OPERATION BARN SWALLOW

By John W. Taylor

Barn Swallows, Hirundo rustica, have nested in a number of buildings on our farm for many years. Among my earliest memories were the swallows that perched on a basketball hoop outside our garage where they preened themselves and twittered happily. To see them twisting and turning as they flew over the nearby meadows was a pleasing and common sight. I was surprised the first time I saw one at the seashore but soon learned they frequent the coast in numbers. Apparently the only odd thing about seeing them coursing over a meadow near Lake Tahoe, California, was that I was there to see them. The Barn Swallow is at large throughout most of our country.

Although I am always pleased to see one, it is not the ubiquitous swallow but the Barn Swallow at home with which I am presently intrigued. In the spring of 1960 I set out to band every swallow that set foot or wing in any of our buildings. Think of the information that could be gleaned from banding an entire colony, adults and young, every year for a number of years. A complete record of the individual birds would be supplemented by a complete record of the colony of which they were a part. If, for example, an individual bird returns or doesn't return, one can draw certain conclusions. If, on the other hand, an unusually large percentage of the colony of which it was a member returns or doesn't, this could mean something quite different. Records for a number of years would be needed to determine what the normal percentage of return would be.

It would have been invaluable in 1958 when New England and Long Island were sprayed from airplanes in a concentrated effort to control the Gypsy Moth to have had such a record. I am curious as to whether there was any significant change in the size of our colony that year, and whether the nestlings were of average numbers and normal growth.

Undoubtedly there are many questions that would occur to banders making such a study. Some of interest to me are the following: How does the percentage of returning adults compare with that of returning young? Do some family groups have higher returns in the spring than do others? If so and if they arrive at the same time, it might indicate that they winter in the same locality. Do some birds return in the early spring and then move on to nest at another location? What is the mortality of adults and young during the nesting season? Does the first brood of young remain in the area where they were hatched while a second brood is being reared? If not, where do they go? Do the adults that raise only one brood leave the barn when their young begin to fly or do they keep it for headquarters until later in the summer? Do birds from one colony winter in a particular section of their range or are they spread throughout the winter territory? The more one learns, the more questions arise to be answered!

I must admit that I have not been successful, for even one year, in my attempt to band all the swallows living in the buildings on the farm. As is probably true for all of us, I felt that time was the greatest problem. I thought it would be a simple matter to catch adults in a mist net. The birds fly in and out through one window and it seemed that a properly placed net would catch a large number in a short time. I placed the net inside the window because it was at a working height there but would be two stories high on the outside. This also seemed a good place because it is darker inside the barn, and I thought the net would not be as easily seen. The swallows come in the window and then fly upward at a steep angle. This necessitated having the net fairly close to the window. After all was in readiness I was dismayed to note the swallows circling outside the window -- none entered. I walked around the outside of the building and discovered that the net was quite visible. It would have to be moved back. There was a slight breeze blowing through the window and to keep the net from catching on some object while being taken down I closed the window most of the way. Hardly were my hands off the window when three swallows came through the smaller opening and were caught in the net which was now less visible. This solved part of my problem. The birds inside the barn, however, could see the net and avoided it. I believe prolonged use of the net might cause some swallows to move away and others would learn to fly around it. What had originally seemed a sure bet now seems less than perfect.

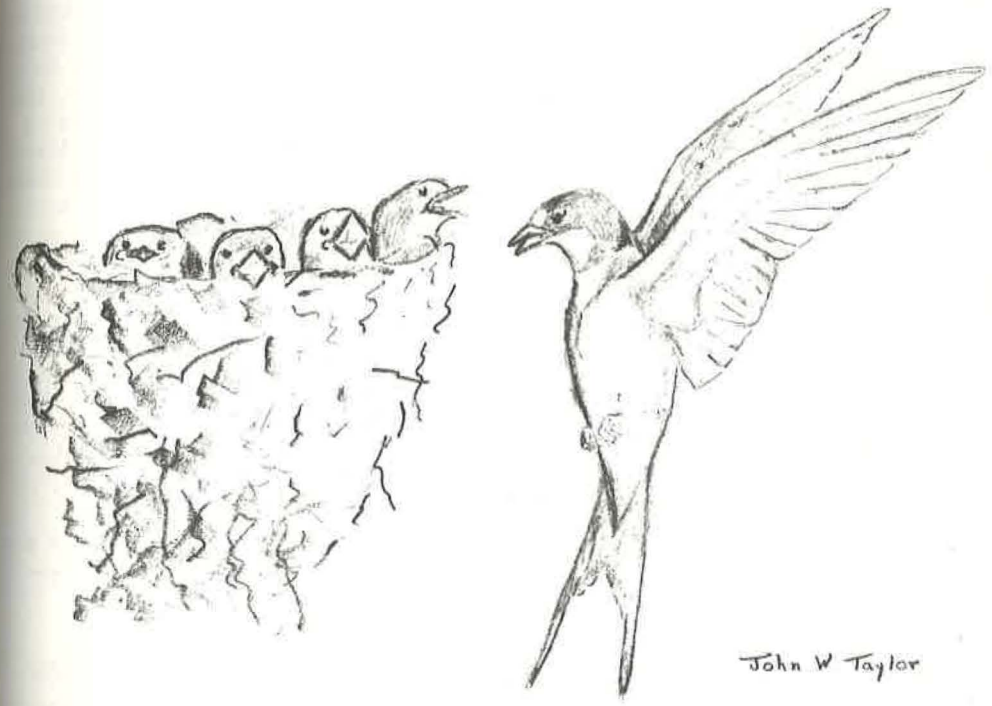
I believe one might have better success by placing two funnels in the window allowing the swallows to enter the barn through one and exit through the other. By placing a gathering cage at the end of each funnel for short periods, I believe the swallows could be caught without becoming funnel shy. Some trick such as curving the funnel slightly or using a clear plastic baffle at its smaller end to guide the birds into the gathering cagemight help keep the swallows from seeing the cage before going through the window.

Unless the birds when banded were also marked in some way that would show up when flying overhead, it would be difficult to know if all had been captured or not. One might assume after a period of time that if all birds caught were banded and the number banded equalled approximately twice the number of active nests that the goal had been reached. Whether there are non-breeding birds in the colony and if so how many and the effectthey have on the colony would also be an interesting part of such a study.

As long as one had time to visit all nests at the appropriate moment for banding the young within, there would be little problem in "capturing" the new generation. The nests in our barn are about fifteen feet high and I had to use an extension ladder to get to them. Because of horse stalls and other impediments, I would have to take the ladder down after going to

two or three nests, move it into another stall and put it up again. This was extremely time-consuming and also tiring on a hot day. A catwalk arrangement would be most helpful if the expense could be justified.

I make a schematic diagram showing the nests in relation to one another and number them. In this way I am able to keep track of what I find in each nest. This record is of immediate value as it shows which nests have banded young, which have young too small to band, which have eggs, and which are empty. The chart has long range value in comparing one year with another.



Because of some nests' being empty and others' having eggs or young too small to band, I believe much climbing time could be saved by observing the droppings under the nests. Undoubtedly "X" to "Y" days after the first droppings appeared, the young would be of bandable size. "X" would be the first day it would be worthwhile climbing to the nest and "Y" the last. I put a limit on the time for banding nestlings because after a certain age they will jump from the nest, fly into a wall and slide along it to the floor. They then move behind objects and I fear might starve if not carefully sought out. I believe it is best to band before this age or after they have been flying a while.

I found that a wooden quart berry basket placed inside a cloth bag and attached to my belt and a small hand mirror were valuable banding accessories. All nests were within a few inches of the barn ceiling and could not be looked into. The mirror would quickly reveal the state of occupancy. If there were young to be banded, I would remove all of them, place them in the basket, and return them to the nest one by one as they were banded. In this way I kept from mixing banded and unbanded birds.

As the young are removed from the nest they clutch the nest lining and often pull out a few feathers and pieces of dried grass. Maybe I wouldn't have paid much attention to the feathers, other than to replace them, if I hadn't read an article a short time previously which stated that barn swallows use only chicken feathers to line their nests. Some of the feathers clutched by the young birds were not from chickens, but from mallard ducks! They were brown and tan feathers from the duck, and the "canvas" colored ones from the drake. My guess is that the size of the feather is more important than where it came from. Chicken feathers have probably been the most accessible of the size required. For a number of years there was a good-sized flock of chickens on the farm, but now there are only a few straggkers. There are mallard ducks on the pond where the swallows obtain mud for their nests and undoubtedly some of their featherswere easily accessible to the nest builders.

Nassau County, where I live on Long Island, is growing rapidly. Man is building houses in the fields and tearing down barns. Spraying insect pests is widespread. How will the barn swallow stand up to the hardships coming its way in this community? I hope to be able to reach the banding goals discussed and with the knowledge gained keep an intelligent watch on Hirundo rustica in a rapidly changing environment.

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WHO IS BANDING THE MOST OF WHAT - 1960

Edited by Lillian Cardinali

AOU	SPECIES	WHO & WHERE	NO.
587	Rufous-sided Towhee	Lillian Cardinali (N.J.)	182
593	Cardinal	B. Matlack & W. Savell (N.J.)	194
595	Rose-breasted Grosbeak	Mrs. James Downs (Vermont)	28
		Walter Bigger (Pa. & N.J.)	28
597	Blue Grosbeak	Dr. C. H. Blake (N. Carolina)	13
598	Indigo Bunting	Dr. C. H. Blake (N. Carolina)	62
601	Painted Bunting	Harmon Nodecker (Florida)	9
604	Dickcissel	Philip Heywood (Mass.)	2
608	Scarlet Tanager	Eleanor Dater (N. J.)	30
610	Summer Tanager	Dr. C. H. Blake (N. C.)	30