

normal abundance extended very many miles south of the district in which it was observed by Major Brooks.

It is true that hawks and predatory mammals were abundant during the winter of 1922-23; but residents of this Valley are painfully aware of the fact that the four years following showed a continually decreasing amount of spring rainfall in the southern Sierra Nevada and adjacent portions of the San Joaquin Valley. This lack of rainfall was responsible for the drying up of many springs and a flow of water in the rivers hardly sufficient to meet the immediate demands of irrigation. The near failure of certain grain crops was not the only serious consequence. Much of the western portion of the central and southern San Joaquin Valley is used for sheep pasture, and whereas in normal seasons these open plains support a knee-high growth of alfalfa and wild flowers, yet, during this period of drouth, there were two years when the seeds of this wild vegetation did not sprout over large areas, and patches of bare ground were visible at a time when a heavy growth of grass should have been present.

The scarcity of food supplies thus brought about may have been the cause of a very noticeable decrease in the number of small mammals inhabiting the region. Rabbits and antelope squirrels became noticeably scarce, and with the failure of these, and other mammals, to breed in normal numbers the raptorial birds of the Valley were faced with an ever decreasing supply of food. Migrant hawks finding their former haunts barren no doubt moved to more favorable locations, while resident birds were also compelled to leave for other parts. The following incidents may give some slight clue as to the actual decrease in the number of birds of prey during the four-year period following 1923.

A four mile growth of cottonwoods along a certain dry stream bed in western Fresno County normally supported six nesting pairs of *Buteo swainsoni*, but this number dwindled to a single pair. Four pairs of *Buteo borealis calurus*, which could usually be counted on to furnish nesting records in a given area, disappeared entirely. A Prairie Falcon route covered annually by the writer could always be counted on to produce four nesting pairs of falcons, with a fifth pair as a possibility; but only a single pair remained. A colony of some thirty pairs of Great Blue Herons, located in a dry wash at least twenty miles from any pond, was supported, according to my observations, entirely by the small mammals and reptiles occurring on the plains. During the period of drouth this colony became entirely untenanted.

Such, then, was the condition of the mouse-eating bird population of the San Joaquin Valley at the time the plague occurred; and it will take years for this population ever to build up to the numbers observed in 1923, if indeed it is ever possible under present conditions, with an ever increasing number of automobile parties invading even the remotest sections of the country.

This condition of drouth reached its height during 1925 and 1926 when the flow of water in the Kern River was so low that practically the entire supply was needed for irrigation, and Buena Vista Lake eventually dried up. Here, then, was a vast area of rich land which was immediately put under cultivation and planted to Sudan grass, Egyptian corn and barley. The resulting growth was luxuriant beyond belief, and amazing yields of grain were the result. Mice are known to breed and increase with astonishing rapidity, under favorable conditions; and the Buena Vista Lake region suddenly became an especially favorable environment for the remnant of the mouse population which had survived the dry years. With abundance of food to be had, with opportunity for perfect concealment, with raptorial birds present in very limited numbers, and with four-footed predators greatly reduced by coyote poisoning campaigns, it is not surprising that mice increased to the point where a so-called mouse plague resulted.—JOHN G. TYLER, *Fresno, California, September 21, 1927.*

**Fly-catching Habits of the Western Tanager.**—Although it is a recognized and well established fact that the Western Tanager (*Piranga ludoviciana*) catches and devours many species of insects, I know of no recorded instances of their eating so large an insect as a cicada. Therefore the following incident may be worthy of record. While collecting insects on the morning of July 3, 1927, in the Cuyamaca Mountains, San Diego County, California, I noticed a small flock of eight or ten Western Tanagers in an open field. I was stalking a particularly lusty-voiced cicada when suddenly it took flight, flying low over the field in the direction of the tanagers. A female tanager arose and remained in the air on hovering wings for a moment, then suddenly darted

forward, caught the insect on the wing and flew off to the nearby pine trees with it.—JACK C. VON BLOEKER, *San Diego Society of Natural History, San Diego, California, July 20, 1927.*

**Winter Roosts of Western Robins.**—During the winter of 1926-27, the University Farm at Davis, California, proved to be quite a roosting place for Western Robins (*Planesticus migratorius propinquus*). They were first noted in numbers on December 21, when I saw a flock of some fifty or more roosting in a group of acacia trees. This number remained about the same for a short time, and then increased to several flocks, each of about the same number, which roosted in various places on the Farm. During the early part of February the number had been further materially increased until it reached a maximum about February 11. At 5:30 p.m. on that day I estimated that there were about 700 robins roosting in two places, under observation. In one tree that had shed its leaves, I counted 105 individuals. There were several trees in the immediate vicinity that held almost the same number.

The numbers of the birds seemed to remain nearly the same for about three weeks and then became less, until by March 22 there was only about one-tenth of the maximum number. These gradually became less until there were only a few scattered birds.

Although robins are found at Davis each winter, it is unusual to find them present in such large numbers. In the day time they would scatter into the fields to feed, and at night return to their roosting places. There seemed to be no unusual food supply to have attracted them there.—ERNEST D. CLABAUGH, *Berkeley, California, October 10, 1927.*

**September Nesting of the Band-tailed Pigeon.**—On September 29, 1927, Mrs. Grinnell and I were climbing the long-route zig-zag trail up over Vernal Falls, above Yosemite Valley, when we saw a lone Band-tailed Pigeon (*Columba fasciata*) fly swiftly by us up through the trees clothing the steep talus slope. The bird disappeared close to the base of the towering cliff above us. The zig-zag proved to follow the same general course, and when we had gotten up to about the right place we began scrutinizing the branches of the trees over our heads. Presently, Mrs. Grinnell espied a pigeon's nest, with the head of a bird showing in sharp outline above it. Glasses proved the identity and helped in observing details.

Soon an old bird alighted, coming up the same steep course as the first one, at mid-height of the trees through the forest, and alighted on a branch of the nest tree, on a level with the nest but on nearly the opposite side of the trunk. After remaining perched quietly for awhile, the old bird then walked along the branch lengthwise to the trunk, hopped across, fluttering some, to the base of the nest branch, and walked out on it to the nest.

Immediately a commotion began—the young one fluttering its wings spasmodically, the old one, not plainly seen because of intervening foliage, evidently feeding it. The process lasted fully three minutes, when the old bird flew directly off from the nest, out into space from the cliff base, and circling, was seen to alight at far distance on a middle branch of a dead tree. We would have timed the feeding process if we had had any notion of its lasting so long. After feeding, the youngster crouched down motionless and could be seen plainly no more. When being fed, its up-raised, fluttering wings showed the quills to be only an inch or so long; it could have been no more than ten days old.

The nest was in a fairly large Douglas spruce, growing on the upper edge of the talus-fan close to the base of the cliff. It was a sparse platform of irregular, coarse sticks and twigs resting on a spray of dead twigs given forth from the branch where it was about two inches in diameter (as judged from our place on the ground up the slope opposite) and seven feet out from the trunk; it was about 30 feet above the steep slope directly beneath.

At other times during this same day, September 29, we saw single Band-tailed Pigeons. One was seen at the edge of the water of the "Silver Apron", above the brink of Vernal Falls. We saw no flocks of Band-tailed Pigeons. Furthermore, we were told by Mr. Gabriel Souvelewsky that he had not seen any flocks lately around their customary feeding places on the floor of the Valley. All this led us to think it likely that most, if not all, of the Band-tailed Pigeon population was this year, and in