FROM FIELD AND STUDY

The Emperor Goose on Carmel Bay, California.—On December 29, 1945, I saw an Emperor Goose (*Philacte canagica*) standing on a low rock (a part of Pescadero Rock of the U.S.G.S. maps) at the north end of Carmel Bay, California. The bird was squatting and preening and, although at long range, it afforded an excellent opportunity in good light to observe, with the aid of a prismatic telescope, the white head and hind-neck, the black throat, the "scaled" upperparts, and the yellow legs.

The presence of this bird in the region was first brought to my attention by Mrs. Wilma Cook, of Carmel, who first saw it on the beach at Carmel on December 28. At that time it was standing among some Heermann Gulls (*Larus heermanni*) and allowed Mrs. Cook to approach closely. The bird was noted by the members of the Monterey Peninsula Audubon Society, including the writer, at the time of the Christmas bird count for Audubon Magazine on December 30.

On January 8, 1946, the goose was seen again, but this time on the water. It was observed pecking vigorously at the tubes and heads of slimy kelp floating on the water. After half an hour it took off, flew low over the water for 300 yards with rapid beats of its somewhat short wings and re-alighted among other growing kelp heads.

On January 11 the goose was once more located on Pescadero Rock. This time there were five Brant (*Branta bernicla*) on the rock also. The Brant were nibbling at marine vegetation exposed by the low tide, but the goose remained in a sleeping posture. Soon the Brant took flight to the water and browsed at kelp heads as the Emperor Goose had on January 8. I could see the Brant pulling off stringy bits of the growth. After a while the Emperor Goose walked down the rock among some Glaucous-winged Gulls (*Larus glaucescens*) which gave way at its approach. The goose disappeared behind a rise of rock and was rediscovered 22 minutes later preening on another part of the rock while the Brant continued to feed, not far away.

In "The Distributional List of the Birds of California" (Pac. Coast Avif. No. 27, 1944:69), Grinnell and Miller give the geographic range of the Emperor Goose in California as "Northwest coastline and great valleys south to Merced County" and cite a record by Bryant for December, 1912, at Ingomar. The present record would then seem to be the most southerly definite occurrence for the species in the state. The salt water habitat in which I found the bird is of interest also as Grinnell and Miller state (*op. cit.*:70): "Occurrences here [in the state] chiefly in fresh-water areas, and where also winter most of our other geese, those which are non-maritime. This is surprising, because the Emperor Goose in its main wintering area far to the northwest appears to be restricted almost exclusively to the salt-water littoral. However, a fair number has been reported from maritime habitat at Humboldt Bay." —LAIDLAW WILLIAMS, *Carmel, California, February 20, 1946.*

Indigo Buntings Breeding in Arizona.—Although there have been several records of the Indigo Bunting (*Passerina cyanea*) in Arizona, the birds have generally been considered to be casual visitors. The normal range is, of course, far to the east. At the western edge of this range, on the plains, occasional hybrids with the Lazuli Bunting (*Passerina amoena*) have been reported. It was thus quite unexpected to find evidence that the Indigo Bunting was breeding, apparently in pure strain, in north-central Arizona.

We observed Indigo Buntings at Manzanita Forestry Camp in Oak Creek Canyon, 26 miles south of Flagstaff on U. S. highway alternate 89, from July 4 to August 8, 1944. They were found in an apple orchard on one side of the road and in native trees and shrubs along the road. The trees here are yellow and piñon pines, four species of oaks, smooth cypress, three species of juniper, and an alder; a hundred feet below, along the creek, are willows and aspens. The shrubs include *Ceanothus,* scrub oak, sumac, and two species of manzanita.

We first saw an Indigo Bunting on July 4, when a male was noted singing from a juniper, at a bench mark elevation of 4875 feet. Later we saw this bird whenever we were in that vicinity; usually it sang from a conspicuous bough of an apple tree near the road. With field glasses we easily made out the purplish blue head and throat, lighter blue body, black lores and tail, and solidly dark wings, without wing bars. There was a Lazuli Bunting a short distance upstream, and the two could not be confused. We are also familiar with the Blue Grosbeak (*Guiraca caerulea*), which we saw daily near Prescott, Arizona, from May 11 to 22, 1944.

The female Indigo Bunting was not seen until July 23, when the young came off the nest. The nest was not seen, but the fuzzy brownish fledglings appeared that morning, and both parents were much excited about them. The male hopped excitedly about one of the fledglings on a low branch of a walnut tree near us. The female fed a second fledgling in a near-by shrub. Another was discovered low in an apple tree. We watched it sit perfectly still for more than twenty minutes, and we wondered

how the parents would find it. Without a sound from parent or fledgling, the female flew straight to the latter, fed it, and flew away. The fledgling remained in its place. The female was olive brown above, lighter and lightly streaked below. Her wings and tail were faintly tinged with blue. She had no wing bars. The young resembled the female, but were brighter brown with short tails.

On July 24, we saw the parents together carrying food to three or four young in an alder tree near the road. The next day the family was still in the alders. The male, with a green caterpillar in his beak, flew from the orchard and fed a young bird. We saw the male again on August 1 and nearly every day after that until August 8. He often sang on the wing. Although we visited the locality almost every day until early September, we did not see the buntings after August 8.—H. DEARING and M. DEARING, *Tucson, Arizona, January 25, 1946.*

Notes on the Purple Martin Roost at Tucson, Arizona.—Roosting behavior of the Purple Martin (*Progne subis*) during the summer and fall of 1943, at Tucson, Arizona, was described by Cater (Condor, 46, 1944:15-18). A careful check of our own notes of the past fourteen years and additional data which we gathered in 1945 reveal that considerable change occurs occasionally in the roost location. Cater reported one such change in 1943, a shift of 1½ miles to the north from the earlier roost.

Our home on Kleindale Road, northeast of Tucson, has been directly in the path of the general evening flight of the martins. In the year 1932 the flight was westward. In 1933 the martins gathered at dusk near Binghampton Pond, 1½ miles east of us, and about 6 miles east of the Santa Cruz River roost of 1943. Presumably they roosted in the vicinity of this pond. Then from 1934 to 1944 the flight was again to the west. (No data are available for 1936, and only the date of first observation was recorded for 1939.)

Apparently, gregarious roosting takes place as soon as the migrants arrive from the south. All martins seen flying by in the evenings in the spring, summer and fall have been in groups of more than two. While we did not obtain exact spring arrival dates, we did record the first evening flights past our home. These range from May 3, in 1940 (also our earliest arrival date), to May 15, in 1938. Probably the average arrival occurs in the first week of May in the Tucson region.

In 1945 the martins were first seen flying west on May 13. We visited the Santa Cruz River area on June 21 and saw perhaps 1000 birds fly to a roost in the cottonwoods at a golf course reservoir. By the first part of August, however, the evening flight reversed to the east. Martins soon began resting on the electric wires in our neighborhood. As many as 1000 were counted on August 25. On August 26 we discovered the roost about one-half mile southeast of our home. It was again in a grove of cottonwoods, but about five miles east of the Santa Cruz River golf course roost.

Evidently the roost consisted only of martins. No other species was noted flying into the trees. However, on September 18, while we watched the martins coming in from the northwest over our house, we discovered a Vaux Swift (*Chaetura vauxi*) flying with them. We drove to the roost at once, hoping to locate it again. Scanning the swarm of martins carefully, we finally picked out one or two swifts that kept pace with the rapidly moving circle of birds. Frequently we lost them in the whirling mass overhead. Then, at dusk when the last group of martins flew into the cottonwoods, we suddenly saw five swifts above the trees. They seemed to hesitate a moment, then they took off quickly to the northeast in the direction of the Santa Catalina Mountains, 5 miles away.

In the fall of 1945 there was no general assembly point used by the martins before going to roost. Therefore, we could not estimate accurately the total number. We guessed there were at last 10,000. Those coming from the west and northwest gathered on wires near our home; others, about 2000, flying in from the east were noted one evening on wires a mile to the southeast. Still others flew directly into the swarm above the roost. As the density increased, martins could be seen approaching from the northwest, west, south and east, but not from the north.

In contrast to their behavior in 1943, the martins took much longer to go to roost. At first only a few, 10 or 15 perhaps, appeared above the cottonwoods. These flew without apparent definite order in the area above the roost. Then when one or two hundred arrived, the group began a circular motion which continued as hundreds and thousands more joined it. The motion was chiefly counter clockwise, but when the group strayed off the beat it would sometimes change to clockwise. This often left a straggling, curving tail to the flock, which, in straightening out, resembled the rapid movement of a long "cracked" whip. As dusk approached, this flat horizontal circular swarm of chirping birds gradually settled lower. Soon the leading part of the group poured downward into the top of a cottonwood tree. Often the velocity was so great that the martins piled up on the near side of the tree. Then they rose over the top like a wave, and passed on, drawing some if not most of the first settlers away into the group again. Another circle, then more would detach themselves and disappear into the upper part of the tree. Sometimes three or four distinct groups would each dive in, one after the other. Between each descent the remainder of the flock continued its rapid circular motion just above the trees.