement to be published in *The Auk*, in order to give it the widest possible circulation. In deference to our worthy contemporary, and to Dr. Lincoln for his efficient prosecution of bird-banding activities, this issue of THE MIGRANT is being held until the October *Auk* comes off the press.

Meanwhile, a round of correspondence had been going on between banders of Chimney Swifts, with the result that most of them came into possession of the entire list in a surprisingly short time. No bird news in a generation seems to have stirred so much interest among them and all were wanting to have further details that might be procurable. In an effort to develop more information, books descriptive of the region were studied as well as articles in various periodicals, and these enable the following to be presented:

The Yanayacu River is one of several tributaries to the Napo River which, being joined further down by the Maranon, the Javari and the Putumayo, form the River Solimoes or upper Amazon. There are no railroads or highways in all this great region, the only traffic being by steamboats along the rivers. The only town of any size is Iquitos, with a population of 34,230; it is located on the Amazon and has an elevation of only 380 feet above sea level. Ocean going ships are said to wend the 2,400 mile journey, up the great sluggish Amazon River, to this port where they take on cargoes of rubber, quinine, tobacco, and other products. Iquitos lies approximately 60 miles southward from the Yanayacu where the Swifts were found. All this region is relatively flat, heavily forested, and has a voluminous rainfall. Of large trees there are an abundance, and these in time die, some become hollow and therefore available for Swifts to roost in. Except for small plantations along the rivers, the country is still in a primitive state and but thinly inhabited by tribes of savage Indians, who still depend upon bows and poisoned arrows. Among the tribes are the Javari "head hunters," whose most prized trophy is the head of any enemy with the skull removed and the flesh pickled and shrunk to the size of one's fist. This is the hinterland of Peru, "The Montana," isolated from the Pacific Coast by the rugged, arid Andes and almost hopelessly distant from the Atlantic Ocean.

Some distances may be of interest. The Yanayacu valley lies approximately 200 miles south of the Equator and 500 miles east of the Pacific Coast. It lies 900 miles S.S-W. of the Panama Canal, 2,900 miles S.S-W. of Nashville, Tennessee, measured on a straight line and 3,200 if measured on a curved line via Yucatan and Central America. Assuming that Swifts nesting in New Brunswick winter in this area, these individuals make the longest flight, for they have 4,600 miles to go or more than 9,000 miles for the round trip. Not many of our North American birds go south of the Equator to winter; most of them stop considerably short of it.

While it is not known as yet just how these birds were killed by the Indians, and in fact this may never be known, a reasonable conjecture would be as follows: The wilderness, of course, containing no chimneys, such as they use while with us, the Swifts would have to resort to primitive roosting conditions immediately upon arrival. These might be hollow trees, or upon the outside bark of large trees, or in caves, or upon the face of vertical cliffs. Because of the relatively low altitude of the region reported, it is

unlikely that cliffs would be available. Caves would probably be overgrown with tropical growth and therefore unfitted if available. Upon the bark of trees, they would be subjected to attack by nocturnal predators and exposed to the frequent rains reported there, although our winter is not their rainy season. This leaves the hollow tree roost as the one most practicable, and available of course because of the limitless forests.

Further substantiation of the theory that the recovered birds were roosting in a hollow tree when taken may be deduced from the relatively large number of bands brought in. These banded birds were what banders usually classify as "recoveries," that is, Swifts banded at some other station and retrapped by another bander at a distant point. A tabulation of such recoveries from four of our banding stations show that for every one of these banded birds found, an average of 400 are found without bands (Coffey 1: 452, Calhoun (2) 1: 431, Lowery 1: 338). This average should hold for Peru as well, and under that assumption 13 x 400 or approximately 5,200 Swifts must have been killed in order to secure 13 bands. This number is often found roosting in one chimney. Assuming again that they were all killed at one time, by what means and in what sort of roost could the Indians have killed so many? No charge of a double-barreled shotgun could have been so deadly. However, had the birds been observed going to roost in a hollow tree, it would have been relatively easy for the Indians to have built a smudge fire in the base, thus suffocating them and causing them to come down enmasse.

There is, of course, the possibility of more than one roosting tree having been found and its occupants destroyed, once it had been found that some Swifts wore bands. There is also the possibility that these bands may have been accumulated over a period of several years, perhaps delivered to and held in awe by some chieftain or "medicine man" and finally brought in to the settlements. It will be noted that none of the bands were placed later than October, 1940. The possibility of developing the full story is alluring and worthy of further effort. The details may develop soon or perhaps never, as to this lot of 13 Swifts, so meanwhile we may have to be content with the above conjectures unless someone can come forward with better ones.

NASHVILLE, TENN., 2112 Woodlawn Drive. Sept. 1944.

SWIFT BANDING IN CANADA:—One of our corresponding members, Mr. Irwin Sturgis, of Lexington, Missouri, who has been spending his summers at Blind River, Ontario, on the north shore of Lake Huron, manages to band a number of Swifts there in the early fall before he returns to Missouri. Since this is the most northerly banding point (see map), we requested Mr. Sturgis to give us his totals by years and he has kindly furnished these as follows: 1938- 1,483; 1939- 735; 1940- 935; 1941- 726; 1942- none (roost deserted before banding was attempted); 1943- 693; 1944- 1,193; 7 year total 5,765. From these figures, we can gauge their relative abundance at this northerly margin of their range. At his home in Missouri, he has banded about 8,500 since 1934 and is in a strategic position there to gather some particularly interesting data. In addition to operating the furthest north Swift banding station, we believe that the one at Lexington is the most westerly.

WINTER RECOVERY OF A NASHVILLE CHIMNEY SWIFT

By AMELIA R. LASKEY

"Chimney Swift No. 140-44267, banded Oct. 13, 1940 at Nashville, Tenn. Killed December 1948, River Yanayaco, Peru . . . 12 other banded Swifts were killed on the same date in the same locality."

Aside from regret that the birds were killed, the above notice from Washington, D. C. (received recently) is the fulfillment of a Chimney Swift bander's dream, a first actual record of this species in their winter home in South America. For many years, bird banders have worked diligently in various sections of North America, trapping and banding many thousands of these fast-flying birds, each hoping one of his bands would lead to solving the mystery of their migration journey. It took 7 years, the handling of 35 flocks, comprising 28,412 birds for us to achieve this single record.

There is much that is not glamour in Chimney Swift work. It meant many miles of travel over the entire city and suburbs, evening after evening, hunting roosting flocks, much time seeking permission to work at the various places, then preparation for the actual work which often kept me busy until midnight, only to arise at 3 a.m. to get the volunteer workers to the roost by daylight. The work is dangerous as many chimneys were high. My 40 ft. extension ladders on the roof set the height limit. We banded on roofs of buildings, in alleys, on fire escapes, and other unconventional places, often spending the entire day working with one flock. Although "chimney sweep" is the vernacular name for the species, that name, judging by our sooty appearance, was far more appropriate for us.

Starting in 1937, Arthur McMurray, William Simpson, Francis Lawrence, Leo Rippy, and Conrad Jamison, at that time high school students, worked faithfully with me through the years. A salute to these young men! It was their intrepid courage and physical stamina that made the banding possible. At various times during this period, others were of great assistance: Steve Lawrence, J. B. Calhoun, Carl McMurray, H. C. Monk, Harold Seligman, Irving Wolfe, John Pritchett and some who participated in a single banding.

All through the winters, it was necessary for me to spend unbelievable numbers of hours working on the records, identifying the 2,878 returns of Nashville birds, the 245 recoveries of Swifts banded outside Nashville, making duplicate cards for Washington and my own file, and sending off reports of the 24,006 birds that we banded.

In 1938, John B. Calhoun conducted several bandings in Nashville, the same group working with him. The 13,033 Swifts banded under his permit bring the grand total banded in Nashville to 37,039. The 13 returns of 1937 birds, his 30 recaptures of "foreign" birds, and his 1,065 repeats bring the grand total of Chimney Swifts handled in Nashville to 43,553 in the years of 1937 through 1942 when banding of this species was necessarily discontinued on account of war restrictions.

The accompanying map (plate 4) will give an idea of the numerous places in the United States and Canada where Nashville-banded Swifts were found in later years. It will also be seen where birds retaken in Nashville had been banded.

The Peru Chimney Swift, No. 140-44267, was one of a flock of more than 5,000 that had gone to roost in a 19 ft. chimney in downtown Nashville; the three story building, formerly the Duncan Hotel, is occupied by the Colored Y. M. C. A. That October day five of us worked on the roof from dawn until after dark, with several others coming for parts of the day.

In that flock was an unusual find, a Swift with a small, very soiled and frayed roll of paper suspended from a leg. Although scarcely legible, I deciphered it to be a request to write Chas. Post, Route 1, Tomah, Wis. In an attempt to learn when the note had been attached, I immediately wrote, but twice mail was returned unclaimed. A letter to the Postmaster of Tomah brought this response: "We have made every effort to locate the party in question but without any results. About 10 years ago there lived in this locality a Post family but they have removed and left no address at this office." In 1939, we trapped two Chimney Swifts that had been banded 9 and 11 years previously and we are wondering if this 1940 individual could have carried the tiny scroll during ten years of migrating back and forth from its South American wintering place.

There was still another Swift in that flock that made a bit of history, for, so far as I have been able to learn, published records of these fast, erratic-flying birds being taken by hawks are very rare. A pair of Sparrow Hawks *(Falco sparverius)* appeared about 8 A. M. perching on nearby roofs, watching as the Swifts were released one by one after banding. A pair had occupied the business district for sometime, individuals having been seen on various buildings in town and a female, in sooty plumage, was caught early that summer in a building four blocks south of the building where we were trapping. I banded her June 5.

For an hour or more, the Falcons watched, making occasional unsuccessful sorties after a Swift. Then we noticed one Swift, that had just been tossed into the air, zig-zagging and dodging with a hawk in close pursuit above the street intersection and into the next block. The flight appeared to have covered some five hundred feet with the Swift gaining no altitude, when it was grasped in the talons of the hawk who dropped to a roof momentarily with the quarry, but rose to fly several hundred feet to the fire escape of a building, several stories above ground, to consume it. Twice later in the day, one of the pair appeared but we did not witness another capture. It is doubtful if they could catch a Swift under ordinary circumstances.

T. E. Musselman witnessed the capture of a Chimney Swift by a Sharp-shinned Hawk *(Accipiter velox)* in Quincy, Ill. (Bent 1940, Bull. 176:284). At almost dusk, a flock of 1,500 were circling and dropping into a roosting chimney when the hawk flew from a neighboring tree to the chimney top and seized one of the Swifts as it was poised with upturned wings ready to drop into its night's sanctuary. The squeals of the Swift made it possible to follow the course of the hawk back to the tree. Here also the hawk took advantage of the slowed flight.

GRAYBAR LANE, NASHVILLE 4, TENN.

MAPS SHOWING CHIMNEY SWIFT MIGRATION

The maps reproduced on the following pages relate to the migration of the Chimney Swift. Plate 5, in the center of the book, shows the point of recovery of the 13 Swifts in Peru with relation to their original points of banding. The latter are listed by Mr. Coffey in his article on the first page. Assuming that these birds on their southward migration converge to the vicinity of Baton Rouge, La., before crossing the Gulf, radial lines have been drawn to that point. From there to Peru, the journey may be assumed to approximate the curved line passing thru Yucatan and Central America. The insert map shows in more detail the exact location in northeastern Peru where the Indians captured the Swifts.

Plate 4, on the preceding page, shows the results of Chimney Swift banding at Nashville, Tenn., as described in the article by Mrs. Laskey. Of the birds banded at Nashville and found dead, re-trapped, or otherwise recovered at distant points, there have been 138 to date. This does not include 79 re-trapped at the nearby Clarksville station, 40 miles northwest. Correspondingly, there have been trapped at Nashville stations, 149 birds that had previously been banded at distant stations and 160 from the Clarksville station. Such recapture of birds banded by others are referred to as *"Foreign Recoveries."* In studying the map, it is of interest to note that Florida is not represented and there are but few places represented in the South-east. Most westerly recoveries are from Texas (3), Kansas (1), Minnesota. Canada is surprisingly well represented, including three from Minnesota (2). Canada is surprisingly well represented, including three from Quebec, while far off New Brunswick and Nova Scotia are represented by 1 and 2 respectively. (See list of similar maps, p. 5 of March issue.)

The last map shown, plate 6, has been prepared to show evidence that the spring route northward appears to come up the east coast of Mexico and thence thru eastern Texas instead of trans-Gulf, as seems probable in fall. It is of particular interest to note that the 37 recoveries in Texas were all recorded during the spring and *none* were reported during the fall. These spring records range from April 9 and April 18 to May 26 and May 28. Spring recoveries reported to several banding stations indicate that such returns for other Gulf states are not so numerous as those from Texas. In addition to banded birds recovered, observers at Brownsville (Merrill, 1878), Austin (Simmons, 1925) and in Oklahoma (Nice, 1931), report Swifts passing in some numbers during spring migration. Still other evidence is at hand which indicates that many Swifts which pass southward between the Appalachian mountains and the Mississippi river, pass northward in spring to the west of that stream. We are indebted to the U. S. Fish and Wildlife Service for most of the Texas records shown.

A further argument in favor of the land route northward from Central America is, that during April, a trans-Gulf water crossing would subject migrating Swifts to the possibility of meeting northerly winds and rains, with probably disastrous results. The land route would enable the birds to halt, turn back, or seek a roost at night if storms or cold were encountered. In Bent's Life Histories, all of the seven Swifts reported north of Honduras thru Mexico, were taken during the early spring. The spring route needs to be studied in much greater detail and further observations are needed from eastern Mexico, eastern Texas and from the states adjoining.—A. F. G.

SOME HABITS OF THE CHIMNEY SWIFT

By W. M. WALKER

In spite of the fact that the Chimney Swift *(chaetura pelagica)* is one of our common birds, very little is known about them by the average person because of the fact that their habitat is high above the earth rather than near the ground. Perhaps for this reason too it has developed into a very different kind of a bird, structurally and otherwise, from the species we usually contact. If there is such a thing as an "unearthly" feathered citizen among us, it is the Swift, for he lives his long life thru without ever touching his feet to the ground. The following review has been prepared to give something of this bird's outstanding characteristics, traits and its life history generally, particularly as they apply to Tennessee. References to articles published in THE MIGRANT are given in the text thus, (M—:—), while a list of others is appended.

Range:—This is given by the A. O. U. Checklist as follows: Breeds from central Alberta, southeastern Saskatchewan, Manitoba, southeastern Quebec, and Newfoundland, south to Florida and the Gulf coast, and west to east-central Montana and eastern Texas. Winters south of the United States, probably in Amazonas, Brazil; common spring transient in Haiti and reported from Mexico and Central America. Accidental in New Mexico, Greenland and Bermuda.

Migration:—The spring migration of the Chimney Swift will vary from year to year because the bird is forced through necessity to wait for warmer weather in order to find sufficient food. Swifts appear earlier in the western and middle portions of the State than in the mountainous section of the east. The twelve earliest arrival dates for Nashville, from 1915 to 1935, varied from Mar. 25 to April 3, with the average date of April 2 (M 7:7). Records from Athens (1903 to 1909) give arrival dates from Mar. 29 to April 12 with April 4 as the average (M 6:3). The average arrival for Knoxville which is north-east of Athens is April 10 for an eight year period. The spring migration is not so impressive because their numbers have doubtlessly decreased and the birds have separated into small flocks by the time they have moved as far north as Tennessee.

The gregarious instinct asserts itself toward the latter part of August at which time the Swifts congregate in larger and larger numbers and the fall migration is a general southward movement. Flocks of 1,000 and 2,000 are common while counts from Memphis indicate it is not rare for 5,000 to 7,000 individuals to roost in one chimney (M 9:82). The migrating population is underestimated even by the average person interested in ornithology. The writer and some fellow banders went into the various sections of Knoxville one evening in late September and located four chimneys used as roosts. Each flock was estimated to contain 1,500 to 2,000 birds. The fall migration generally extends from Sept. 1 to Oct. 15 or 20 altho a few late records have been reported from Nashville, as late as Oct. 29 to Nov. 7 (M 8:85).

Roosting Habits:—We often see and read of birds that have adapted themselves to changing conditions and thus have increased instead of decreased in numbers. That Chimney Swifts at one time roosted in hollow trees is confirmed by Audubon when he related his visit to a large hollow sycamore

near Louisville, Kentucky, in 1840. J. A. McLaughlin describes a roost (M 14:19) in the deep woods of middle Tennessee, in a large Tulip tree. This was "just after the Civil War." S. A. Weakley found an item in the Clarksville, Tenn. *Leaf-Chronicle* under the date of June 12, 1875, stating that 506 Swifts were killed by two men after they had felled a large sycamore tree the preceding month (M 12:76). As early as 1808 however the Swifts shift to chimneys was far advanced.

Man inadvertently supplied this species with a new roosting and nesting place, viz. chimneys. In one instance however small numbers of Chimney Swifts were found roosting against the bark of a big tree (see note on a following page) and on others in barns (Bent '40). Descriptions of the large flocks going to roost are frequently given in the literature, therefore details of the procedure will not be undertaken here. The birds have been noted flying in both clockwise and counter-clockwise circles, in figure 8s, as a funnel-shaped mass or as an inverted cone. The fact that once the ingress has started the birds enter the chimney very rapidly (an estimate of 10 to 15 per second is frequently given) is particularly true of large flocks, and during this maneuver the birds are not apparently disturbed by the presence of people or strange objects. Coffey relates rolling back the cover of a trapped chimney to allow approximately 800 more Swifts to enter (M 7:96).

Many a bander has mentally selected an accessible chimney and hoped the birds would roost there. We think the Swift is partial neither to the easily reached nor to the inaccessible chimney but selects instead an airvent or an open chimney where the rising air supplies oxygen in warm weather and warm air on chilly nights. Birds have been known to enter chimneys from which a little smoke was issuing. And on cool rainy days an emerging flock occasionally feed for a short time and reenter the chimney. When the birds enter the chimney at night the first ones alight about five or six feet below the opening. The other birds settle lower until the mass extends deep into the interior. Occasionally the topmost swifts are within three feet of the mouth of the chimney. At times the birds in the chimney will pack up and be two or three layers thick, each bird with its head under the wing of the one above it.

Nesting:—The nest of this species has been found in places other than chimneys. There are a few records where a bird used a hollow tree, a well, a cistern, or a silo, while nests, especially in Maine, have been found inside of houses, barns, and other structures. The nest is a half-saucer-shaped platform made of twigs, first fastened to the chimney and then stuck together, with dried glutinous saliva of the bird. The Swift obtains the nesting material by flying against the outer branches of a dead tree or limb and breaking off a very small twig with its feet. Sometimes two or three attempts are necessary before a stick is secured.

Normally, four or five elongated, moderately glossy white eggs make up the set and incubation extends from 18 to 22 days (Forbush). Only one brood is raised a year and in Tennessee, the eggs are usually laid the first week in June. The shells of the eggs are thick and the membranous lining is unusually strong; this prevents them from breaking in the hard unlined nest.

The young are born naked and blind but have acquired quite a few feathers at seven days and by the fourteenth day their eyes are wide open.

Plate 4.

MAP SHOWING CONVERGENCE AND DISPERSAL OF

CHIMNEY SWIFTS BANDED AT NASHVILLE, TENNESSEE.

SYMBOLS USED ARE

- • NASHVILLE BANDED SWIFTS RECOVERED ELSEWHERE.
- O BANDING STATIONS WHOSE SWIFTS WERE RECOVERED AT NASHVILLE.
- ⊙ A COMBINATION OF THE ABOVE TWO SYMBOLS.

BANDING STATIONS PROVIDING MORE THAN ONE OF EITHER OF THE ABOVE KINDS OF RECORDS ARE AS FOLLOWS:

A- Baton Rouge, La.	19 of • and 12 of O	L- Beloit, Wisconsin.	0 of • and 5 of O
B- Memphis, Tenn.	10 " • " 20 " O	M- Lake Forest, Ill.	1 " • " 3 " O
C- Clarksville "	79 " • " 160 " O	N- Charlottesville, Va.	1 " • " 12 " O
D- Knoxville "	5 " • " 7 " O	O- Charleston, W. Va.	0 " • " 3 " O
E- Glasgow, Ky	10 " • " 20 " O	P- Columbus, Ohio	0 " • " 2 " O
F- Madisonville, "	4 " • " 5 " O	Q- New Boston, Ohio	0 " • " 2 " O
G- Opelika, Ala.	0 " • " 2 " O	R- Ithaca, N.Y.	0 " • " 2 " O
H- Milledgeville, Ga.	2 " • " 0 " O	S- Blind River, Ontario	5 " • " 16 " O
I- Macon, Ga.	3 " • " 0 " O	T- London "	0 " • " 3 " O
J- Lexington, Mo.	0 " • " 4 " O	U- Kingston "	2 " • " 15 " O
K- Fairfield, Iowa	0 " • " 3 " O	V- Toronto "	2 " • " 0 " O

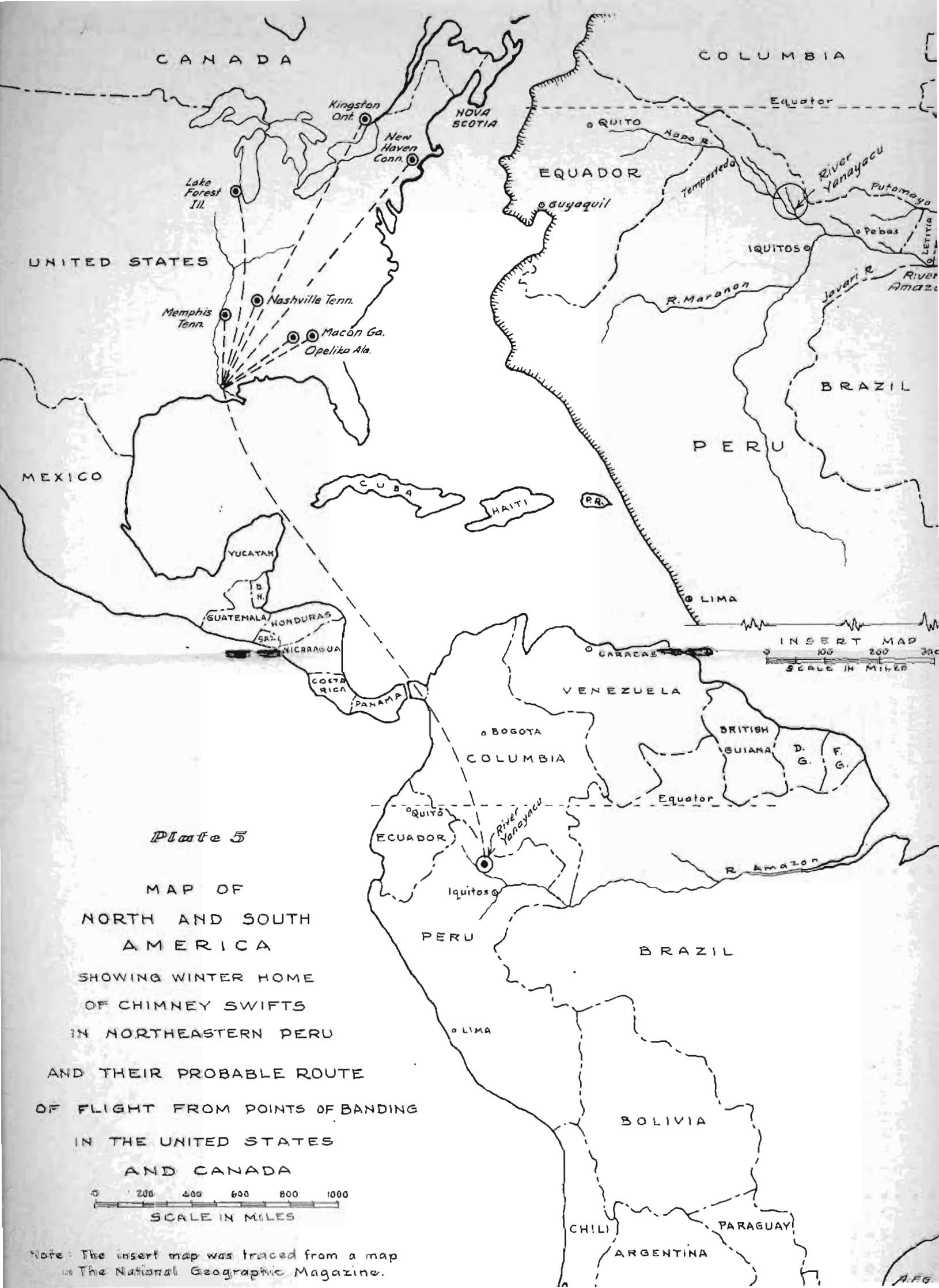


Plate 5

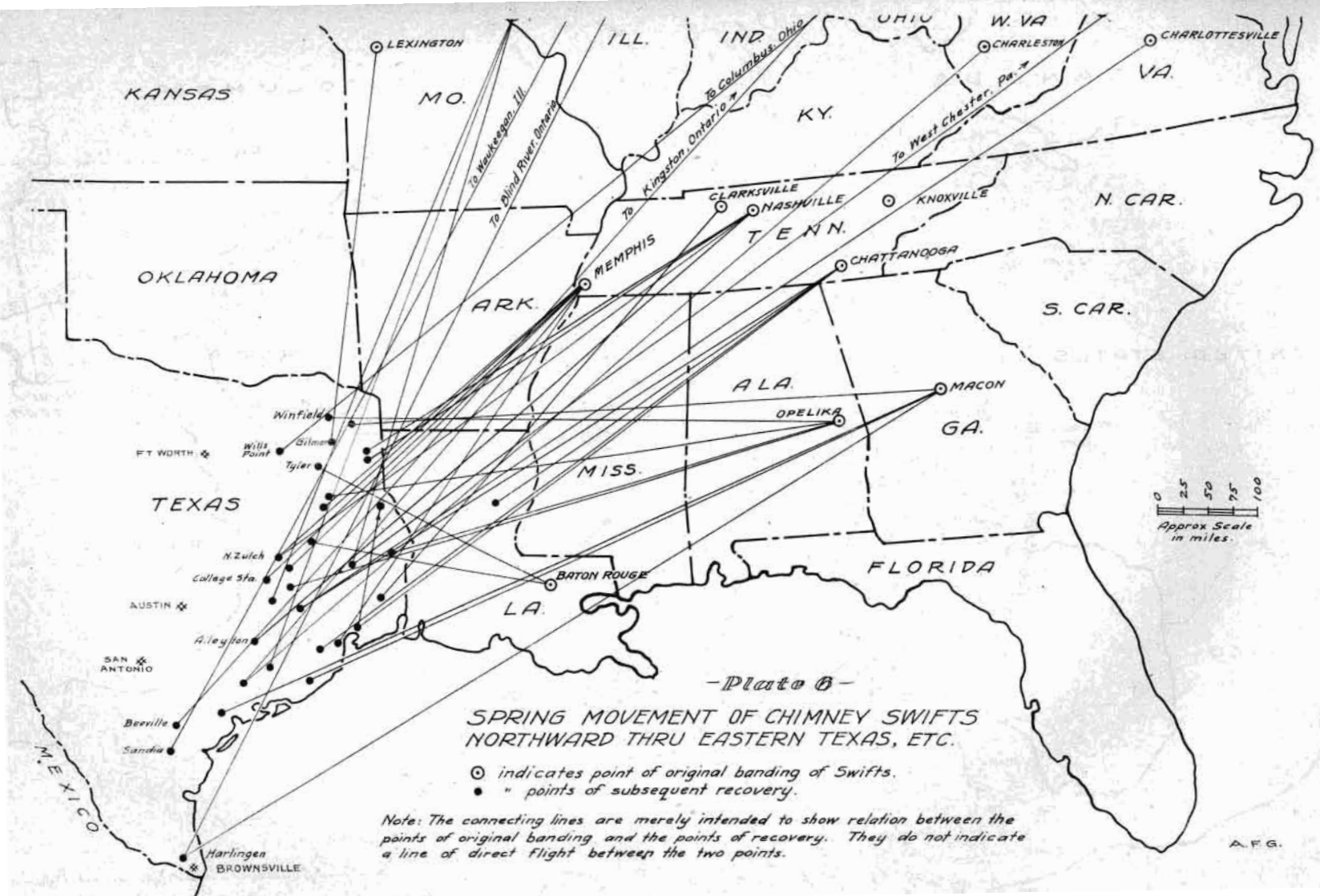
MAP OF NORTH AND SOUTH AMERICA

SHOWING WINTER HOME OF CHIMNEY SWIFTS IN NORTHEASTERN PERU AND THEIR PROBABLE ROUTE OF FLIGHT FROM POINTS OF BANDING IN THE UNITED STATES AND CANADA

0 200 400 600 800 1000

SCALE IN MILES

Note: The insert map was traced from a map in The National Geographic Magazine.



-Plate 6-

SPRING MOVEMENT OF CHIMNEY SWIFTS NORTHWARD THRU EASTERN TEXAS, ETC.

⊙ indicates point of original banding of Swifts.
• " points of subsequent recovery.

Note: The connecting lines are merely intended to show relation between the points of original banding and the points of recovery. They do not indicate a line of direct flight between the two points.

A.F.G.

Both parents help in the big task of rearing the hungry brood. The young receive from one to three feedings, by regurgitation, at each visit of the adult bird and this routine does not always cease at dusk but is often continued into the night. Sometimes the parents crowd their offspring out of the nest before these young are completely feathered but the little birds can shift for themselves and cling to the under side of the nest or the walls of the chimney with ease. During the last week in the chimney the birds vibrate their wings and flutter up and down the chimney for hours at a time all in preparation of that first flight which presumably will last without resting until dusk. Thus ends their four to five weeks of confinement and begins their life as an adult.

Structure:—There are certain features about the Chimney Swift that are worth noting. Their narrow wings are longer than the body, the shoulder muscles are well developed, the feet are small and weak, the short tail feathers are tipped with spines to aid them in clinging to the chimney or wall on which they roost. Then too, the mouth of this bird is large, which enables it to catch insects while flying. In the spring at the beginning of the nesting period, the salivary glands are greatly swollen but soon after the nest is completed the glands return to normal size thereby providing a cheek pouch in which to hold the captured insects. A casual inspection of a Swift reveals large and prominent eyes situated high on the head. This evidently enables the bird to maintain a larger field of vision when it flies open-mouthed through the air. The Swift is songless or practically so and the calls may be described briefly as a twittering with variations and a squeak or a loud harsh squeal of fright.

Feeding and Flight:—The Swift is correctly named if its speed of flight is any criterion. It is said it can out-fly and evade even a Duck Hawk and that these birds rarely attempt to capture one. Except for cool rainy days in the spring or fall the Chimney Swift is on the wing from morning until night and there are instances where the birds have been observed feeding around the bright lights of a city, as late as 11 P. M. Then as already stated they often feed their young at night (Bent, 1940). Observers are usually not fully aware of the height to which these birds go for food. Ganier (1926) reports seeing hundreds of Swifts over Silers Bald in the Great Smoky Mountains as he mentions "an abundance of them at higher altitudes" (the elevation of Silers Bald is 5,620 ft.). Calhoun (1941) noted that flocks in the daytime could be seen only with the aid of 8X binoculars. Pickering reported seeing "an enormous gathering of Chimney Swifts" at Clarksville on July 19, 1938, and that he had never seen so many birds that early in the season. Evidently the birds were feeding. Then too, when the fall flocks appear at dusk they are nearly always out of sight they are so high.

If you watch the Swifts for a while you will notice they travel in circles, turns and curves but never for any distance in a straight line. Thus their migration is only a drift in a general direction as they hunt the air for insects. Imagine then if you can, the distance a bird flies when it covers an airline of 85 to 100 miles a day as evidenced by trapping records. Also consider the strength and stamina required of a Swift when it travels from New Brunswick via Louisiana and Central America to Peru.

Enemies:—The Swifts greatest single enemy is the weather. A steady drenching rain for two or three days may clear the air of insects and with

the food supply gone the birds are subject to starvation. Mrs. Laskey tells of an instance at Nashville where hundreds of Swifts were removed from a chimney after they had been overcome by smoke from an early kindled fire. Rain on a newly built nest will loosen it from the wall and at times nests containing young have been destroyed in this manner. There may be predators in their winter home but in the northern hemisphere it is only a question of eat and sleep. Banding records reveal that some at least have attained a ripe old age of 9, 10, 11, and even 12 years (M 14:6 and *Bird-Banding* 13:73).

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KNOXVILLE, TENN., 201 E. Peachtree St.

THE ROUND TABLE

SWIFTS ROOST UPON BARK OF LARGE TREE:—(That Chimney Swifts must immediately change their roosting habits upon approaching and reaching their winter home in the primitive upper Amazon regions is obvious, and various theories may be advanced as to whether they depend upon finding hollow trees or roost elsewhere. In THE MIGRANT for Dec., 1936 (7: 97), Ben B. Coffey told of how a flock of Swifts whirled about at dusk under the cornice of a Memphis downtown 4-story brick store building as though they were preparing to alight to roost, but finally went elsewhere. Such a site would have been quite comparable to the face of a cliff. Perhaps the most illuminating observation that has been published on this subject appeared in BIRD-LORE for Oct., 1926 (28: 395) and, being particularly pertinent to the contents of this issue, is reproduced below. Cold Spring, N. Y., is about 40 miles north of New York City.—Ed.) "At 2:30 P. M. September 5, 1926, we observed an excited flock circling between the housefront and the adjacent oak trees, and above the house-top and back. Their flight seemed to focus at a point 25 feet up on the trunk of a tall oak. The day was dull and we judged there was some sort of food there. Really, however, they were gradually alighting on the bark, as we discovered at 4:30 P. M., when most of the flock was found to have grouped itself in close formation, as shown in the rough sketch.

"Doubtless, a fire had been started under one of the chimneys (the day being chilly), and disturbed the usual resting in the chimney walls, although of this we are not sure. We have looked up our bird books and found that Swifts will spend the night inside a hollow tree when driven from chimneys, but this is a case of clustering in midday on the exterior of a tree.

"The birds seemed two or three deep, and several of us estimated well over a hundred of them. They were snuggled together, seemingly to keep warm, and the heads all concealed beneath the wings of those above. This patch of birds was of irregular shape, nearly 5 feet high and 7 to 8 inches wide at the widest part. It was constantly changing, as some birds seemed

to lose their grip and fly off and return, so that a dozen or two were on the wing and seeking a place to work into the group. We saw some alight at the edge and work up close, while others lit in the middle of the group and must have reached through with claws to grasp bird or bark, those failing falling back and taking wing. All had their heads concealed but the few upper ones. Toward dusk the birds, matching the moist bark, were invisible, but we examined them again by flashlight after dark, and all was quiet.

"Next morning, to our surprise, they were still there, in broad daylight, and some remained through to the afternoon, others detaching and taking flight. In the afternoon we noticed a new nucleus had formed about 5 feet from the ground, where we examined them closely. About 10 were in this group, and the upper ones had their eyes open, the other's head were concealed. They seemed stupified and did not fly at once when touched, but on grasping them, they fell and then flew, except one we took in hand. It seemed totally unable to fly, as if suffocated by lack of air, and fluttered to the ground but soon recovered and was off.—E. K. and D. CAMPBELL, Cold Spring, N. Y."

SWIFTS BANDED AT SOUTHERN STATIONS:—The following list has been compiled by reference to published article and by correspondence with some of the banders mentioned. There are several smaller stations whose results we have not been able to secure but some information about them may be found in B. B. Coffey's "Swift Banding in the South," in THE MIGRANT, 1938, 9:82.

Operator	*Location*	*Number banded*	*Years*
Ben B. Coffey, Jr.	Memphis, Tenn.	35,113	1932 to 1943
Amelia R. Laskey	Nashville, Tenn.	24,006	1937 to 1943
Wyman R. Green	Chattanooga, Tenn.	17,165	1928 to 1930
John B. Calhoun	Nashville, Tenn.	13,033	1938 only
H. E. Meyer	Knoxville, Tenn.	11,598	1940 to 1944
Alfred Clebsch	Clarksville, Tenn.	7,765	1938 and 1939
Geo. H. Lowery, Jr.	Baton Rouge, La.	21,414	1937, '38, '39
Harold S. Peters	Opelika, Ala.	21,503	1936 only
Stoddard & Handley	Thomasville, Ga.	6,000	1925 and 1926
R. J. Fleetwood	Macon, Ga.	27,720	1939 to 1943
John B. Calhoun	Charlottesville, Va.	20,851	1937 to 1940
Irwin Sturgis	Lexington, Mo.	8,500	1934 to 1943

The above accounts for about 225,000 of all the Swifts that have been banded.—ED.

SWIFT BANDING AT CLARKSVILLE, TENN.:—Swift banding operations in Clarksville have been covered in part by Calhoun in "1938 Swift Banding at Nashville and Clarksville" in the December 1938 MIGRANT, where he points to three remarkable records from birds banded here. After two years of interesting experiences with Swifts the absence of our young chimney climbers brought our investigations to a halt. We banded in all 7,765 Swifts: 4,264 in fall 1938, 726 in spring 1939, 2,775 in fall 1939. Early in the second fall one out of every 4.4 birds caught already carried our band, a week later one out of every 6.1 and a month later only one out of every 8.2. The high rate at the beginning of the season showed up at a chimney where we had banded before, in spring as well as fall, but most of the "returns" had been given their bands at other chimneys. Only one out of every 58 birds banded

in spring turned up again in fall, yet one out of every 9 banded the fall before was back. There was some shifting of birds between Clarksville and Nashville, 40 miles apart. Of the first flock we caught 1.7% were birds that had recently been banded at Nashville. This percentage changed little, except that we saw no Nashville nor other foreign bands during our spring trapping. The period between appearances in the two neighboring towns varied from 5 to 56 days. There was one real commuter: 39-79009 returned here Sept. 3, 1939, was in Nashville Sept. 8 and back with us Sept. 24. Another Swift that must have found Tennessee chimneys a bit funny was 139-67251. He was banded here on Sept. 3, 1939, was caught again in Nashville on Sept. 9, and was trapped once more in Memphis on Oct. 7. Our most distant traveller summered in West River Station, Picton County, Nova Scotia. The general picture pieced together from reports and recoveries conforms with tabulations published by stations with longer and wider experience than ours.—ALFRED CLEBSCH, Clarksville, Tenn.

SWIFT BANDING AT KNOXVILLE, TENN.:—Members of the Knoxville Chapter, T. O. S. have been actively banding Chimney Swifts since Oct. 5, 1940, and had trapped 10 flocks from then to and including Sept. 24, 1944. A tabulation of these operations, all carried out in Knoxville, is given below.

Location	*Date*	*Number Banded*	*Foreign Birds*	*Examined; Not Banded*
Univ. Tenn. Y	10/5/40	1,300	7	0
Sentinel Bldg.	10/12/40	690	9	0
Christenberry School	8/27/41	1,020	5	0
U. T. Law School	9/1/41	2,119	9	0
Christenberry School	9/2/41	2,546	10	0
Lyric Theatre	9/14/41	1,645	10	0
416 Kingston Pike	10/5/41	478	2	0
U. T. Law School	9/12/42	0	12	2,212
Nicholson Bldg.	9/16/44	1,800	6	601
Goodwill Bldg.	9/24/44	0	1	166
Totals		11,598	71	2,979

Mr. W. M. Walker and I are checking and analyzing our records to see what we can learn about the movements of these Swifts that pass thru Knoxville. We hope to do more trapping this fall and expect to continue the work here next year when more bands become available.—HENRY MEYER, Department of Zoology and Entomolgy, University of Tennessee, Knoxville.

SWIFT BANDING IN THE MACON, GEORGIA AREA:—The writer began the banding of Chimney Swifts on August 20, 1939 and the last lot of bands was on Oct. 10, 1943. During this period a total of 27,720 Swifts were banded as a result of 53 different operations. Approximately 2,650 that had been trapped were released unbanded due to lack of bands. The greatest number of birds found in one chimney was 5,350, on September 21, 1943 at Macon, and the least number was 11. The average number of birds per chimney found in 46 operations (omitting 7 having less than 100) was 620. Only 3 spring bandings were accomplished, these netting 723, 301 and 283 respectively. The results of the work can be briefly expressed by stating

that I have handled 166 Foreign Birds, 699 Returns and 267 Repeats. Among the Recoveries reported to me are an interesting group of 11 from the region west of Georgia and south of the latitude of Tennessee, since these have a particular bearing on the migration from here southward. Four of these Georgia banded birds were recovered in spring in eastern Texas. I have no recoveries as yet from Florida. When the writer has accumulated further data, he hopes to make a careful study of the results and prepare his findings for publication.—RAYMOND J. FLEETWOOD, U. S. Fish and Wildlife Service, Round Oak, Ga.

FALL MIGRATION NOTES FROM MEMPHIS:—Bird migration in the Memphis area has been rather erratic this fall. The season has not developed as in previous years, both as to individuals present and number of species recorded. So far, both have been below normal. Most notably behind this fall were the shorebirds and herons that are usually found in large numbers on Mud Lake, south of Memphis, for of these the numbers were 75% below normal. Moreover, certain species heretofore found regularly on the lake in the fall have been entirely absent this fall. These include Greater Yellowlegs, Semipalmated Plover, Western and Stilt Sandpipers. Likewise the migration of land birds, which has also been late this year, is 25% below normal. When I made by first visit to Mud Lake on July 31, the water-level was down and although the depth was shallow and at an excellent stage for water birds, only 20 Least and 15 Pectoral Sandpipers were seen. A Worm-eating Warbler was found near the shore and later in the day 59 White Pelicans flew overhead. On August 29, the shorebirds reached their greatest concentration when a total of 250 were seen of the following species: Lesser Yellowlegs, Killdeer, Semipalmated, Least, Pectoral, Solitary and Spotted Sandpipers. Herons reached their greatest numbers on Sept. 2, when 400 American Egrets and 200 Little Blue Herons were found present, along with 200 Wood Ibis and 16 Black Terns. A Duck Hawk was seen that day engaged in a game of scattering Blue-wing Teal and Wood Ducks. The falcon repeatedly dived low over the ducks, in a long glide, and could easily have caught one but was not observed to do so. As in previous years, the Yellow-bellied Flycatcher proved to be the most common *Empidonax* this fall. A Least Flycatcher was collected Aug. 27 in the willows about Mud Lake and others later. Two days later 16 Water-thrushes were counted near its shore. The first Blue-winged Warbler was recorded Aug 15, eight days late. Only the Canada Warbler has been more abundant this fall than in past seasons. Other birds of interest recorded or collected by the writer, were Worm-eating Warbler, Aug. 9, 23, 25; Yellow Warbler, Aug. 7; Wilson's Warbler, Sept. 1, and Mourning Warbler on Sept. 3. The last I collected in the Loosahatchie bottoms, 7 miles north of Memphis, and it was an adult male in fine fall plumage. This species is very rare here in fall migration.—ROBERT TUCKET, 245 N. Auburndale, Memphis ,Tenn.

FIELD NOTES FROM MEMPHIS:—The following dates of birds seen this fall in and about Memphis may be worthy of mention for the sake of record:

Duck Hawk: On August 27, 1944, at Mud Lake on the Tenn.-Miss line, a male was observed several times attempting to catch some of the numerous shorebirds about the lake——Wilsons Phalarope: Aug. 27, at Mud Lake, a female was seen in with a large flock of Pectoral Sandpipers and "Peeps."

This individual flew into the flock with a Lesser Yellowlegs and remained with the flock for some time while study at close range was made.——Golden-winged Warbler: On Sept. 2, several males and females were seen in Overton Park.——Blue-winged Warbler: Sept 2, a brightly colored male was observed in Overton Park.—White Pelican: On Sept 4, at Mud Lake, 50 were seen by Messrs. Luther Keeton and Mac Evans.——Osprey: At Mud Like, on Sept. 2, one was seen by Messrs. Keeton and Evans.——All of the above birds, except where otherwise stated, were recorded by Mrs. Hoyt, Mr. Keeton and the writer.—J. SOUTHGATE Y. HOYT, Kennedy General Hospital, Memphis.

MISSISSIPPI KITES SOUTH OF MEMPHIS:—During the course of field work undertaken this summer (1944) in Shelby County, Tenn., the writer had excellent opportunities for observing the resident Mississippi Kites *(Ictinia mississippiensis)* in the Ensley-Darwin bottoms south of Memphis. The bottoms are located in the extreme corner of Shelby County and are bounded on the south by the Horn-Mud Lake area; on the west by the Mississippi River; on the north by the Tennessee chute; and on the east by the Y. & M. V. Railroad. These bottoms are subjected to periodic floodings, and contain large areas of open fields as well as extensive wooded regions.

A comparison of the number of Kites seen this year, with the numbers seen in other years, indicates a decided increase. Only July 7 of this year the writer, in company with A. W. Burdick, counted seven Kites in the air in the southwest part of the bottoms. About thirty minutes later, on the opposite side of the bottoms, we counted no less than seventeen of them in the air. It would have been almost impossible for any of the birds of the first groups to have infiltrated into the second ground. A conservative estimation of the number of birds of this species in this area may be placed at 26 to 30. This is an exceptionally high density for this species.

I believe that it is safe to assume that not even in the days of this Kites greatest abundance would the density of any given area exceed that found today in these bottoms, except perhaps in rare instances. At the date mentioned, young birds in the nest were not due to have flown and this would indicate that all seen were adults. The birds are sociable, usually being found in groups. They apparently feed early in the day, when they may be found feeding low, in groups of twos and threes. However, later in the day, they assemble in larger numbers, many times numbering over a dozen birds. It is at this time the birds spend hours soaring and riding the air currents. These aerial displays often take place at such great altitudes that glasses are necessary to observe them. Kites are possessed of curiosity, and are easily "squeaked up" when they are within hearing distance. However, they are gun-shy and usually do not come within gun range.—ROBERT TUCKER, 245 N. Auburndale, Memphis, Tenn.

A BREEDING BIRD CENSUS AT MEMPHIS:—On June 18, 1944, the Memphis chapter took its second annual nesting census with the results outlined below. The number of occupied nests found were fewer than those reported last year, due to the fact that many species had already brought off their first brood. PLACE: Forest Hill Cemetery, Highway 51, Bellevue Extended. SIZE: 181 acres. TOPOGRAPHY: In the developed area which contains 81 acres, dogwood and bush wisteria predominate. Large trees are linden, elm, oak, several evergreens and other shrubs. The undeveloped area contains 100 acres,

75% open grassy spaces. North and south sides heavily wooded with small creek running through one end. SEASON: Early summer. TIME IN FIELD: 6 hours. WEATHER: Warm, clear summer day, light variable breeze. TOTAL ENUMERATED: 35 species. CENSUS: Bob-white, 1 pair with 4 young 2 individuals; Mourning Dove, 20 individuals, 8 nests; Yellow-billed Cuckoo, 8 individuals; Chimney Swift, 5 individuals; Flicker, 5 individuals, 2 nests; Red-bellied Woodpecker, 1 individual; Red-headed Woodpecker, 2 individuals; Downy Woodpecker, 2 individuals; Crested Flycatcher, 8 individuals, 10 nests; Purple Martin, 3 individuals; Blue Jay, 7 individuals, 1 nest; Crow, 4 individuals; Carolina Chickadee, 5 individuals; Bewick's Wren, 3 individuals; Carolina Wren, 3 individuals; Carolina Wren, 3 individuals; Mockingbird, 20 individuals, 2 nests; Brown Thrasher, 13 individuals, 5 nests; Robin, 40 individuals, 4 nests; Wood Thrush, 21 individuals, 5 nests; Red-eyed Vireo, 6 individuals, 2 nests (one bird was feeding young in nest); Warbling Vireo, 12 individuals, 1 nest; Parula Warbler, 1 heard singing; Kentucky Warbler, 1 individual; Maryland Yellowthroat, 10 individuals; English Sparrow, large number; Meadowlark, 10 individuals; Redwinged Blackbird, 1 individual; Baltimore Oriole, 6 individuals; Orchard Oriole, 8 individuals; Bronzed Grackle, 10 individuals, 4 nests; Cowbird, 2 pairs; Summer Tanager, 2 individuals; Cardinal, 12 individuals, 2 nests; Indigo Bunting, 2 individuals; Field Sparrow, 2 individuals. PRESENT: Mrs. Richard Anderson, Jess Blackstone, Mrs. I. R. Daniels, Sgt. and Mrs. J. Southgate Hoyt, Luther Keeton, Pauline James, Allen Kent, Lawrence Kent, Mary Mason, Dr. C. E. Moore, Mrs. John Pond, Mrs. M. L. Torti, Maurice Torti, Mrs. W. G. Williamson.—MRS. M. L. TORTI, 3107 Spotswood, Memphis, Tenn.

SPARROW HAWKS AND MARTINS:—In the Spring of 1941 a pair of Sparrow Hawks were seen going in and out of a gourd on one of the Martin-house poles a few yards from our house. As the Martins were disturbed we at first thought the hawks were robbing their nests and my husband shot and killed the female Sparrow Hawk only to find out too late that they had a nest and four young in one of the larger gourds.

The male hawk continued to feed the young birds until they left the nest and he was never seen in any of the other gourds occupied by the Martins though they had hysterics every time they saw him. They would chase him every time he came in sight until he went into the gourd and would follow him from the gourd until he disappeared, making the loudest noise of which they are capable.

The next Spring another pair of Sparrow Hawks were seen using a gourd on the other pole but I had it taken down and removed two eggs, fearing the Martins would leave. I then had a pole put up for the hawks, hanging only one large gourd on it, but they left the place and have not nested near us again.—MARY E. MARIUS, Knoxville, Tenn.

NOTES FROM ELIZABETHTON:—The Prairie Horned Lark appears to be a permanent resident here. Early in the season three pairs were observed almost daily. On April 7, a nest with four eggs was found and on April 18 the last egg was hatched. On this date a young bird just fledged from another nest was observed in the vicinity. On April 27, two of the young had left the nest first mentioned and the following day it was found vacated. On this day one young bird unable to fly was found close by. These birds have remained in the vicinity all summer, as many as 13 having been ob-

served together.——A pair of Shoveller Ducks were seen on the Wautauga River on March 26, in the vicinity of the Franklin Club. On April 2, 13 (including 6 males) were observed in one flock on the above river above the main Street bridge.——A flock of 20 Bobolinks was observed on August 25, early in the morning, feeding in a corn patch on Burgie Place, Elizabethton, by Mrs. Lee Roy Herndon.—HUGO DOOB, JR., R. 3, Elizabethton, Tenn.

NOTES ON PROTHONOTARY WARBLERS:—On Oct. 19, 1943, at about 6:00 p.m. I observed a Prothonotary Warbler *(Protonotaria citrea)* in a maple tree at the interesection of Riverside Drive and Hattie Ave., in Elizabethton, Tenn. The tree in which it was feeding was approximatly 50 feet from the west end of the covered bridge which spans the Doe River. The bird was observed at close range with 10X binoculars, and later I was able to approach to within about ten feet of it. After I had observed the bird for several minutes I returned to the house and brought Mrs. Herndon and Lee Roy, Jr., to the scene and they also observed it at close range in the same location. It did not appear to be alarmed by our presence and was in the same tree when we left at approximately 6.30 p.m. This is much the latest date I have been able to find for this species in any of the records at my disposal. It is the only Tennessee record of which I am aware east of Knoxville, and I assume that this was just a casual and belated transient. If there are other records for upper East Tennessee than those in the vicinity of Knoxville I should be pleased to learn of them.

In this connection, some notes on this species in the far northern portion of its summer range may be of interest, for I have observed it several times in the only known nesting location in New York State. This site is about 40 miles northeast of Buffalo, near Medina, along Oak Orchard Creek. This area of the creek is bordered by Button Bush *(Cephalanthus occidentalis)* growing from very swampy shores and affording many excellent nesting cavities for the warblers. This area lies in a belt bordering on Lake Ontario which has a considerably lower elevation than any other portion of western New York and which is the regular habitat of several Carolinian species.

Bergtold mentions the Prothonotary Warbler as a casual visitant in this region but gives no dates. The first specific records for western New York are Bourne, T. L., Hamburg, May 20, 1923*; Perkins, Dr. Anne E., Collins, May 26, 1924**; Ulrich, E. A. (Mrs.); Schwenger, B. (Miss), and Wander, A. D., Oak Orchard Swamp, May 11, 1930. On May 17, 1931, eight Prothonotary Warblers were observed in this area by several observers. Between May 31 and June 21, 1932, five nests were found by Mr. and Mrs. H. E. Eckler. In subsequent years they have nested in boxes provided for them and as many as nine nests have been found in a single season. In a number of instances they have been known to have successfully reared two broods. Arrival dates for this area from 1938 through 1943 ranged from May 5 to May 13 and departure dates for the same years, July 4 to July 25. Arrival dates for the Buffalo, N. Y., area range from approximately three weeks to a month later than for the Knoxville, Tennessee, area. I have no data regarding departure dates for the Knoxville area.—LEE R. HERNDON, Elizabethton, Tenn.—

*_The Auk_, XLII: 138. **Ibid., date given as May 22, in error.

NOTES, HERE AND THERE

Sitting one recent August evening in the Field Artillery Bowl at Fort Sill, Oklahoma, before the start of an USO show, a T. O. S. couple noted an Arkansas Kingbird pass by overhead. For some reason the lady mentioned to her companion that they were probably the only ones in the large audience to notice such an incident. There was no obvious reason for him to disagree, but both were wrong. In fact, such a third party in the person of Lt. L. D. ("Buster") Thompson was seated directly behind them. When the couple looked up next to follow the course of Chimney Swifts darting by, Lt. Thompson knew his recognition of the Coffeys from Memphis was on sure ground. In the summer of 1932 the three had met at the Memphis Boy Scout Camp at Hardy, Ark. Later, in May, 1938, Buster and party from Greenwood, Miss., had joined Ben Coffey and Memphis Rover Scouts on a heron banding trip.

Recruiting Tom Bivins (now Lt.) of Milledgeville, Ga., the four made a trip together to nearby Mt. Scott, haunt of the Canyon Wren, Rock Wren, and Rock Sparrow. Lt. Thompson photographed a very unusual Phoebe nest, found earlier by Lt. Coffey. Formerly of Paris, Tenn., Lt. Thompson subsequently rejoined the 788th F.A. Bn. at Fort Bragg, N. C. The Coffeys now have an apartment at 141-27 79th Ave., Flushing, N. Y. After two years with the Field Artillery, most of which as an instructor in tactics at the Field Artillery School, Lt. Coffey has been detailed to the Air Corps and is with the Air Transport Command at New York City.

From Austin W. Burdick, of our Memphis chapter and more recently in military training in Texas, comes a card that his address is now "care Postmaster, New York." We wish him luck and a safe return from his overseas service.

John B. Calhoun, indefatigable Swift bander of a few years back, has accepted a position in the Dept. of Zoology of Ohio State University. Just now, his "sideline" is the study of English Sparrows from all parts of the United States to ascertain if there has been any evolutionary change due to environment. He will be glad to hear from those who can furnish him with material and will send shipping cages for the transport of live birds.

Henry B. Stevenson, who has been sending us some excellent reports from Oxford, Mississippi, is now teaching at Emory and Henry College, Emory, Va.

Howell Buntin, director of the State Dept. of Fish and Game for some years prior to 1939, has resumed that post. During the intervening years, Mr. Buntin as a State Senator did some fine work in helping to maintain proper game laws.

Our several chapters report that they are looking forward to their usual meetings and trips afield. Recording the late transients and the arrival of the winter residents is a game that takes on fresh interest each autumn.

If we have enthused you to the point where you want to run down to Peru to investigate the Swifts further, we suggest that you get a copy of "Peru,—A Handbook," by W. E. Dunn, from U. S. Supt. of Documents, price $1.25.

T.O.S. dues become due and payable January 1st and are receivable by our Treasurer at any time prior to then. If he has to remind you later, remember that it now costs us a 3 cent stamp, not to mention his time.

THE MIGRANT

A QUARTERLY JOURNAL DEVOTED TO THE STUDY OF TENNESSEE BIRDS
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Alfred Clebsch, Secretary-Treasurer, 838 Gracey, Ave.., Clarksville, Tenn.

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Albert F. Ganier, Editor, 2112 Woodlawn Drive, Nashville 5, Tenn.

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

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EDITOR'S CHAT

As you must already be aware, this is a Chimney Swift issue and—why shouldn't it be? With eight of our Tennessee-banded Swifts among the thirteen that made possible the long expected historic discovery, we are justifiably elated. Congratulations to Mrs. Laskey, Messrs. Coffey, Clebsch, Calhoun, Green, Meyer, and the numerous others who led or assisted in the placing of 109,000 bands on Swifts within the State—more than a third of the total that have been banded at all stations. Hats off also to the other lucky five beyond our confines. In fact, to all who during the years have placed the little aluminum bands upon the legs of these feathered meteors, in their concerted effort to ascertain the winter home of the only common bird whose place of residence during that season had remained a mystery.

Interest in Swift banding has been revived and as bands and manpower again become available with subsidence of the war effort it will go forward again. Dr. Lincoln, of the U. S. Fish and Wildlife Service, thinks that bands should again become available by next spring. There is much yet to be learned about how Swifts make their southward journey, by what route they return in the spring, and to what extent they criss-cross the country during the migratory seasons. The records of a number of large banding stations have not as yet been analyyzed; could this be done and all records of recoveries, foreign birds, returns and repeats be put together, we would have a fair picture of what happens within the United States and Canada. To the south of us, the picture is not as yet clear and a pretty problem there still awaits the investigator.

We ask the indulgence of those of our contributors whose articles have been crowded out of this issue by the Chimney Swift news. We thought it best to concentrate this matter in one issue and to defer several miscellaneous articles to our next. We will need, of course, additional material to fill that issue. The December number will be held over to January so as to include the results of our 15th Annual Christmas Bird Census and members are asked to carry this out with their usual fine cooperation. The dates may range from Dec. 20 to Dec. 31.

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