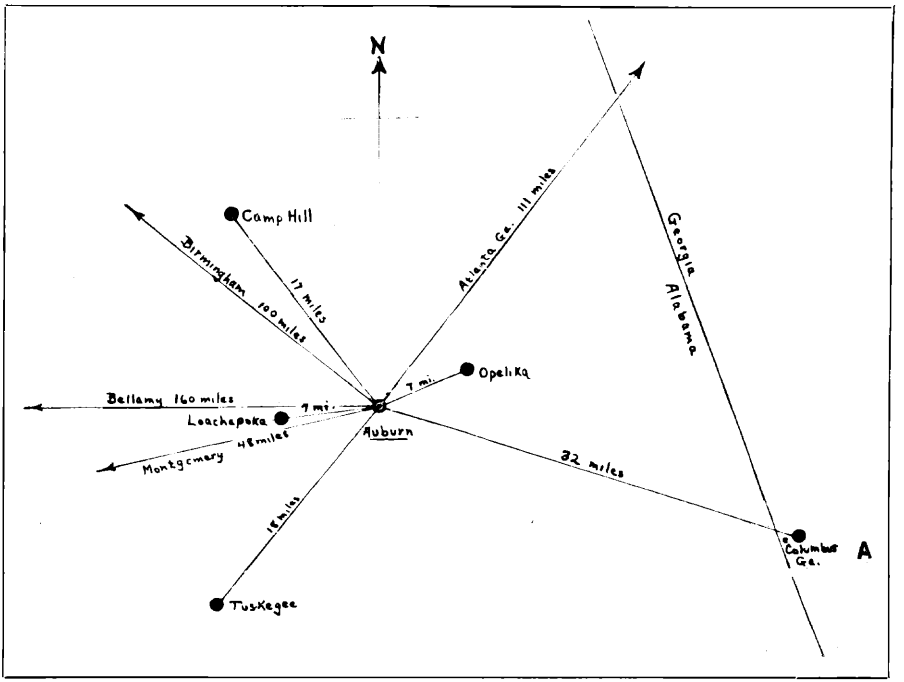


Figure 1. Showing the direction and air-line distance from Auburn, Alabama, to each of the other towns where Chimney Swifts were trapped.

CHIMNEY SWIFT BANDING IN ALABAMA DURING THE FALL OF 1936

BY HAROLD S. PETERS

DURING the eight-weeks period from August 16 to October 11, 1936, 21,503 Chimney Swifts (*Chætura pelagica*) were banded in six towns in Alabama and in Atlanta, Georgia.[1] According to the record of the Biological Survey, this is the largest number of birds of any one species ever banded at one station in a single year. The birds were caught in the chimneys of ten buildings in seven towns. The numbers banded in the sixteen attempts varied from 67 (at Bellamy, Alabama) to 6025 (at Atlanta, Georgia). In two instances it was necessary to release, unbanded, 3500 and 3000 birds respectively,

[1] A number of students at the Alabama Polytechnic Institute assisted in this banding work, and their coöperation is gratefully acknowledged. This work was performed during spare time in early mornings and on week-ends. Had more time been available, many more birds could have been banded.

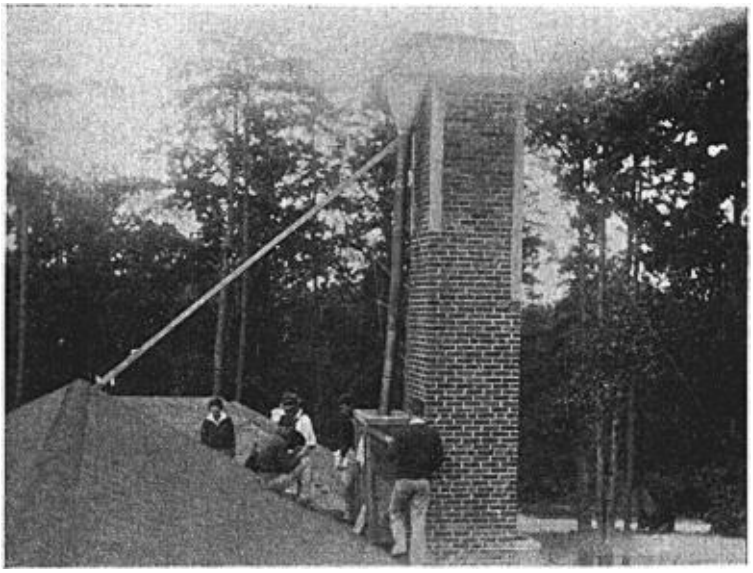


FIGURE 2

A. Showing the trap installed on the chimney of the Northside School, Opelika. The stove pipe connects the trap with the gathering cage, enabling the banding procedure to be continuous.

because of a lack of bands. These 6500 birds were examined, however, to see whether they already wore bands.

Among the approximately 28,000 Swifts examined, we found 24 bearing bands from other stations, and 553 bearing our own bands from previous trappings. Of these 553 local records 248 may be classed as recoveries as the birds were recaptured more than ten miles from the original point of banding. The remaining 305 Swifts are classed as repeats, as they were recaptured at a distance less than ten miles from their original banding point. Twenty-four birds were caught three times, and four birds were taken four times. One of these latter groups was originally banded at Auburn on August 16th, and was recaptured subsequently at Loachapoka on August 30th, at Opelika on September 20th, and at Tuskegee on October 9th. The location of the several towns in which we worked is shown in Fig. 1.

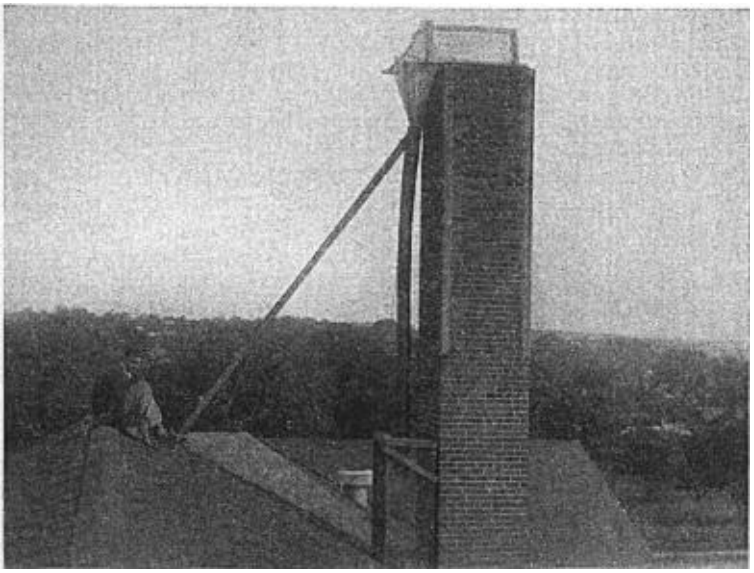
We obtained many interesting records concerning the movements of the birds between the various points of trapping. Table No. 1 shows the numbers of birds caught as local recoveries or repeats in the different attempts, together with the distances traveled from their original point of banding. We were quite interested to find that

TABLE 1.—LOCAL MOVEMENTS OF CHIMNEY SWIFTS SHOWING NUMBERS AND MILES TRAVELED FROM POINT OF ORIGINAL BANDING TO POINT OF RECAPTURE

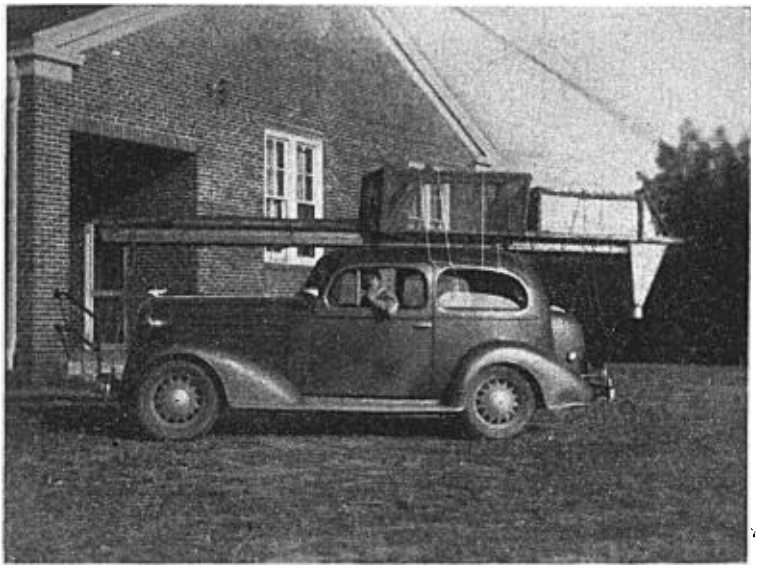
Locality Where Birds Were Recaptured	*Date of Recapture*	*Locality and Date of Original Banding With Numbers of New Birds Banded* *Auburn* *Aug.* 16 571	*Opelika* *Aug.* 25 1244	*Opelika* *Aug.* 26 264	*Loachapoka* *Aug.* 30 782	*Opelika* *Sept.* 8 2247	*Loachapoka* *Sept.* 19 357	*Opelika* *Sept.* 20 946
Opelika, Ala.	Aug. 25	19 (7 m.)	.....	.....	.....	.....	.....	.....
Opelila, Ala.	Aug. 26	4 (7 m.)	10 (1/10 m.)	.....	.....	.....	.....	.....
Loachapoka, Ala.	Aug. 30	13 (7 m.)	34 (14 m.)	5 (14 m.)	.....	.....	.....	.....
Opelika, Ala.	Sept. 8	5 (7 m.)	16 (¾ m.)	6 (¾ m.)	14 (14 m.)	.....	.....	.....
Loachapoka, Ala.	Sept. 19	1 (7 m.)	.....	.....	1 (0 m.)	14 (14 m.)	.....	.....
Opelika, Ala.	Sept. 20	4 (7 m.)	17 (½ m.)	8 (½ m.)	12 (14 m.)	90 (1¼ m.)	31 (14 m.)	.....
Opelika, Ala.	Sept. 26	2 (7 m.)	5 (¾ m.)	5 (¾ m.)	2 (14 m.)	2 (0 m.)	4 (14 m.)	4 (1¼ m.)
Opelika, Ala.	Sept. 27	2 (7 m.)	2 (½ m.)	2 (½ m.)	1 (14 m.)	5 (1¼ m.)	3 (14 m.)	.....
Camp Hill, Ala.	Oct. 2	1 (17 m.)	3 (20 m.)	.....	5 (15 m.)	2 (20 m.)	2 (15 m.)	.....
Opelika, Ala.	Oct. 3	1 (7 m.)	1 (¾ m.)	.....	1 (14 m.)	.....	.....	.....
Opelika, Ala.	Oct. 4	.....	1 (½ m.)	1 (½ m.)	.....	1 (1¼ m.)	.....	.....
Opelika, Ala.	Oct. 6	1 (7 m.)	1 (½ m.)	2 (½ m.)	2 (14 m.)	1 (1¼ m.)	1 (14 m.)	.....
Tuskegee, Ala.	Oct. 9	6 (18 m.)	12 (24 m.)	1 (24 m.)	11 (14 m.)	15 (24 m.)	7 (14 m.)	5 (24 m.)
Atlanta, Ga.	Oct. 11	.....	.....	.....	.....	1 (105 m.)	.....	3 (105 m.)
Total Recaptured—Recoveries		7	49	6	48	32	48	8
Total Recaptured—Repeats		52	53	24	1	99	0	4
Total Number Recaptured		59	102	30	49	131	48	12

TABLE 1.—LOCAL MOVEMENTS OF CHIMNEY SWIFTS SHOWING NUMBERS AND MILES TRAVELED FROM POINT OF ORIGINAL BANDING TO POINT OF RECAPTURE—Continued

Locality Where Birds Were Recaptured	*Date of Recapture*	*Locality and Date of Original Banding With Numbers of New Birds Banded* *Opelika* *Sept.* 26 1230	*Opelika* *Sept.* 27 1204	*Camp Hill* *Oct.* 2 659	*Opelika* *Oct.* 3 791	*Opelika* *Oct.* 4 525	*Opelika* *Oct.* 6 863	*Total Recoveries*	*Total Repeats*	*Total Banded Birds Taken*
Opelika, Ala.	Aug. 25	.....	.....	.....	.....	.....	.....	...	19	19
Opelika, Ala.	Aug. 26	.....	.....	.....	.....	.....	.....	...	14	14
Loachapoka, Ala.	Aug. 30	.....	.....	.....	.....	.....	.....	39	13	52
Opelika, Ala.	Sept. 8	.....	.....	.....	.....	.....	.....	14	27	41
Loachapoka, Ala.	Sept. 19	.....	.....	.....	.....	.....	.....	14	2	16
Opelika, Ala.	Sept. 20	.....	.....	.....	.....	.....	.....	43	119	162
Opelika, Ala.	Sept. 26	.....	.....	.....	.....	.....	.....	6	18	24
Opelika, Ala.	Sept. 27	42 (1¼ m.)	.....	.....	.....	.....	.....	4	53	57
Camp Hill, Ala.	Oct. 2	2 (20 m.)	2 (20 m.)	.....	.....	.....	.....	17	0	17
Opelika, Ala.	Oct. 3	4 (0 m.)	7 (1¼ m.)	8 (20 m.)	.....	.....	.....	9	13	22
Opelika, Ala.	Oct. 4	4 (1¼ m.)	.....	.....	7 (1¼ m.)	.....	.....	...	14	14
Opelika, Ala.	Oct. 6	2 (1¼ m.)	.....	1 (20 m.)	3 (1¼ m.)	3 (0 m.)	.....	4	13	17
Tuskegee, Ala.	Oct. 9	4 (24 m.)	5 (24 m.)	4 (28 m.)	6 (24 m.)	2 (24 m.)	4 (24 m.)	82	0	82
Atlanta, Ga.	Oct. 11	.....	3 (105 m.)	2 (110 m.)	1 (105 m.)	2 (105 m.)	4 (105 m.)	16	0	16
Total Recaptured—Recoveries		6	10	15	7	4	8	248	...	...
Total Recaptured—Repeats		52	7	0	10	3	0	...	305	...
Total Number Recaptured		58	17	15	17	7	8	...	...	553



B. Showing the trap installed on the chimney of the Southside School, Opelika.



C. Showing the extension ladder, stove pipe, gathering cage, and trap tied on the top of a car for transporting to and from the banding location. Distances up to twenty miles were easily covered quickly with no damage to the equipment or car.

birds banded in Auburn on August 16th were recaptured in nearly every subsequent banding in the near-by area, and as late as October 9th at Tuskegee. There seemed to be a considerable hang-over of the birds during this eight-weeks period, and the birds from the early bandings did not all depart on their southward migration in a body as we might expect them to do.

On October 11th, at Atlanta, Georgia, 6025 Swifts were banded with the coöperation of several members of the Atlanta Bird Club. We were greatly surprised to catch sixteen birds that had previously been banded at Opelika and Camp Hill, Alabama, 105 and 110 miles southwest of Atlanta. Four of these birds had been banded at Opelika on October 6th which showed a northeastward movement of 105 miles in five days. This illustrates that considerable random flying is done by these birds in connection with their daily feeding while making their leisurely southward migration. Banding the 6025 birds at Atlanta required seven hours of continuous banding by eight persons.

We have used about 14,000 bands of size 1-A and about 7,000 of size 1. Size 1-A bands seem preferable for use on Chimney Swifts, as quite often size 1 proved too small to fit correctly on birds with large tarsi. The numbers of the bands used by us were as follows:

F-100034	to F-100050 =	17
36-85001	to 36-86000 =	1,000
36-72301	to 36-72500 =	200
36-146201	to 36-146300 =	100
36-146305	to 36-146347 =	43
36-146350	to 36-146400 =	51
36-157001	to 36-162000 =	5,000
37-27001	to 37-33025 =	6,025
37-105001	to 37-114067 =	9,067
	Total	=21,503

These numbers are listed to assist other banders in quickly identifying our birds. I believe it would be helpful for those persons banding this species in large numbers to exchange data in order to enable them to identify one another's birds quickly.

The trap we used was somewhat modified from that described in the "Manual for Bird Banders" and in the article by Professor Green in *Bird-Banding*, 1930, vol. I, p. 107–111. Our trap was 42 inches long, 27 inches wide, and 18 inches high. The inside was lined with black oilcloth, and ordinary window-screen was used to cover the top. This trap was placed on the chimney after dark or after the birds went in to roost. Just after daylight, when the birds tried to leave the chimney, they flew up and hit the wire screen on top of the trap, and then in an effort to escape, they moved toward the slanting celluloid window at one end. As they could not cling to this sloping smooth surface, they fluttered down into the galvanized funnel, which allowed them to slide down through the six-inch

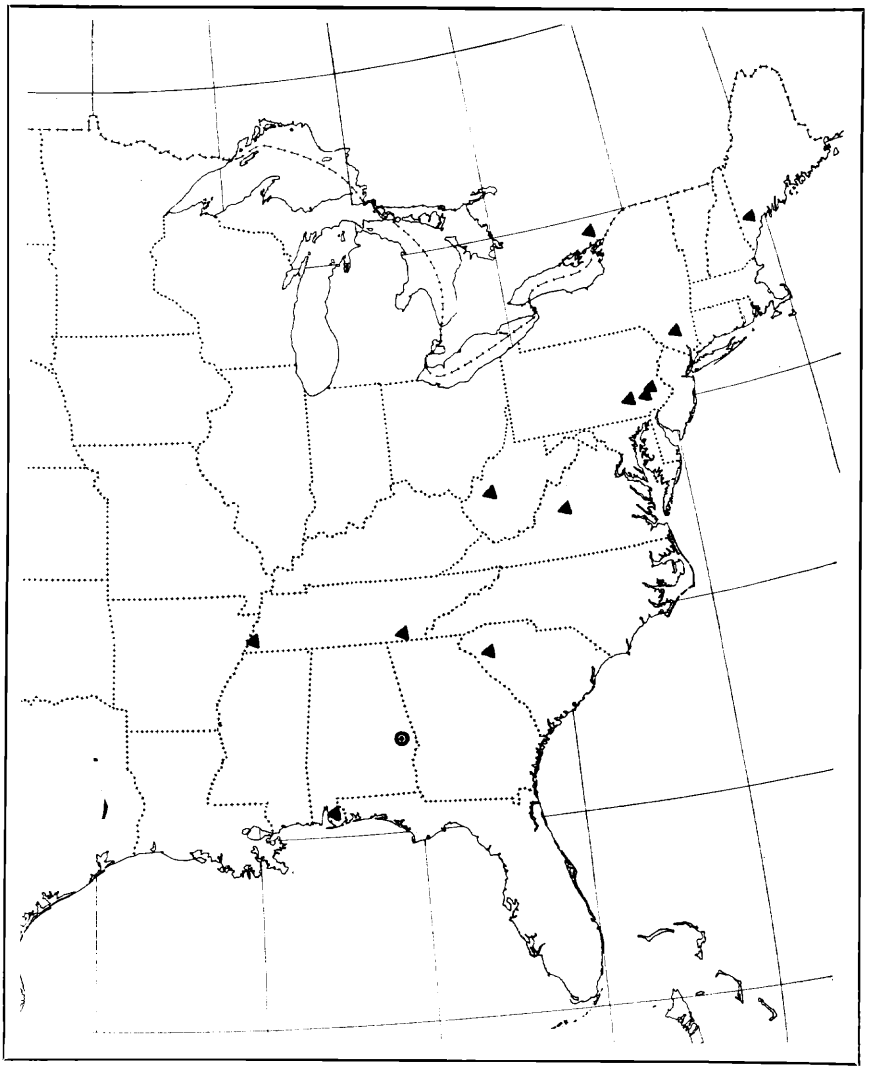


Figure 3. Showing position of Auburn in relation to original banding points of Swifts caught during this study. Points shown are as follows: Kingston, Ontario; Brunswick, Maine;[2] New Paltz, New York; George School, Pennsylvania; Mont Clare, Pennsylvania; Pheonixville, Pennsylvania; University, Virginia; Charleston, West Virginia; Memphis, Tennessee; Chattanooga, Tennessee; Clemson, South Carolina and Fairhope, Alabama. Auburn is indicated by a black dot on white, bordered by a heavy black circle.

[2] Brunswick, Maine, should read Kent's Island, New Brunswick. See footnote, page 23.

TABLE 2.—SUMMARY OF CHIMNEY SWIFT BANDING IN ALABAMA, 1936, SHOWING RECOVERIES FROM OTHER STATIONS

Date and Place of Banding		*Number Birds Banded*	*Released Not Banded*	*Local Birds*		*Other Station Recoveries*			
				Repeats	*Recoveries*	*No.*	*Date*	*Locality*	*Bander*
Aug. 16	Auburn	571	....	...	...	0	.....	.....	.....
Aug. 25	Opelika	1,244	....	19	...	1	May 30, 1936	Kingston, Ont.	Miss Ida Merriman
Aug. 26	Opelika	264	....	14	...	0	.....	.....	.....
Aug. 30	Loachapoka	782	....	13	39	1	May 10, 1936	Kingston, Ont.	Miss Ida Merriman
Sept. 8	Opelika	2,247	....	27	14	5	Sept. 20, 1935	Mont Clare, Pa.	Charles G. Krieble
							.....	Kingston, Ont.	Miss Mary C. Baker
							May 16, 1935	Kingston, Ont.	Miss Ida Merriman
							May 30, 1936	Kingston, Ont.	Miss Ida Merriman
							Sept. 2, 1932	New Paltz, N. Y.	A. K. Smiley, Jr.
Sept. 19	Loachapoka	357	....	2	14	0	.....	.....	.....
Sept. 20	Opelika	946	3,500	119	43	7	Sept. 6, 1931	New Paltz, N. Y.	A. K. Smiley, Jr.
							May 12, 1934	Kingston, Ont.	Miss Ida Merriman
							May 24, 1935	Kingston, Ont.	Miss Ida Merriman
							May 16, 1936	Kingston, Ont.	Miss Ida Merriman
							.....	Brunswick, Me.	A. O. Gross
							Apr. 5, 1934	Clemson, S. C.	R. E. Ware
							Apr. 19, 1936	University, Va.	John B. Calhoun
Sept. 26	Opelika	1,230	....	18	6	0	.....	.....	.....
Sept. 27	Opelika	1,204	....	53	4	0	.....	.....	.....
Oct. 2	Camp Hill	659	....	...	17	1	May 10, 1936	Kingston, Ont.	Miss Ida Merriman
Oct. 2	Bellamy	67	....	...	...	0	.....	.....	.....
Oct. 3	Opelika	791	....	13	9	0	.....	.....	.....
Oct. 4	Opelika	525	....	14	...	0	.....	.....	.....
Oct. 6	Opelika	863	....	13	4	1	Oct. 10, 1933	Memphis, Tenn.	B. B. Coffey, Jr.
Oct. 9	Tuskegee	3,728	3,000	...	82	5	May 12, 1935	Kingston, Ont.	Miss Ida Merriman
							May 1, 1934	Fairhope, Ala.	Duncan McIntosh
							Sept. 29, 1934	Mont Clare, Pa.	Charles G. Krieble
							May 20, 1930	George School, Pa.	John Bartram
							Sept. 15, 1927	Charleston, W. Va.	I. H. Johnston
Oct. 11	Atlanta, Ga.	6,025	....	...	16	3	Oct. 5, 1930	Chattanooga, Tenn.	Wyman R. Green
							Sept. 26, 1934	Phoenixville, Pa.	Charles G. Krieble
							May 24, 1936	Kingston, Ont.	Miss Ida Merriman
	Totals	21,503	6,500	305	248	24	.....	.....	.....

stove-pipe into the large gathering-cage. Our gathering-cage was four and a half feet high, three feet wide, and two feet deep. It consisted of a wooden framework covered with screen wire, and had two small doors on one side which were useful in removing the birds. The entire set-up is shown in the photographs in Fig. 2, as well as our method of transporting the equipment on top of a car. Sufficient stove-pipe was used to connect the trap and the gathering-cage standing on the roof at the base of the chimney, so the birds could be removed from the cage as soon as any came out of the chimney, thus speeding up the banding procedure. We generally had no difficulty in starting the birds just after daylight. If necessary, we pounded on the outside of the chimney with sticks and allowed from one to two thousand to come out into the large gathering-cage. The flow of birds was shut off by the simple process of throwing a blanket over the screen on the top of the trap, thereby darkening the chimney and keeping the other birds quiet until the blanket was removed and the birds were again started by pounding on the chimney. During the handling of the 6025 birds at Atlanta we filled our large gathering-cage four times by this method and experienced no difficulty with birds smothering in the cage. In earlier bandings, before this technique was developed, we had some difficulty with the birds coming out in too large numbers.

The chimneys we worked were mostly those at school buildings, and they varied greatly in height and in the size of the flue opening. Their heights ranged from ten to twenty-eight feet from the roof, making it necessary to use an extension ladder to attach the trap to the chimney. The trap was fitted to flues of various sizes by placing boards over that part of the flue not covered by the trap.

Table No. 2 shows the recoveries from other stations caught during our various banding attempts. It is quite interesting to note that eleven of these twenty-four recoveries were from Kingston, Ontario, Canada, while the others were banded in Maine,[3] New York, Pennsylvania, Virginia, West Virginia, South Carolina, Tennessee, and Alabama. The original localities of all these recoveries, except that from Memphis, Tennessee, make an almost direct northeast-southwest line with our banding points, as shown on the map in Fig. 3. This may indicate that most of the birds passing through east-central Alabama on their southward migration come down along the eastern slope of the Appalachian Mountains. The direction they take after leaving our locality and continuing their southward migration remains to be determined. We are hoping that other banders

[3]Since this manuscript was sent to the printer, the following has been received from Dr. A. O. Gross: "I am glad to report that band 36-26804 was placed on a Chimney Swift at our Bowdoin Scientific Station, located on Kent's Island, in the Bay of Fundy, New Brunswick, Canada, on August 23, 1936. It flew into one of the buildings during a rain storm and is the only Swift that we banded." Hence the record as given in Table 2 and Figure 3 as Brunswick, Maine, should be changed to Bay of Fundy, New Brunswick. This bird flew about 1,500 miles before being captured by us at Opelika, Alabama, on September 20th, in just 28 days.

will capture some of our birds during the next few years and thus assist in determining more accurately the migration route or routes of this bird. A determination of the migration routes is especially desirable for the light it may throw on the still unknown wintering-range of the species.

We found that considerable interest was aroused in the Chimney Swift banding work among students interested in biology, and little difficulty was experienced in obtaining sufficient assistance to carry on our trapping work. We are hoping that enough enthusiasm has been aroused in this area to conduct Chimney Swift banding on an intensive scale in future years. We are especially anxious that bird-banders in other sections of North America should make an effort to trap Swifts as they can be so easily trapped and banded in large numbers. The author will be glad to furnish any further details concerning our equipment and methods to banders who may be interested in obtaining such information.

Biological Survey, Auburn, Alabama.