

Unusual Records from California.—The following specimen records, considered of unusual interest, were obtained in San Luis Obispo County, California, in 1951 and 1952.

Sayornis phoebe. Eastern Phoebe. An adult male was collected in a grove of small cottonwoods on the Sacramento Ranch near Shandon on December 3, 1952. This is believed to be the third specimen taken in the state of California.

Empidonax difficilis. Western Flycatcher. As this flycatcher is regarded as a summer visitant only, it is of interest to report that one was taken by Mr. Eben McMillan at Cholame on November 24, 1951. The specimen, now in my collection, is an immature female. It has been identified by A. R. Phillips as *E. d. hellmayri*.

Ammospiza caudacuta. Sharp-tailed Sparrow. At Morro Bay, on December 27, 1952, I flushed five Sharp-tailed Sparrows from a salicornia flat. All flew directly to the thick vegetation, chiefly three-square bulrush, that fringes one side of this open flat, and I collected two of them near the edge of this cover. Both are females in fresh fall plumage and are similar to specimens of *A. c. nelsoni* from Beaver Hill Lake, Alberta, when consideration is given to seasonal plumage wear in the latter.

Melospiza georgiana. Swamp Sparrow. Mr. Eben McMillan collected a specimen of this sparrow for me in a three-square bulrush marsh near the southern extremity of Morro Bay on December 31, 1952. No others were seen in the numerous times the marsh was visited in the course of the winter. The specimen, a female in first-winter plumage, is darker and more blackish on the crown than is an immature male in comparable plumage from Nulki Lake, British Columbia, and in this respect more closely resembles a male in fresh autumn plumage from southern Ontario, which is an example of *M. g. georgiana*. One of the three other California-taken specimens is reported to display the characteristics of *M. g. ericrypta*, the two others being assumed to represent this "western" race (Pac. Coast Avif. No. 27:542). However, as Godfrey (Auk, 1949, 66:35-38) has demonstrated *ericrypta* is a northern, rather than a western race.—J. A. MUNRO, *Okanagan Landing, British Columbia, August 20, 1953*.

Further Notes on Plumages and Molts of Red Crossbills.—Jollie (Condor, 55, 1953:193-197) has recently made some assertions pertaining to Red Crossbills (*Loxia curvirostra*) that seem to me to require comment. He states (p. 193) that from the series of crossbills examined by him "it is clear that there are four typical plumages in the male (with rare variants): a striped, juvenal plumage, a mottled orange and yellow plumage (the first immature) which is later replaced by an adult-like red plumage (the second immature), and lastly an adult plumage characterized by reddish or brownish margined tail and wing feathers . . ." He says also (p. 195) that the "plumages of the female Red Crossbill are much simpler. The juvenile molts into a typical female plumage soon after leaving the nest," the wing and tail feathers being retained until a "second molt." I presume this "second molt" corresponds to the first postnuptial molt in standard terminology of molts (Dwight, Ann. N.Y. Acad. Sci., 13, 1900:73-260, and most subsequent authors).

Jollie postulates that the two successive molts producing the "first and second immature" male plumages are completed before the skull entirely ossifies. The age at which ossification of the skull is complete in the Red Crossbill is not known. However, my impression, gained from collecting in the autumn, is that six months might be a fair guess for most species of passerines. Nero (Wilson Bull., 63, 1951:84-88), in a careful study of specimens of *Passer domesticus* of known age, determined that ossification of the cranium in this species was complete by ages 181 to 221 days—roughly six to seven months. If we assume that crossbills resemble other passerines in this respect, we must visualize, by Jollie's theory, two complete molts of the body plumage in about six months, followed almost immediately by still a third, prenuptial, molt which is incomplete (see Tordoff, Condor, 54, 1952:200-203). No other bird, to my knowledge, has a first-year sequence of molts of this sort. Jollie's conclusions were based on seven "first immature" and eight "second immature" males and seem to hinge on the occurrence of a few juvenal feathers on the belly in the first age class and their absence in the second age class.

As a speculative point, one might inquire as to the functional significance of a rapid-fire series of molts in young male Red Crossbills. In most birds, at least, the sequence of plumages and molts follows a pattern which seems to make sense biologically. That is, molts are not ordinarily "wasted." The resultant plumage usually serves some obvious function. No function is obvious to me for the two postjuvenal immature plumages—the first retained for only two or three months—presumed by Jollie to occur in male Red Crossbills.

A second point requiring comment is the supposed difference between the sexes in number of molts and plumages. Jollie states that, in their first year, males have one complete body molt more than females. This is difficult to believe, since the number of molts and plumages has not, to my knowledge, been found to differ between male and female in any other cardueline. The first winter plumage of female Red Crossbills is almost (or quite?) indistinguishable from the adult female plumage. How, then, is one to ascertain from study skins the number and sequence of molts and plumages with sufficient accuracy to warrant reaching the important biological conclusion that a marked sexual difference exists in the molts of this species? This might be solved through a study of living captive birds. In the absence of such a study, I regard the alleged sexual difference in molt as unproved.

The facts set forth by Jollie can, in my opinion, be explained best as follows: In *L. c. bendirei* and *L. c. sitkensis*, the juvenal plumage is followed by the first winter plumage, which in males is either red (= "second immature") or a variable orangish-yellow (= "first immature"), the latter phase perhaps tending to be more streaked on the belly. In *L. c. bentii*, the orangish-yellow first winter plumage occurs in some populations (Baily, Denver Mus. Nat. Hist., Mus. Pictorial No. 9, 1953:35-37) but seems much less common or perhaps is lacking in others (Tordoff, *op. cit.*). The color of this first winter male plumage may be affected by diet. A partial prenuptial molt, which usually replaces red feathers with greenish feathers, results in the first nuptial plumage. Subsequent molts probably include only an annual postnuptial molt and an annual incomplete prenuptial molt, as in many other carduelines. Females probably have a similar molt sequence, even as immatures.—HARRISON B. TORDOFF, *Museum of Natural History, University of Kansas, Lawrence, Kansas, September 1, 1953.*

Incubation in the Chestnut-backed Chickadee.—In three of the past four years, Chestnut-backed Chickadees (*Parus rufescens*) have nested in a bird house in my yard in San Francisco, California. A hinged roof on the house has made frequent observations possible. Bent (U. S. Nat. Mus. Bull. 191, 1946:387) states that "The exact period of incubation does not seem to have been determined for this species. Dawson (1923) and Bowles (1909) both state that incubation begins when the first egg is laid, as the sizes of the embryos in a set of eggs vary considerably. Perhaps the bird does not incubate all through the laying period, but she covers the eggs when she leaves the nest, which keeps them warm . . ."

In none of the three nests that I observed was incubation carried on at all until all the eggs had been laid. They were placed underneath the nesting material at the bottom of the bird house, but it is doubtful that this would have kept them very warm. At any rate, the eggs all hatched within about 15 hours of each other.

In the first of the three nests which I observed (1950, 7 eggs), incubation was begun on April 11. Three eggs had hatched by 8:00 a.m. on the morning of April 24. By 4:00 p.m., two more had hatched. The sixth egg hatched the following night. The seventh egg did not hatch. The incubation time in the nest, then, was 13 days for the first three eggs, and about 13½ days for the others.

In the next nest (1951, 6 eggs), incubation was begun on April 21, and the first eggs hatched during the night of May 3 or the morning of May 4. Five of the eggs had hatched by the evening of May 4. The sixth egg did not hatch. This, also, was 13 days for the first eggs to hatch, and about 13½ days for the rest.

The last egg was laid in the third nest (1953, 4 eggs) on April 15, and incubation was started then. The first egg hatched by 7:30 a.m. on April 29; two more hatched by 5:30 p.m. The fourth egg did not hatch. This is at least 14½ days for the first egg and 15 days for the other two. It is thought that the birds nesting this year were making their first attempt at nesting, as their actions were quite unlike those of birds nesting in previous years.—JOEL T. HEDGPETH, *San Francisco, California, September 3, 1953.*

Caspian Terns Nesting at San Diego Bay.—Observation of a nesting colony of Caspian Terns (*Hydroprogne caspia*) at the extreme south end of San Diego Bay, California, is reported herewith. A search of the literature has revealed no prior nesting record for this species in San Diego County, California, although such records have been published for the Salton Sea, in Imperial County, and for Scammon Lagoon, Baja California (Willett, Pac. Coast Avif. No. 21, 1933:79).

The present colony was noted by the writer and a group of observers from San Diego State College on May 18, 1953. Its appearance was strikingly similar to that described by Miller (Condor, 45,