

Butcher-bird Butchers Toad.—While making bird observations at Benicia, California, on March 1, 1939, I noted a California Shrike (*Lanius ludovicianus gambeli*) fly into a roadside group of weeds, mostly dry anise stalks, with something in its bill. I trained my field glasses on it and found it vigorously impaling a victim on the dry stub of one of the anise stalks, pulling it down with considerable effort in order to make the blunt end of the dry weed pierce the skin of the victim. Upon approaching the spot I found the prey of this bird to be an adult Pacific tree-toad (*Hyla regilla*).

Mr. J. D. Graham, of Benicia, this week saw a shrike carrying a fence lizard which he said looked large for the comparatively small captor to handle.—EMERSON A. STONER, *Benicia, California, March 17, 1939.*

Fossil Fringillids from Rancho La Brea.—The scarcity of passerines in lists of fossil birds is the result of several factors. Most passerines are small and the consequent fragility of their bones makes preservation unlikely. Small bones are often overlooked or neglected by collectors; and even when available, the uniformity in size and configuration in many groups makes identification difficult.

The fringillids, especially, present a problem in separating species on the basis of skeletal elements. Not only is there a large number of species in the family, but osteologically they are remarkably uniform. Such elements as tarsometatarsi and humeri, that in other groups show excellent characters, yield meager clues to the identity of most fringillid species.

There have been no previous records of specifically identified fringillid remains in the Pleistocene of Rancho La Brea. However, A. H. Miller (Univ. Calif. Publ. Bull. Dept. Geol. Sci., vol. 21, 1932, pp. 169-194, pls. 12-14) found remains of Pine Siskin, Red Crossbill, Spotted and Brown towhees, and Fox Sparrow in the Carpinteria Pleistocene.

The part of a fringillid that is always thought of as most characteristic is the heavy, conical bill. Within the family the bill has undergone great modification, even when other elements have remained relatively unchanged. The range of variation in fringillid bills, with such extremes as those of Evening Grosbeak and Brewer Sparrow, gives ample opportunity for differentiation. Thus it seems likely that the most accurate identifications can be made by careful study of this member. It is interesting to note that Miller (*loc. cit.*) identified the Pine Siskin, the Brown Towhee and the Fox Sparrow from bill parts.

In the collection from Rancho La Brea in the University of California Museum of Paleontology there are twelve maxillae which are referable to the family Fringillidae. These are from locality 2051 which is typically Pleistocene. All the fossil bills were broken from the skull in the nasofrontal area, but they are relatively well preserved.

Three were recognizable as members of the genus *Spinus* and another was referred to *Spizella*. The remaining eight could not so readily be separated on the basis of configuration. Most North American Recent species were eliminated on gross shape or size. Series of those which could not be thus eliminated were measured. The numbers of these available were as follows: *Poocetes gramineus* 6, *Aimophila ruficeps* 6, *Amphispiza bilineata* 9, *Amphispiza belli* 13, *Junco oreganus* 11, *Melospiza melodia* 10, and *Melospiza lincolni* 10.

The measurements taken were: Length of nostril; greatest distance transversely across nostril; anterior margin of nostril to tip; height of bill at front of nostrils; length from nasofrontal hinge to tip; greatest width across maxillaries; shortest distance from posterior margin of maxillopalatine to tip; and least width of nasal bridge of premaxillary.

With the aid of histograms prepared from the measurements, the fossils were compared with the known species. Those species that seemingly could not be distinguished when only differences in gross configuration were examined, showed easily recognizable differences in measurements. There is of course, much overlap, but fortunately each species can be separated from any one of the others on the basis of at least one measurement.

Seven of the fossils fell within the range of *Amphispiza belli* in every measurement, and none of these fell within the ranges of all the measurements of any other species. All characters of configuration also agree with *A. belli*.

The eighth bill is considerably smaller than the bills of *A. belli* and is easily separable from them. All its measurements fall within the ranges of the measurements of *Amphispiza bilineata* and all characters of configuration agree with that species. Again all other species are conclusively eliminated.

The three maxillae referable to *Spinus* are generically unmistakable, but closely allied species make specific identification more difficult. Miller (*loc. cit.*) describes *Spinus pinus* as being "distinctly larger and the culmen straighter than any of the North American goldfinches . . . in this genus." The straight profile of the culmen is consistent in a series of twelve bills of *S. pinus*, but the eight original measurements which I have employed show no salient differences in size between *pinus* and *tristis*. Both *lawrencei* and *psaltria* are much smaller than the fossils. An additional measurement,

namely, height of bill from the ventral surface of the maxillaries to the midpoint of the nasal bridge, solved the problem. In twelve bills *pinus* ranged from 2.5 to 2.9 mm. and *tristis* from 2.8 to 3.2 mm. One of the fossils with the straight culmen characteristic of *pinus* measures 2.5 mm. and one with the convex culmen of *tristis* measures 3.0 mm. The third has the convex profile of *tristis* but falls within the region of overlap, with a bill height of 2.8 mm.

The genus *Spizella* is also easily recognized, but again similarity of species in the group complicates the identification of the fossil. *Spizella arborea* is much larger than the fossil and *S. breweri* is smaller in all proportions. *S. pusilla*, *S. pallida* and *S. wortheni* are not considered because their ranges today are so far to the east. This eliminates all but *S. passerina*, with which the fossil agrees in all respects, and *S. atrogularis* of which there are no skeletons available. Comparison of skins reveals that *atrogularis* has a broader, stubbier bill than *passerina* which is relatively slender and acuminate. The tomial profile of *atrogularis* is straight, whereas *passerina* has slightly concave tomia. The fossil exhibits the characters of *passerina* and I refer it tentatively to that species but withhold final designation until skeletons of *atrogularis* are available.

Thus the following fringillids are presented as new to the Pleistocene avifauna of Rancho La Brea.

Subfamily Carduelinae

Spinus pinus

Spinus tristis

Subfamily Emberizinae

Amphispiza bilineata

Amphispiza belli

Spizella cf. *passerina*

In reconstructing the climatic and biotic complexions of the past, it is the zonally and ecologically restricted plants and animals that furnish the best clues. If only the birds are used to interpret the ecology of Rancho La Brea in the Pleistocene, it is those species whose habitats are distinctly defined that yield the keys to the associations. The presence of Sage Sparrows and Desert Sparrows indicates a fairly arid climate. On the assumption that the habitat predilections of the Sage Sparrow have not changed, it is safe to suppose that chamise and artemisia grew near-by. The Desert Sparrow also fits well into the chamisal association. Even today it is occasionally found near the La Brea pits. Willett (Pac. Coast Avifauna No. 21, 1933, p. 172) gives the range of the species in southwestern California as, "... occasional on Pacific coast in fall, winter and spring, north and west to Los Angeles County." The nomadic goldfinches are poor zonal and ecologic indicators and either Chipping or Black-chinned sparrows would fit into the association.

The previous evidence relating to the ecology of Rancho La Brea in the Pleistocene, as interpreted from the birds, has been well discussed by A. H. Miller (Condor, vol. 39, 1937, pp. 248-252) who concluded that the general aspect was more arid in the Pleistocene than today. Some of the plants and animals were desert inhabitants. The additional species reported here corroborate this conclusion and lend more detail to the already well defined picture of the La Brea Pleistocene.

I gratefully acknowledge the counsel of Dr. Alden H. Miller throughout the preparation of this paper.—CHARLES SIBLEY, *Museum of Vertebrate Zoology, University of California, Berkeley, April 22, 1939.*

Snowy Plover from Colorado.—We wish to record a specimen of the Western Snowy Plover (*Charadrius nivosus nivosus*) which we collected at Barr, Adams County, Colorado, on April 26, 1939 (no. 20014, Colo. Mus. Nat. Hist.). The plover, a female, was the only shore bird on the extensive bar of Clarkson Lake at the Mile High Duck Club. Its dorsal coloration is similar to specimens from Oregon and California; the bird is rather large, with a wing measurement of 106 mm., so although we rather expected it to be *tenuirostris*, we have concluded that it belongs to the western race. The taking of this specimen adds another species to the list of Colorado birds.—ALFRED M. BAILEY and ROBERT J. NIEDRACH, *The Colorado Museum of Natural History, Denver, Colorado, April 28, 1939.*

NOTES AND NEWS

Plans are nearing completion for the Fifty-seventh Stated Meeting of the American Ornithologists' Union to be held in the San Francisco Bay region in June of this year. On Monday, June 19, business meetings will be held at the Durant Hotel in Berkeley. The regular sessions open on Tuesday morning, June 20, with registration at 9:00 a.m., in Life Sciences Building,

University of California campus. After two days of scientific program in Berkeley, the meetings will continue on Thursday, June 22, in San Francisco at the California Academy of Sciences. Field excursions are planned for both Friday and Saturday, June 23 and 24, including a trip to Marin County. Tuesday evening there will be open house at the Museum of Vertebrate Zool-