

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-*

cata) by birds in the vicinity of Tucson, Arizona. I wish to supplement their notes by some records made in the southern Californian deserts.

Several of our birds of prey use the twigs and branches of the creosote bush; among them are the Red-tailed Hawk (*Buteo jamaicensis*) and the Golden Eagle (*Aquila chrysaetos*). The Red-tailed Hawks depend very largely on the woody stems for the main nest structure. I have in mind one very large nest built among the top branches of a 28-foot tree yucca on the Mohave Desert and at least ten nests built on shelving rocks of steep canyon walls or cliffs, both on the Colorado and the Mohave deserts. Most are made of old weathered stems, but one I saw had stems which were still leafy. Other woody-stemmed plants apparently offer suitable nest material, but creosote bush is preferred. Stems of *Larrea* are also often used in nest building by the Raven (*Corvus corax*).

At Palm Springs in April, 1916, I found the nest of a pair of House Finches (*Carpodacus mexicanus*) and also the nest of a Black-throated Sparrow (*Amphispiza bilineata*) in *Larrea*. In each instance the shrub was a large, well-branched plant in heavy leaf and flower. The nests were about four feet from the ground.

In the autumn of 1915 a hunter brought me two Gambel Quail (*Lophortyx gambelii*) he had shot at the mouth of Tahquitz Canyon near Palm Springs. I cleaned them and was surprised to find *Larrea* seeds in the crops. Later when I fried and tried to eat the meat, I found it very unpalatable because of the strong flavor of creosote bush.

On several occasions I have found the nest of the Costa Hummingbird (*Calypte costae*) placed far out among the terminal branches of the creosote bush. Since the eggs are laid and incubated at a time of year when heavy westerly winds prevail for days and weeks at a time in the desert area, one marvels that the birds would choose such swaying sites for nesting. A nest I found on a windy spring day in 1943 near Dead Man's Point on the Mohave Desert was built out near the end of a 5½-foot stem, and I estimated that the erratic but almost continual sway of the nest was over an arc of almost three feet; yet the female sat there in perfect composure.

On October 3, 1946, near Lucerne Post Office, I was surprised to find a Mountain Chickadee (*Parus gambelii*) searching the twigs of *Larrea* for food. A companion and I kept it under observation for fully half an hour. The day was very warm and the sky was overcast with heavy nimbus clouds; rolls of heavy thunder, indicative of storm and high winds, came from the San Bernardino Mountains to the south. Hence I concluded that the bird may have been driven to the desert flats by the storm in the mountains. I have seen chickadees on the desert floor in winter during times of heavy snow storms in the surrounding mountains but never before have I come upon this montane bird on the desert in warm weather.

The Black-tailed Gnatcatcher (*Polioptila melanura*) is a frequent hunter of insects in *Larrea*. We often see this species in pairs working both up and down the stems. I am not aware of all the insect species found and eaten by them but I do know they sometimes take tiny moth larvae and the small nymphs of the creosote locust (*Boottettix argentatus*). Both the Lawrence Goldfinch (*Spinus lawrencei*) and the Green-backed Goldfinch (*Spinus psaltria*) are at times seen moving about or perching on creosote twigs. The Leconte Thrasher (*Toxostoma lecontei*) frequently may be seen running from beneath one creosote bush to another, often pausing a moment in their shade or using them as a temporary refuge when disturbed by an intruder.

In late autumn of 1946, I came upon a Vesper Sparrow (*Pooecetes gramineus*) near Harvard on the Mohave Desert where *Larrea* occurs in pure stands. It was just before sunrise. I followed the bird for more than a mile. As I walked slowly forward it ran along the ground about fifty feet ahead of me moving across the open from one creosote bush to another and often hiding on the opposite side until I was almost upon it. Sometimes it would jump or flit up into the bush, then later be seen perching or moving adroitly among the rather thick-set lower branches and leaving only upon close approach.

In autumn and all during winter and early spring when the White-crowned Sparrows (*Zonotrichia leucophrys*) are about, one very often sees these birds in small groups scratching in the vegetal debris gathered about the bases of creosote bushes. They are probably getting not only seeds which have been blown in and which have lodged about the bases of the bushes but also seeds of annuals which always grow in the shelter of this shrub. It is well known that certain plants are occupants of such sites forming societies of rather constant membership and with very definite relationship to the creosote bush; the birds because of their food choices thus become linked up with the creosote bush in an ecological sense.—EDMUND C. JAEGER, *Department of Zoology, Riverside College, Riverside, California, January 24, 1947.*

Critical Notes on Some Western Song Sparrows.—*Melospiza melodia bendirei*. Topotypical specimens of *Melospiza melodia saltonis* from Mecca, Riverside County, California, and from Bard, Imperial County, California, were compared with specimens from the vicinity of Tucson, Arizona, and from Picacho Reservoir and Sacaton, Pinal County, Arizona. The two latter localities are close