

125 field trips in the period from May 22 to October 5, 1945. The roadway mileage on these trips totaled 1960 miles, an average of 15.7 miles per trip. Guam is approximately 27 miles from north to south and 8 miles from east to west.

Birds were recorded along paved military highways, where heavy traffic often prevailed, and along less used rural roads. All birds that were seen either near or flying across the roads were noted. No attempt was made to diagnose the bird populations according to the type of roadside habitat, but at least 80 per cent of the travel was through jungle and open woodland areas. The forested regions of the island are the preferred habitats of most of the resident land birds. The extent of clearing along the roadways appeared to influence the density and the variety of birdlife more than the type of road or the amount of traffic.

During the 125 trips, 2428 birds of 18 species were counted, an average of 1.25 birds per mile. This number included 11 of the 15 species of land birds known to be resident on Guam and 7 species of fresh-water, sea and shore birds (for a discussion of the birds of Guam, see: Mayr, *Birds of the South-west Pacific*, 1945:283-302; and Stophlet, *Auk*, 63, 1946:534-540). The table presents a summary of the data and shows that the majority of the birds recorded belong to nine species: seven resident land birds, one fresh-water bird, and one sea bird.

#### Birds Observed on 125 Counts along 1960 Miles of Roadway on the Island of Guam

Species	Per cent of frequency in counts	Per cent of the total birds seen
Micronesian Starling ( <i>Aplonis opacus</i> )	100.0	57.3
Philippine Turtle Dove ( <i>Streptopelia bitorquata</i> )	68.0	15.5
Edible Nest Swiftlet ( <i>Collocalia inexpectata</i> )	56.0	9.1
Cardinal Honey-eater ( <i>Myzomela cardinalis</i> )	37.6	3.9
Chinese Least Bittern ( <i>Ixobrychus sinensis</i> )	36.8	3.0
White-throated Ground Dove ( <i>Gallicolumba xanthomura</i> )	31.2	2.5
Guam Crow ( <i>Corvus kubaryi</i> )	21.6	2.4
Fairy Tern ( <i>Gygis alba</i> )	16.8	1.6
Micronesian Kingfisher ( <i>Halcyon cinnamomina</i> )	11.2	1.2
Other species	.....	3.5

The Micronesian Starling and the Philippine Turtle Dove were the birds most often observed; evidently they were well adapted to live in the extensive clearings made by the occupation forces. Of interest, also, was the frequent occurrence of the Micronesian Ground Dove along the roads. About 80 per cent of the birds seen were males; the females were less conspicuous, but neither sex appeared to have the secretive, terrestrial habits of some other members of the genus. Of the species recorded only a few times, perhaps the bird most disturbed by the military operations was the Micronesian Fruit Dove (*Ptilinopus roseicapillus*). According to native reports, this colorful species is decreasing on Guam.

These observations do not show the actual differences among the total populations of all the resident species of Guam. They do, however, indicate, the relative abundance of some of the birds which inhabit edges of the jungle and open woodlands. This environment is preferred by most of the species listed; this is especially true of the Micronesian Starling, the Philippine Turtle Dove and the Fairy Tern. The Chinese Least Bittern and the Edible Nest Swiftlet are less typical of the roadside habitat and therefore relatively (to the total population) fewer were seen.—ROLLIN H. BAKER, *Museum of Natural History, University of Kansas, Lawrence, Kansas, March 17, 1947.*

**Least Grebe Breeding in California.**—The writers were engaged in making a bird count on a seepage pond of several acres' extent not far southwest of the west end of Imperial Dam, on the Imperial National Wildlife Refuge, Imperial County, California, on the morning of October 18, 1946, when their attention was drawn to a pair of small grebes swimming near the shore. It was at once apparent that these were two adult Least Grebes (*Colymbus dominicus*). McMurry collected two of these grebes at the same locality on October 23, 1946, an adult male and a flightless, still downy young (female?) about three-fourths grown. A second downy young was accompanying the male, but was not collected. On this same date, a rough census of the seepage pond revealed four more adults and two more immature young. The birds were observed in open water or working along the fringes of the cattails and flooded brushland adjacent to the shore. Their characteristic call at once indicated their presence, especially when disturbed. The specimens taken have been identified by Dr. John W. Aldrich as belonging to the race *bangsi*.

Considerable interest attaches to these records, for not only do they form the first occurrence of the species in California, but also the first evidence of the species' breeding in the United States on the Pacific drainage.

Monson spent some time in this area in 1942 and 1943 without detecting the presence of Least Grebes, and they have never been reported from similar territory in any part of the lower Colorado River valley. It would be logical to assume that the species is a recent arrival in this country, having no doubt worked its way up from Baja California or Sonora, Mexico.—FRANK B. MCMURRY, *Fish and Wildlife Service, Salt Lake City, Utah*, and GALE MONSON, *Fish and Wildlife Service, Parker, Arizona, January 3, 1947*.

**The Lesser Snow Goose and Canvas-back Breeding at Tule Lake, California.**—On August 2, 1946, a flock of fourteen Lesser Snow Geese (*Chen hyperborea hyperborea*) were seen at the Tule Lake National Wildlife Refuge, Siskiyou County, California. It is quite probable that all these were cripples left behind when others of the species moved north in the previous spring, but when they were seen in August, all were able to fly, at least for short distances. As we approached the flock, which was resting on a levee road, nine flew and soon alighted about 200 yards away on the open water of the lake. The five remaining birds permitted us to drive our car to within forty or fifty yards of them before taking wing. They all rose in close formation and flew rather laboriously a short distance where they were studied with binoculars under very favorable conditions. Much to my amazement I saw that two were adults and three were young not fully grown. A small amount of fuzzy down still adhered to the necks and the middle of the backs of all three young. These three with their parents were seen again the next day in the same vicinity. The only possible explanation of these geese nesting so far south of their normal breeding grounds is that these two adults mated, even though one or both were crippled and could not return to their hereditary summer range, a condition not so distantly related to that of captive birds. The question now arises, will these locally hatched young go north with others of their kind, or will they remain to be pioneers in establishing a southern breeding colony? The situation deserves further study.

In the past several years unverified reports of the Canvas-back (*Aythya valisineria*) nesting in northeastern California have been brought to my attention. Such reports were nearly always from some observer that saw "cans" during the normal nesting season, but none reported the actual finding of a nest or downy young. However, some years ago while studying the matchless collection of photographs of birds taken by William L. and Irene Finley, I noted a picture taken on the west shore of Lower Klamath Lake, Siskiyou County, in the early summer of 1905. This photograph clearly shows an adult female Canvas-back with downy young which were undoubtedly hatched in the near vicinity. Unfortunately this photograph is no longer available and the exact date it was taken is not known.

Although I have several times seen adult Canvas-backs on both Lower Klamath and Tule lakes, it was not until August 3, 1946, that I personally secured evidence of their nesting. On that day I came unexpectedly close to a female with nine downy young on a small isolated pond in the old Tule Lake bed. There were no other birds on this body of water. I watched this family for some time from a distance of about fifty feet under exceptionally good light.

With the Finley photograph and this recent observation of my own we can now state positively that the Canvas-back does at least occasionally nest in the state of California.—STANLEY G. JEWETT, *Portland, Oregon, October 20, 1946*.

**Courtship and Mating of Broad-tailed Hummingbird in Colorado.**—In the last part of May and the first two weeks in June, 1945, I observed the courtship behavior of several pairs of Broad-tailed Hummingbirds (*Selasphorus platycercus*) in a pine forest region in the foothills of Colorado, about fifteen miles northeast of Colorado Springs.

A creek environment, intersecting the pine forest, attracted the birds, since the willows were in inflorescence. While a female flew among these bushes, a male approached and hovered near her for several seconds. Abruptly, he rose to a point twenty to twenty-five feet above the willows and remained directly over her in this position for several seconds, his head moving continuously. Suddenly, with a shrill whir of wings, the male swooped down to the level of the female, ending his dive with a series of sharp notes "click-click-click." The performance was repeated three or more times and was seen by the observer on several different days. Two males hovered near a female in the willows on one occasion, and at another time, two males were seen quarreling.

Pitelka (Condor, 44, 1942:189-204) mentioned that descriptions of the actual mating of hummingbirds are not numerous and that it has been suggested that mating occurs on the wing. On June 2, a male and female were observed while mating. The female remained perched on a willow branch and the male alighted over her. After copulation, she shook her feathers and preened herself for several minutes before flying away.—LOUISE HERRING, *University of Colorado, Boulder, Colorado, December 23, 1946*.

**Use of the Creosote Bush by Birds of the Southern Californian Deserts.**—Anderson and Anderson (Condor, 48, 1946:179) have reported on the use of the creosote bush (*Larrea divari-*