

number as three goats would make but little impression on the growth of the "tangled mass of vines and shrubbery," mentioned as being such a barrier to the progress of an explorer.

If it turns out that these three goats were non-breeders, no harm has been done, and I shall be glad to offer my apologies to Mr. Beck for the appearance of this paper, which will then be of no use unless as a warning to others who might be inclined to adopt the 'goat' method of preparing islands for future exploration.

*California Academy of Sciences, San Francisco, March 30, 1923.*

### ADDITIONAL NOTES FROM THE COASTAL ISLANDS OF SOUTHERN CALIFORNIA

By DONALD R. DICKEY and A. J. VAN ROSSEM

**T**HE FACT that our knowledge of insular birds must of necessity grow by fragmentary steps serves as the motive for the publication of the following notes, gathered by the authors during various trips to the coastal islands of southern California. Only those species for which new data have recently become available are touched upon, our intention being simply to add a further modicum to our understanding of the resident and visitant birds of these islands.

*Colymbus auritus* Linnaeus. Horned Grebe. A male of this species, taken January 6, 1920, at Camp Banning, Santa Catalina Island, constitutes, we believe, the first record for Santa Catalina. W. L. Dawson (*Condor*, xvii, 1915, p. 204) saw this species at Santa Cruz in late April, 1915, but took no specimens.

*Larus heermanni* Cassin. Heermann Gull. An adult female taken January 30, 1920, at Santa Catalina, has the aberrant white primary coverts recently noted in individuals of this species by various observers. A bird seen at Santa Catalina February 17, 1921, displayed this same conspicuous covert-pattern. The consensus of present opinion seems to regard this condition as merely an occasional mutation, or 'sport.' Just how sporadic the occurrence really is must be determined by further observation.

*Ardea herodias hyperonca* Oberholser. California Great Blue Heron. A juvenal male taken August 20, and an adult male taken August 21, 1922, at Prisoner's Harbor, Santa Cruz Island, give the following measurements:

	Wing	Tail	Tarsus	Middle toe without claw	Culmen
K 532, ♂ juv.	485	178	194	110	149
K 533, ♂ ad.	490	179	184	107	144

The measurements of these two birds, taken in conjunction with those of the San Clemente and Santa Catalina specimens recorded by A. B. Howell (*Pac. Coast Avif.* no. 12, 1917, p. 44), seem to cast such grave doubt upon the validity of *Ardea herodias oligista* as a separable insular race, distinguishable by mensural characters, that we prefer to allocate these island birds to the mainland race, *Ardea herodias hyperonca*.

*Fulica americana* Gmelin. Coot. A pair of coots, accompanied by several nearly grown young, was often seen about the tule-fringed pond at Prisoner's Harbor, Santa Cruz Island, from August 18 to 21, 1922. Although recorded in winter from the same locality (Linton, *Condor*, x, 1908, p. 126), there seems to be no previous breeding record for the islands.

*Sphyrapicus ruber daggetti* Grinnell. Sierra Red-breasted Sapsucker. While this bird has been recorded from Santa Catalina (Harris, Condor, xxi, 1919, p. 172), no birds appear to have been actually taken on any of the islands except San Clemente. It therefore seems advisable to record an adult female, collected January 29, 1920, in the cottonwoods at Camp Banning, Santa Catalina Island. On Santa Cruz, one was noted in a pepper tree at Prisoner's Harbor, March 21, 1920, but was not secured. Two days later, however, a bird was collected in the same locality.

*Colaptes cafer collaris* Vigors. Red-shafted Flicker. Flickers have been recorded from both Santa Cruz and Santa Catalina by various observers. A. B. Howell (Pac. Coast Avif. no. 12, 1917, p. 61) believed them resident on Santa Cruz, although he had obviously overlooked the specific nesting record given for that island by Beck (Condor, i, 1899, p. 86). Several old nest holes were noted during January, 1920, in the cottonwoods in the vicinity of Camp Banning, Santa Catalina Island. In April of the same year, many old nest holes were also found on Santa Cruz Island. It has been suggested (Howell, Pac. Coast Avif. no. 12, 1917, p. 61) that the flickers of Santa Cruz were gradually acquiring a yellow phase, thus paralleling the similar change which has developed in the San Clemente House Finch. However, in March and April, 1920, flickers were extremely abundant and quite tame on Santa Cruz. Yet out of several hundred birds seen at close range only one displayed the yellow shafting which is so conspicuous in flight. The five birds which were collected may, of course, have been migrants, but they are typical of *Colaptes cafer collaris* of the adjacent mainland.

*Nucifraga columbiana* (Wilson). Clark Nutcracker. This species has been recorded from Santa Cruz by Ralph Hoffmann (Condor, xxii, 1920, p. 187), but further remarks as to the manner of its occurrence on the island may not be amiss. In March and April, 1920, these birds were found wherever pines occur, from the seashore to the summit of the island. They could not have been called common, yet every day spent in suitable country would result in hearing or seeing five or six birds. Usually they ranged in two's or three's, but single birds were by no means rare. Several residents stated that nutcrackers had been present for the past two years, but no exact dates as to the time of arrival, nor hint of nesting activity could be obtained. They are known locally as 'walnut birds' because of their partiality for walnuts, both green and ripe. The crops of the five taken were packed with the white meats of shelled pine nuts. None of the five showed a trace of breeding activity. Two were certainly immatures of the previous year, and two more were as certainly adults, with the age of the fifth indeterminable. No nutcrackers were found in August, 1922, and one of the residents stated in conversation at that time that none had been seen for several months.

*Carpodacus purpureus californicus* Baird. California Purple Finch. On Santa Catalina, February 2, 1920, a male of this form in full red plumage was collected, and at least two more purple finches were heard the same day. On Santa Cruz, March 29, 1920, a female, accompanied by a red male, was taken in a grove of oaks about 500 feet above the shore. A male in streaked plumage was taken the same day from the tip of a tall dead pine at an elevation of about 1500 feet. In August, 1922, no purple finches whatever were found on Santa Cruz.

*Loxia curvirostra stricklandi* Ridgway. Mexican Crossbill. The presence of crossbills on Santa Cruz Island is one of the most interesting items unearthed during the many years of work which has been done on the Santa Barbara Islands. They were first discovered in late April and early May, 1911, by Howell and van Rossem (Pac. Coast Avif. no. 12, 1917, p. 75), when several small flocks were seen and four birds secured. This small series was hardly adequate to serve as a basis for satisfactory diagnosis. One of the main objects of the 1920 trip to Santa Cruz was to secure additional material. The 21 birds taken were submitted to Dr. H. C. Oberholser for determination. He states they are unmistakably *Loxia curvirostra stricklandi* and not *bendirei*. No breeding activity was noticeable in any of the specimens taken, but males were seen courting on April 3. The male birds attracted the attention of the females by squatting, with tail spread, on a limb, and uttering a rather weak, linnet-like twittering. The territory preferred by the birds was a burnt-land pine area on which fire had killed the trees without destroying their cones. The latter had been opened by the heat, thus affording the birds easy access to the seed. The species was ordinarily quite wild, so

much so that until April 1 only two specimens had been obtained despite many days of arduous search. On this date, however, a feeding flock which seemed absolutely fearless was located, seven birds being taken before the remaining score or more flew away. On April 3, a similar flock was encountered and 11 birds secured. The only single birds noted were two individuals seen on April 1. Crossbills were often found associating with Pine Siskins, and several flocks of the former were located by hearing the characteristic siskin notes. On April 3 both sexes were noticed biting and mouthing small twigs and branches. No mention of crossbills was made by Ralph Hoffmann (Condor, xxii, 1920, p. 187) except that under *Nucifraga columbiana* he makes the statement that "crossbills and Red-breasted Nuthatches are already resident." The basis for this assertion regarding crossbills was evidently taken from A. B. Howell, who stated (Pac. Coast Avif. no. 12, 1917, p. 75) that he "believed" this to be the case. Van Rossem, accompanied by Dr. Loye Miller and Alden Miller, visited Santa Cruz August 18 to 21, 1922, for the express purpose of securing additional evidence on this point. Although weather conditions were ideal, and ripe seed cones were present in sufficient quantity to support a large number of birds, no trace of crossbills could be found. Negative evidence is always unsatisfactory, and the present case is no exception, but it seems logical to suppose that, had crossbills been present, some few at least would have been detected, especially as their numbers at this season would be augmented by the young of the year. All we can state is that crossbills were apparently absent at this time from the area in which they were so abundant during the spring months of 1911 and 1920. They certainly were to be expected in this same area during the summer if they are resident birds of this island. In any event, belief in their status as a local breeding species must be held in abeyance pending positive proof.

*Chondestes grammacus strigatus* Swainson. Western Lark Sparrow. The female bird of a mated pair was taken at Prisoner's Harbor, Santa Cruz Island, March 23, 1920.

*Zonotrichia leucophrys nuttalli* Ridgway. Nuttall Sparrow. A female of the year was taken at Camp Banning, Santa Catalina Island, January 29, 1920. This is apparently the first record for Santa Catalina. This form has already been recorded by Hoffmann from Santa Cruz Island (Condor, xxii, 1920, p. 187). We found it fairly common on that island during March, 1920, and collected several specimens.

#### *Aimophila obscura*, new species

Santa Cruz Island Sparrow

*Type*.—Female adult; no. K 516, collection of Donald R. Dickey; Prisoner's Harbor, Santa Cruz Island, California; August 19, 1922; collected by A. J. van Rossem; original no. 7198.

*Diagnosis*.—Darker and less rufescent than either *Aimophila ruficeps ruficeps* or *A. r. canescens* of the neighboring mainland; central streaking of the dorsal feathers much darker and less rusty; maxillary streaks heavier; bill heavier and more swollen at base; tarsi and feet averaging slightly longer and heavier.

*Range*.—Common in suitable localities on Santa Cruz Island. Probably present on Santa Catalina Island.

*Remarks*.—Two specimens from Santa Catalina collected in 1863 by J. G. Cooper, and now in the Museum of Vertebrate Zoology, have the large bills and heavy feet characteristic of the birds of Santa Cruz Island. They are therefore assigned to *Aimophila obscura*, but only upon presumptive grounds, since they are too faded and worn to be of use for color comparison.

It is deemed that the complete isolation of this insular form calls for the employment of a binomial designation, despite the comparative external agreement of *Aimophila obscura* with nearby races of *A. ruficeps*. The use of the trinomial would seem to imply a genetic relationship such as the writers are loath to base on even close present-day resemblance.

*Passercella iliaca*, subsps. A large series of fox sparrows taken on Santa Catalina and Santa Cruz Islands during January, February, and March, 1920, were sent to Mr. H. S. Swarth for determination. With the exception of one specimen of *insularis* taken at Santa Catalina, January 26, 1920, they were all pronounced *sinuosa*. In the several weeks spent on these islands during the above months, not one individual of the "schistacea group" was encountered. A. B. Howell (Pac. Coast Avif. no. 12, 1917, p. 84)

found *megarhyncha* the most abundant fox sparrow on the islands, with *insularis* a close second. This may be the case in normal years, but as before stated no single individual of the "schistacea group" was met with in 1920. In this connection it is interesting to note the extreme abundance of *sinuosa* on the islands during the time covered by our observations. In no mainland locality with which we are familiar has this race been found in such numbers.

*Sitta carolinensis aculeata* Cassin. Slender-billed Nuthatch. On April 1, 1920, while stalking a flock of crossbills in a dense grove of pines on Santa Cruz Island, a momentary glimpse of a pair of nuthatches of this species was obtained. The female was collected, but the male proved too shy to be secured. Search for the species later in the year in the same area proved futile.

*Sitta canadensis* Linnaeus. Red-breasted Nuthatch. Oddly enough, not one Red-breasted Nuthatch was found on Santa Cruz Island in August, 1922, although the species is common enough in that locality in the spring, and has even been seen excavating what was presumed to be a nest hole (Howell, Pac. Coast Avif. no. 12, 1917, p. 99).

*Hylocichla guttata*, subsp. Of 10 hermit thrushes taken on Santa Catalina in January, 1920, 9 proved to be *Hylocichla guttata nanus* and one *Hylocichla guttata guttata*. By contrast, of 7 birds taken during March, 1920, on Santa Cruz Island, 6 are referable to *guttata* while only one is referable to *nanus*.

*Planesticus migratorius propinquus* (Ridgway). Western Robin. The Western Robin has already been recorded from Santa Catalina by Harry Harris (Condor, xxi, 1919, p. 172). In view of the scarcity of records for this island, it is perhaps pardonable to record an additional adult female, taken at White's Landing, January 24, 1920. On Santa Cruz Island, a flock of about 10 birds, from which a female was collected, was found in the oaks near the main ranch, back of Prisoner's Harbor, March 30, 1920. Mr. Fred Caire, the owner of the island, as well as several residents, stated that robins were present by hundreds during the early winter of that year.

*Pasadena, California, March 26, 1923.*

## ANIMAL AGGREGATIONS: A REQUEST FOR INFORMATION

By W. C. ALLEE

IT IS generally assumed at the present time that the gregarious or social habit in animals is at basis an outgrowth of aggregations resulting from the association of young individuals with one or both parents. In special cases or at critical periods in social evolution, it is assumed that the period of association becomes lengthened and the family comes to react as a unit under many conditions. Some such explanation for the origin of human society is current among sociologists who derive organized society from the family by way of the clan.

Students of social life in insects, especially as it exists in wasps, bees, and ants, usually adopt a similar explanation for the origin of the social habit. Thus Wheeler in his studies on ants and more recently in his review of the social life among insects regards the insect colony as a result of the extension of the natural affiliation of mother and offspring. He regards the bonds that hold mother and daughter together in the initial stages of insect colony formation as identical with those which bind human societies, namely, hunger and affection.

Opposed to this more usual view is the one proposed by Herbert Spencer, which is that colony life arose from the consociation of adult individuals for co-