

## ROOSTING HABITS OF MARTINS AT TUCSON, ARIZONA

By MILAM B. CATER

No published record has been found of the roosting of Martins (*Progne subis*) in large numbers throughout the breeding season, although such a roost near Tucson, Arizona, has been known locally for years. A report was made of a considerable number of martins gathering on the electric wires 6 miles northeast of Tucson in June, 1933, by Anderson (Condor, 35, 1933:204). Also, martins were observed nesting in old woodpecker cavities in the Sahuaro cactus (*Cereus giganteus*) near Tucson by Swarth (Condor, 7, 1905:49) and Vorhies (*ibid.*, 37, 1935:246).

Known arrival dates of martins in the Tucson area are lacking for 1943, although William X. Foerster observed five flying toward the northwest at sunset near the University of Arizona on May 6. Cater first observed them at sunset on May 20, when they assembled in large numbers on electric wires one-half mile west of the Santa Cruz River near Speedway Boulevard, 2½ miles northwest of Tucson. At dusk these birds left the wires *en masse*, and within five minutes all had disappeared into a grove of cottonwood trees located at a reservoir on a near-by golf course. This roost was visited on subsequent days, including May 26, when, in company with Anders H. Anderson and William X. Foerster, the number of martins was estimated at 3000. They were observed flying to the roost from all directions, the larger number seemingly from the direction of the Sahuaro National Monument, an area of giant cacti twenty miles to the southeast. The martins began arriving in the vicinity of the roost about one hour before sunset, continuing to arrive until dusk.

In the first week of June, 1943, for no apparent reason, the martins changed their roost to a grove of cottonwood trees in a house-trailer park 1½ miles north of the golf course, and one-quarter mile east of the railroad near Highway 84. This roost, according to near-by residents, was used in 1941 but not in 1942. But the martins continued to assemble on the wires in the vicinity of the golf course near the old roost, flying to the new roost just before dusk. This practice continued until the first part of July, when they began assembling on the wires in the vicinity of the new roost.

Throughout the summer months, the number at the roost, an estimated 3000, did not change noticeably, except during the egg-laying and incubating periods, which in this region begin the last week in June and continue until the last week in July. During these periods, males greatly outnumbered females, the total number being reduced according to the number of females remaining at the nests.

It is believed that martins fly from considerable distances to this common roost. They were observed on June 20, 1943, at the Palo Verde Ranch 19 miles northeast of Tucson, flying toward the roost about one hour before sunset. At that time they flew in a leisurely manner, feeding as they went. On three occasions the speed was checked by the car speedometer: it was 23 miles per hour in each case. On several other occasions, just before dark, however, small groups were observed flying rapidly in the direction of the roost.

Several times the roost was visited in the early morning at daybreak, but the martins had all departed. During June and July, at my home on Glenn Road, 4½ miles northeast of Tucson, they were heard high overhead, long before daylight, flying toward the cactus areas. On one occasion, July 19, 1943, they were heard at 2:30 a.m., Mountain Standard Time.

In an area of giant cacti, on Pontatoc Road, 8 miles northeast of Tucson, young

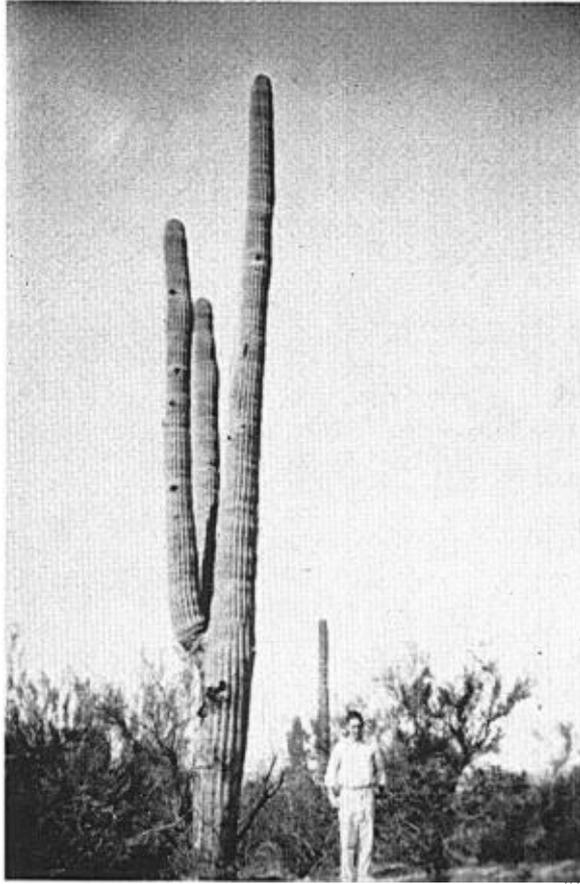


Fig. 3. Nesting site of Martins in giant cactus. Nests were placed in upper two deserted woodpecker holes. Photograph by the author.

martins were observed between August 19 and 30 making their initial flights from five different nests. For the first three or four nights they returned to their nests; thereafter they accompanied the parent birds to the common roost. By September 1 the number at the roost had increased to an estimated eight or nine thousand. This large number created unsanitary conditions by their droppings on the trailers parked near the cottonwood trees. The inhabitants of the trailers endeavored, by different methods, to force the martins to leave for another roosting place. All sorts of noise-making devices were used, but to no avail. This only caused the martins to mill about high overhead until dark, whereupon they descended quickly into the trees.

In the first week of September the martins discontinued assembling in the vicinity of the roost and began assembling on the wires near a gravel quarry one-half mile north of West Speedway Boulevard, on Silverbell Road; they flew to the roost some two miles to the northeast shortly before dusk each day. This practice continued until their final departure. By September 7, the number had increased to an estimated 10,000,

and on September 13, 11,000 were counted assembled on the wires, with possibly 2000 flying about in the vicinity, making a total estimate of 13,000 martins.

At this new assembling place the martins were drinking and bathing in a pond of water which had formed in the bottom of the gravel quarry from rains that fell in August. It should be mentioned that all feeding and drinking, as well as bathing, is done on the wing. They fly just above the surface and drop tail first into the water, immediately rising into the air, shaking and even preening themselves while flying.

As no published fall departure dates are available for the Tucson region, the martins were kept under close observation after September 13. The roost was visited daily in company with William X. Foerster. The results of these observations are as follows, all numbers having been estimated, except as indicated:

September 22, 13,000 at the roost.

September 23, 1000; the weather on this day was stormy, and the martins were dispersed.

September 24, 25, and 26, 5000 at the roost.

September 27, 4000.

September 28, 2000.

September 29, 1000.

September 30, 500.

October 1, 250.

October 2, 62 counted at the roost.

October 3, only two immature martins were seen at the roost. They were recognized as young birds from their call-notes.



Fig. 4. Martins drinking and bathing in flight at a pond in bottom of a gravel quarry.  
Photograph by Tad Nichols.

On October 4, and thereafter, no martins were seen. Therefore, for the Tucson region in 1943, it can be said the departure extended from September 23 to and including October 4.

In an attempt to ascertain the area that was represented at the roost during the breeding season, an estimate was made of the breeding population in three scattered areas of one square mile each. Three to five pairs were counted in each of these areas, constituting an average of four pairs, or eight birds per square mile. Calculating from the estimate of 3000 birds at the roost, it would appear that they nest in an area of 375 square miles. However, this does not include a non-breeding area of approximately 175 square miles in which is located the city of Tucson, plus adjacent areas where the giant cacti do not grow. Thus the total area utilized by the martins in the Tucson region is roughly estimated at 550 square miles.

Thanks are extended to Anders H. Anderson and William X. Foerster for their assistance in certain of the field observations and to Lyndon L. Hargrave, Edouard C. Jacot, and Allan R. Phillips for checking this report and making valuable suggestions.

*Tucson, Arizona, November 19, 1943.*