

**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: *Pooecetes 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,