

In January, 1905, he went to Arizona, spending February and October near Tucson and the months between in the Huachuca Mountains. There he added the Salvin Hummingbird to the avifauna of the United States. The winter saw him again at Witch Creek, and the following spring he joined a party under Mr. W. W. Brown, Jr., on a collecting trip to Guadalupe Island and other islands off Lower California. The hardships of this trip were too great for his enfeebled constitution; but he felt so much better after another summer and fall at Witch Creek that February, 1907, saw him again at Tucson. This time he visited the Santa Rita and Chiricahua Mountains; but the altitude, climbing, and lack of comforts told rapidly on his strength, so that by September he was obliged to return to Witch Creek.

This was the last time he left California. During the following year he made trips to various parts of this State, collecting more or less extensively in Humboldt, Mendocino, Yolo, Siskiyou, Tehama, Colusa, Solano, Merced, Kern, San Mateo and Monterey counties. At Sherwood, in Mendocino County, in 1908, he added the Chestnut-sided Warbler to the birds known to occur in California, and at Eureka the following year, the Alaska Longspur. Soon after he decided to make California his home, he joined the American Ornithologists' Union and the Cooper Ornithological Club, and enjoyed the friendship of those members of the latter that his travels allowed him to meet, and I think he left friends wherever he went. He was a delightful companion. No one could meet him without appreciating his absolute sincerity, or become acquainted with him without liking him. His letters showed he had much interest in the Cooper Club, but diffidence prevented his contributing frequently to the pages of THE CONDOR. He felt his true vocation lay in collecting and preparing beautiful specimens, not in writing about them. Occasionally notes by him may be found in THE CONDOR, as enumerated at the end of this article, but that is all.

Thus the years passed in an almost constant struggle against ill-health, and in loneliness tempered by his interest in his work. Early in November, 1913, he left Witch Creek on what proved to be his last trip, and, after a couple of months at Colusa, reached Pacific Grove in January. There, on the 17th of February, 1914, he added the Horned Puffin (*Fratercula corniculata*) to the list of California birds, and only nine days later, his long contest with sickness and loneliness ended, passed into a "sleep that knows not breaking, morn of toil, nor night of waking."

The following articles appeared from the pen of Henry W. Marsden:

Aerial Battle of Red-tailed Hawks, *Buteo borealis calurus*. CONDOR, VII, 1905, p. 53.

Feeding Habits of the Lewis Woodpecker. CONDOR, IX, 1907, p. 27.

Chestnut-sided Warbler at Sherwood, Mendocino County, California. CONDOR, XI, 1909, p. 64.

Alaska Longspur at Gunther's Island, Eureka, California. CONDOR, XII, 1910, p. 110.

New Haven, Connecticut, June 23, 1914.

NOTES ON A COLONY OF TRI-COLORED REDWINGS

By JOSEPH MAILLIARD

ALTHOUGH some years ago I described a breeding colony of Tri-colored Redwings (*Agelaius tricolor*) located near an artesian well in Madera County, California, I have been so much interested in another colony

this year, with better opportunities for observation, that it seems pardonable to touch upon the subject once more.

The nesting ground before described (CONDOR II, November, 1900, page 122) was a remarkably crowded one. In a patch of tules of very limited extent beside a flowing well, the birds had built their nests in such numbers that many were abandoned when other nests were built above them, and the tules grew so high and thick as to make the lower tiers dark, dirty and inaccessible.

The colony breeding this year on the Rancho Dos Rios, Stanislaus County, California, was a much larger one than the above, but the breeding ground was acres instead of yards in extent. While there must have been several thousand birds in it there was plenty of room and no great crowding together of nests, though even with so much space there were many nests only a few feet, and in some instances only a few inches, apart. None, however, were built *over* others, notwithstanding the different heights above the water, varying from six inches to about three feet, the water itself being about knee deep.

While the writer first noticed signs of building on April 14, 1914, it probably commenced shortly before that date, as the spot had not been visited for several days previously. On that day birds were noticed carrying building material, and upon further investigation a few beginnings of nests were found. As only a comparatively small portion of the tule patch was explored it is very possible that there were some nests not seen on that day that were farther advanced in construction.

The colony was visited next on April 23 on which date some nests were found to contain their full complement of four eggs, some two or three, and others still empty but apparently ready for occupancy, the majority being those with two or three eggs. A few sets were selected from the vast number on this day and the next, and the eggs were found to be from fresh to slightly incubated, with one or two sets about one-third along.

Another visit was made on April 29, when most of the nests seen on the 23rd and 24th, along the paths made by forcing my way through the tules on that occasion, contained four eggs, although a few held only two or three, and some were still empty. A small number had hatched out within the last few hours, but nests containing young were scarce. There appeared to be birds yet building and a few sets seemed to be fresh. Among those nests in which incubation was completed the greater number contained from two to four young, yet a few held only one. Many nests were very poorly constructed, and were falling down on one side; so much so, in fact, that the eggs had evidently rolled out. In one such case a poor youngster, just hatched out, was the only occupant, and he was hanging on for dear life with tooth and toe-nail at the very lowest edge. Rapid growth of the tules may have had something to do with the condition of some of these nests, but there evidently was a great difference either in architectural ability or constructive energy among the members of the colony.

In the description of the Madera County breeding ground stress was laid on the fact of so many nests having been abandoned, while in this colony but few were deserted, and those possibly by the accidental death of the builders, and but few were robbed by hawks. It seemed, however, as if the birds must have stolen nests from each other; as, for instance, in the case of one set that was blown and found to be composed of three very fresh eggs and one extremely rotten one! And in another where one holding the full complement of four was found to be built over a nest already containing four eggs, rotten,

dirty and stained by the damp stuff which had been used to form the bottom of the second nest. Our collection (that of J. & J. W. Mailliard) contained a set of five eggs of *A. tricolor*, taken by Walter E. Bryant years ago, and the writer's ambition was fired to find one himself, never having been so fortunate in several previous experiences with breeding colonies of this species. On this occasion success crowned his efforts, and when just about to give up the search, wet and tired after the examination of hundreds of nests, a five set was discovered. Fortunately it was in such state of incubation as to allow of its being saved, and as to leave no room for doubt about its being actually one set instead of a combination like the two just mentioned above. By the time incubation was completed in the majority of nests and vast numbers of young beaks were opening wide for needed nourishment the barley in the neighborhood was just reaching the pulpy stage, being "in the milk", as it is called, when the kernels of grain are much relished by the redwings on their own account and much prized as a food for the young. Hence a large amount of damage is done by these birds when the grain is in this state, and this keeps up even when the grain becomes quite hard. But, while thousands of the redwings were visiting the barley fields, as many more were bringing in grasshoppers, cutworms, caterpillars and various sorts of insects in various stages of growth, and probably the harm done to the grain is more than offset by the good work of destroying injurious pests of the insect world.

A few adults were shot in the first week in May, at a time when some of the barley was in the most appreciated stage of development, to ascertain the contents of the stomachs. It happened that those particular individuals, at that time of day at least, had been more diligent in the matter of hunting insects than in robbing the barley fields, for only two or three grains of barley were found in each stomach the contents of which consisted mostly of insects of several sorts (not determined), grasshoppers being largely in evidence. That, however, a great deal of barley was consumed was shown by the stripped heads found on the stalks, to say nothing of the visual evidence of the flights of birds to and from the grainfields.

As the youngsters grew larger, leaving their nests and perching in the tules, the parents became busier and busier supplying food for the rapidly developing appetites, evidently deeming it necessary to maintain a large proportion of insect life in the bill of fare, judging by the direction from which food was brought and by the action of the parents when collecting the food supplies. When some nearby alfalfa fields happened to be irrigated great numbers of the adult birds arrived on the scene and gathered in quantities of fat grubs that were brought to light by the water, most certainly doing a beneficial act to the owners of the fields.

After hunger fear seemed to be one of the first sensations developed in the young nestlings. So much was this the case that the youngsters, say a week old, would flop out of the nests on the approach of a human being and fall into the water. It was impossible to force one's way through the tules without making more or less noise, and the number of suicides would have been so great if an extended visit had been made to the nesting ground that the writer contented himself with investigation of the outer edges, only, during the nestling period, not wishing to be responsible for a large and useless loss of life among the juvenile population. As the young left the nests and took to the tules their feeling of fear did not diminish, and they would flutter or scramble away so

fast in the thick high tules that it was a difficult matter to procure a few for specimens to show growth and development.

By June 15 the colony was greatly scattered, many of the young accompanying their parents abroad in search of food. Yet there were still some on the original ground which were too young to fly, as shown by the number of old birds carrying food to that particular spot. Those old enough for flight seemed to return to the tules every night, and often for the purpose of finding rest and shade in the daytime as well. By July 1 the colony was beginning to disintegrate, and even before that date small flocks of old and young together could be seen working toward the north, while but few were noticed returning from that direction.

San Francisco, California, July 2, 1914.

BIRD NOTES FROM THE SIERRA MADRE MOUNTAINS, SOUTHERN CALIFORNIA

By H. ARDEN EDWARDS

DURING a recent trip, in June, 1914, to Barley Flats, a section of the Big Tujunga Range, of the Angeles Forest Reserve, I had the pleasure of observing an instance where the communal spirit was highly exemplified; and although the conditions bringing about a cohesion of interests that were perfectly harmonious so far as I could see, were to a certain extent arbitrary, yet it is interesting to note that five out of the six species involved were constantly brought, in more or less degree, into active competition with one another; and that in a locality where timber conditions forced them into an area of restricted activities.

The scene of this interesting bit of bird life was the bare stub of an immense fir tree, about eighty feet high, and probably six feet through at the base. The sole means of ascending it was afforded by several jagged cracks in the body wood (the bark being entirely gone) and an occasional slippery knot or stub, that indicated where long ago some mighty branch had swept outward and downward, bearing rich masses of dark green foliage. The members of this community which were of greatest interest to me were a pair of White-throated Swifts (*Aeronautes melanoleucus*) that had, or seemed to have, a nest in a large crack about thirty feet up. As I had never before found these birds nesting in trees, and all the data I have seen refers their nesting sites to inaccessible cliffs, etc., I was very properly "fussed up" about it.

Climbing up to the fissure where the female had flown in and out several times, I tried to use my flashlight and mirror attachment, but found that the crack extended side-ways for several inches, and then ran at right angles again; so there was nothing left to do but to take my pocket axe and pry off a section of the wood. To those who have had similar experiences, I need not describe my disappointment when nothing met my eager eyes, save the nest itself, which appeared to be completely finished. Now if I had not seen any birds around here and had opened this cavity, I should have said "a swallow's nest" and gone my way with peace of mind; but that the swifts were interested in it, and that very closely, was made manifest, when they darted at me and