

PURPLE MARTINS

By Ralph K. Bell

My interest in Purple Martins started one beautiful Sunday morning years ago, when my sister, brother and I were walking to Sunday School. About half a mile from our farm there lived a respected elderly man that everyone called "Squire" Rodgers. I was shocked that morning to see "Squire" Rodgers toting a gun (in obvious haste) across the road in front of us. I called out to him to ask what the trouble was (I presumed it was big trouble as we were not allowed to pound a nail on Sunday, let alone shoot a gun.) Mr. Rodgers informed me that he had seen 3 Starlings on his Purple Martin box a few minutes before and they must be shot if at all possible. He also made the comment that unless checked, Starlings would become a terrible menace. "Squire" Rodgers never lived to see his prediction come true, but his comments had left a lasting impression on a young bird-watcher.

Later, I built an 8-room box, cut a pole from a tree in the woods, and proudly put up my "Martin" box. Every Spring some Purple Martins would look the box over, but would not build. Years later I found out why -- the rooms and holes were not the proper size.

The history of Purple Martins in Greene County, Pennsylvania goes back to the year 1896 when Mr. J. Warren Jacobs erected his first Martin box at Waynesburg. It was a success and Mr. Jacobs started making and selling Martin houses to his neighbors. He enlarged his output and for many years built and shipped thousands of bird houses. His products ranged from small compact houses to large, fancy designs which were modeled after the fashionable houses of the times. Mr. Jacobs turned out some works of art, as local residents recall, with a carload of bird houses on the railroad siding not an unusual sight, as they awaited shipment all over the United States. Mr. Jacobs employed as many as 14 men at a time in his factory. His prize model contained 104 rooms and was called the "Capitol". There were broad porches and beautiful peri-style colonades on all four sides, numerous roof ornaments, raised window trimmings, cornice, mouldings, etc. It was nine stories high, including the three stories in the clock tower, with a complete tin roof and porch projections. I might add that the shipping weight of this fabulous model was a little over half a ton. Henry Ford purchased at least 15 of these and there is still one in use near here today.

Many people have remarked that it is hard to get Martins to nest in their boxes. First, one should have the right kind of box. In the eastern United States the Purple Martin is almost wholly dependent upon nesting accommodations provided by man. Under primitive conditions they used old woodpecker holes and similar cavities, and this is still true in parts of western United States. In our area the bird box habit is so firmly established that it has become a controlling factor in the distribution of the species. The dimensions of the rooms in a Martin box

should be 6 x 6 x 6 inches, and the entrance hole slightly less than 2 inches in diameter. A perch is not absolutely necessary but most boxes have them, and some even have railings to keep the young from falling to the ground before they are ready to fly. Best results are obtained when the box is placed away from trees (as the Martins like to swoop down in an open area as they leave the box -- this habit makes it easy to net a fair percentage of Martins for banding purposes.) A box with lots of rooms seems to appeal to them and in this area the recommended height for the pole is 15 to 18 feet, although I have seen some boxes as low as 8 feet above the ground.

Once you get Martins nesting in your boxes, the biggest victory is won, but there can also be a problem in keeping them. After Martins have been using a box for a few years, there can develop a mite problem, even if the box has been cleaned. If the situation is allowed to get bad, many of the late hatched young may die of starvation as the parent birds will refuse to alight on a box covered with mites. At my neighbor's box I have watched the parent birds approach with food, but just before landing go screaming away in apparent terror. I have used Malathion dust (for the past few years and the mite problem is apparently eliminated (Malathion is very good for both mites and lice and seems safe for warm-blooded animals and birds if not mixed with other compounds -- DO NOT USE DDT.)

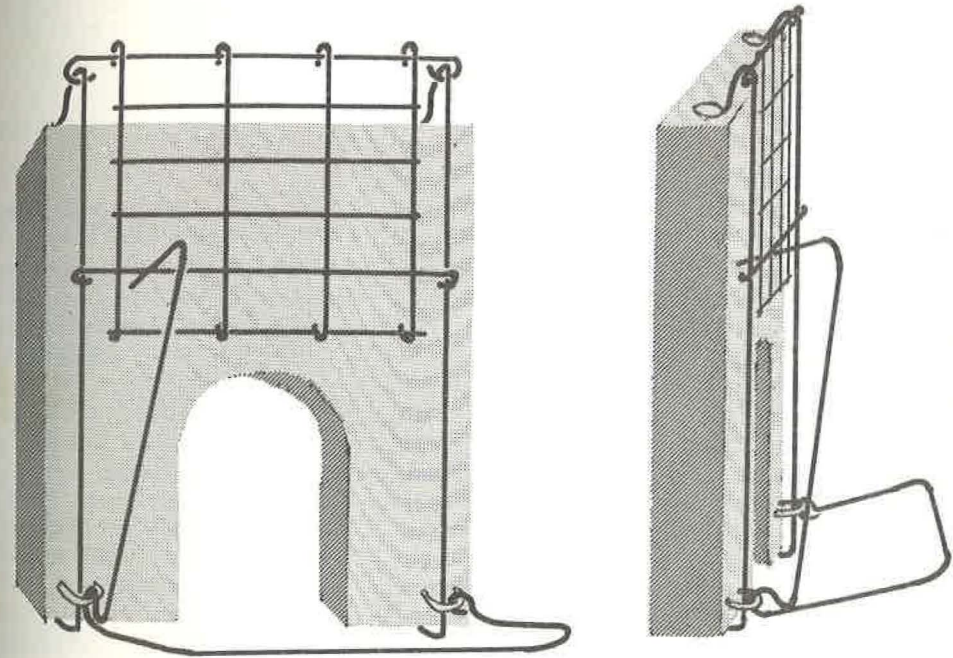
Screech Owls can also be a problem in some areas. That is one reason for keeping the entrance hole down to two inches or less. One box owner once found a dead owl in one compartment when cleaning out his box in the Fall. It had evidently managed to get in and enjoy a meal, but the willpower to get out wasn't as great. Another story was told by a carpenter from Waynesburg who was repairing a house in the country, the yard of which contained a well-filled Martin house. He said he became much interested in the birds, and while watching them in the evenings noticed a Screech Owl go to the box - but not enter. Later he heard a Martin struggle as an owl flew from the bird house. By watching closely, he noticed that the owl clung to the entrance perch, thrust a claw through the entrance and draw out a young bird. After seeing this happen several times, he later borrowed a gun and shot five Screech Owls from the cupola of the bird house in one evening.

Cooper Hawks are my greatest problem. They use the surprise element by trying to sneak in and grab a youngster off a perch before it can get back into the nest compartment. Bedlam breaks loose when this happens as the hawk is usually spotted a few hundred yards from the box and all Purple Martins and Barn Swallows that are available give chase while there is a mad scramble by the young trying to get into the holes at the same time. After one of these attacks it usually takes at least an hour before things get back to normal as the old birds keep flying in circles high above the box.

Since I am a great believer in the balance of nature, I try to tolerate Screech Owls and the Accipiter Hawks, and have not killed any of these birds for perhaps 15 years. After all, they are here for a purpose.

I would not advise trapping and netting Martins until they are well established, as it does make them scary, especially after the young hatch. It is probably best when banding Martins to have two boxes that are at least 50 yards apart, and then use traps in just one of them. We use traps in only 6 holes of a 10-room box. I think it is best to not put traps in every hole as that gives 4 pairs a chance to take possession of nesting compartments and stay at the box -- otherwise the Martins might abandon the box entirely and none could be trapped.

The following drawing shows the traps we use. They are cut to correspond to the inside of the entrance hole and bolted there (for easy removal). (One bolt hole near the top of the trap is sufficient.)



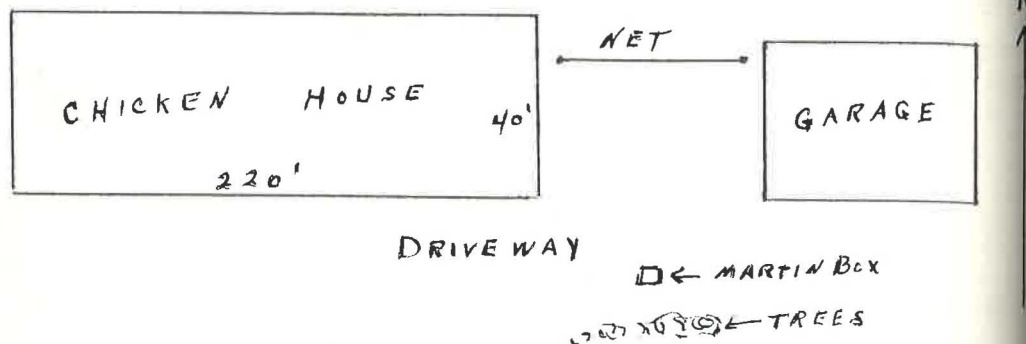
Front View

Side View

The traps are placed before the Martins arrive and removed about May 15 (this could probably be later farther north) so that the sub-adults that arrive in this area the last of April and the first part of May can still nest.

The adults and young are removed for banding by having each floor hinged on one end (two hinges on each floor are best) and held down on the open end by an old fashioned screen door hook. To catch adults the floor above is raised just enough to slide a hand in. While banding young the open end is simply propped up by a six inch stick.

The net used to catch Purple Martins is a 5-meter net stretched between two buildings (also used for Barn Swallows and described in EBBA News 25(3):113. The position of the net in respect to the Martin box is shown as illustrated below:



Both adults and immatures are netted during July and August, as this is when there is a lot of visiting to neighborhood boxes still containing young. Most of this visiting takes place in the mornings and during this period there is a lot of twittering, chattering, and Martin talk going on. The netted immatures can be told from the adults by the yellow mouth (adults have flesh-colored mouths.) I do not know when the yellow color disappears, but have noted mouths with less intense yellow as early as August 6 (1962).

Banding Totals

	First Male Banded	First Female Banded	Adults & sub-A Banded	Nestlings Banded	Immatures Banded	Age Unknown Banded	Total Banded
1954				72			79
1955				131			131
1956			3	131			134
1957	Apr. 2	Apr. 9	46	60	32	18	156
1958	Apr. 2	Apr. 2	50	119	23		192
1959	Mar.25	Apr.19	51	96	21		168
1960	Apr. 2	Apr.18	32	96	3		131
1961	Apr.13	Apr.24	46	56	14		116
1962	Mar.31	Apr.18	39	101	20	2	162
TOTALS			<u>267</u>	<u>862</u>	<u>113</u>	<u>20</u>	<u>1262</u>

The low number of immatures banded in 1960 was a direct result of the very cloudy rainy period of May 7-14, 1960 when so many of our Barn Swallows and Purple Martins died. We found 19 dead Martins in our yard alone, and there were probably many more that were out searching for insects and became too weak to get back to the boxes. Some boxes in the area were vacant entirely and others had only a few pair. Therefore there were few immatures to come around on visits and get caught in the net.

One question most often asked is whether the young come back to the home box to nest. I think the law of chance applies here. The following table shows the number of recaptures. N = Nestling; A = Adult or Sub-adult.

Recaptures

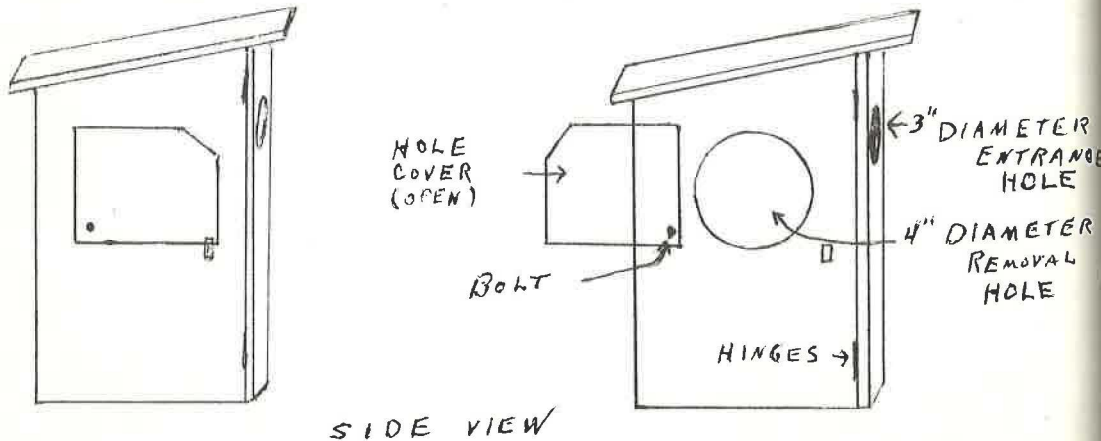
		1956	1957	1958	1959	1960	1961
First year after banding	N	2	0	3	1	1	0
	A	1	7	1	4	4	2
Second " " "	N	1	0	2	2	0	
	A	0	1	0	0	0	
Third " " "	N	1	0	0	1		
	A	0	2	0	0		
Fourth " " "	N	0	0	0			
	A	0	0	0			
Fifth " " "	N	0	0				
	A	0	1				

There was a total of 13 different nestlings recaptured later, and there was a total of 21 different adults or sub-adults captured the years following banding. Of the nestlings sexed on return - 7 were males and 2 were females; of the adults and sub-adults - 11 were males and 7 were females. The only apparent reason for more males being captured is because the males generally seek out the nesting site and then try to talk a female into accepting it. I well remember several years ago witnessing a male trying to get a female to accept a Bluebird box. He constantly kept up the chatter on the Bluebird box and would often fly over to the big Martin box and get a female to follow him back. One look was enough for her and after about a week he finally gave up.

Many stories about Purple Martins often refer to the first arrivals as "scouts". I feel this is a misnomer. Once a Martin arrives, he is here to stay. If any disappear it is due to starvation or the home box in the area has just been erected. I have known Martins to stay at one of my boxes until a neighbor gets his up and then some leave immediately. The desire to get back in the Spring is evidently very strong and many older Martins die almost every year during prolonged cold spells. Some of the sub-adults do not arrive until after the middle of May and this

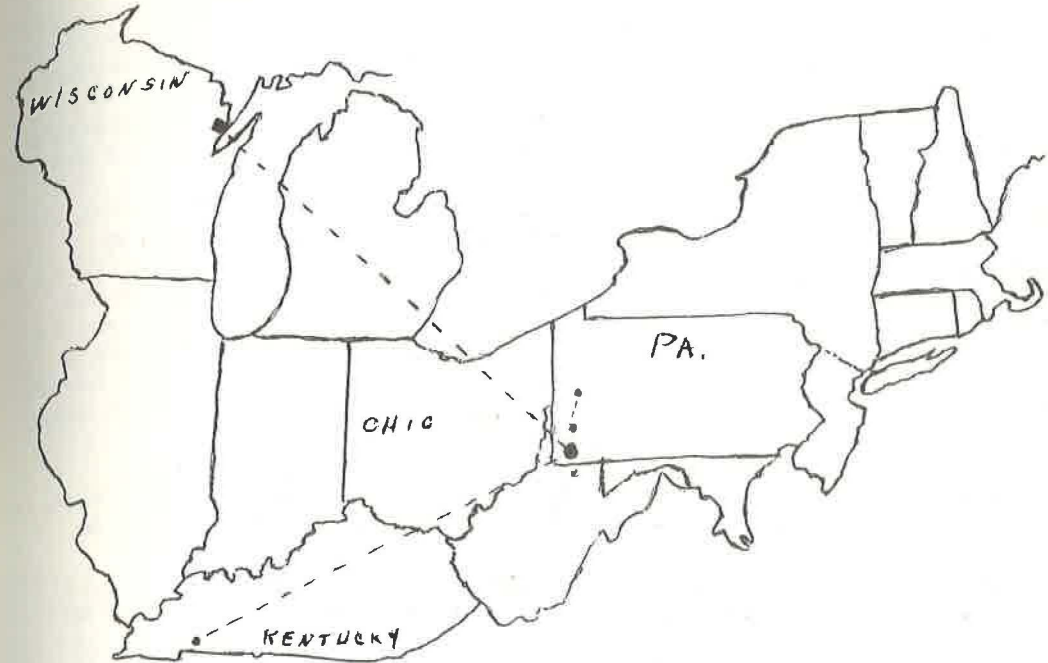
helps preserve the species. The earliest arrival here was a male on March 7, 1956 at 4 P.M. on a very warm day. Two others arrived on March 17, but all died later when a cold spell set in.

Starlings and English Sparrows at one time were a major problem until I fastened one of my box traps (used for catching Flickers, Starlings, Screech Owls, and Sparrow Hawks to band) immediately below the Martin box. The box is similar to those used by Henderson and Holt for their Screech Owl and Kestrel studies (description of box in EBBA News 25(3):96.) The English Sparrows are eliminated, while the Starlings are banded and released, and I might add - seldom come back. The type trap is the same principle as used for trapping Martins. The drawings show how the English Sparrows and Starlings are removed from the box trap.



Recoveries of our Martins have been few so far, but there is a suggestion that they do not all possess an affinity to the home area. A good example of this is a nestling banded here on June 26, 1958 (later caught in the net on July 20, 1958) and then not heard from again until caught by hand on July 24, 1962 at Marinette, Wisconsin, approximately 500 miles northwest of here. It was evidently nesting in that area. Also there is a hint that Martins stop at boxes on the way, in the Spring, to the nesting area. An adult male, trapped here April 20, 1958, was found dead May 15, 1960 in the yard of a Martin box owner (Mr. Harold Cullen) at Saxonburg, Pa. This is approximately 80 miles due north of here. Whether this stopping is a common practice, or due to weather conditions, or random searching for the home box, is a big question. Also, there is as yet no proof that all adult Purple Martins nest each succeeding year in the same box (if still available), but until proven otherwise we must presume this to be true. This leads me to another question -- if a nest box that has been used for years is destroyed, do all the returning adults nest nearby, or do some leave the area entirely?

The following map shows the Martin recoveries outside of the county:



The Kentucky recovery was an immature netted here July 14, 1957 and found at Bell Farm, Kentucky. The letter was dated June 30, 1959. I wrote for more information as to whether the Martin was nesting, but my letter was never answered.

This article has given information about Purple Martins other than banding, but I feel that an insight into getting Martins to nest and then keep them is necessary if Martins are to be banded in quantity. There is much to be learned about Purple Martins and banding is going to pave the way. Mr. J. C. Finlay of Edmonton, Alberta, is making a continent wide survey and study of Purple Martins. He will eventually come up with a lot of answers.

Purple Martins are a most interesting and desirable bird, and when you have them around your place, you have (to quote from EBBA member Mrs. Paul T. Anderson of Middleborough, Mass.) "something special."

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