

Furthermore, Dr. Grant, studying the invertebrate fauna at the San Diego locality, concludes the age to be the middle part of the Pliocene. He has kindly furnished the following note on his field station in the horizon.

"The specimen of bird bone you have identified as *Mancalla californiensis* Lucas was collected by Mr. E. H. Quayle from very fine grained, gray sandstone in a road cut about one-tenth mile east of Euclid Avenue on Market Street, San Diego. The occurrence is far from the base of the San Diego formation, and almost surely in the upper half of it. Concerning possible breeding islands at that time, it would be safe to say that in all probability Pt. Loma and Soledad Hill were such islands in Pliocene time, and there were possibly others in the present foothill area."

Lucas' original paper states that the genus *Mancalla* is characterized by a short, flattened humerus devoid of the customary sigmoid flexure, by the moving of the articular head toward the ulnar border, and by the development of the ridge for the attachment of the brachialis inferior muscle. He bases his conclusion of flightless habit upon the shortness, the flatness, the lack of sigmoid flexure of the shaft, and the backward thrust of the articular head. Lucas' points are well taken, and anyone making a careful study of the type is impressed with the weakness of the bone as an organ of flight. While it does not show genetic relation to the penguins, there are certain characters, presumably adaptive, that are strongly suggestive of that group, and which at the same time set it off from its nearest relatives, the Auks. Such characters may be listed as follows:

- 1.—A short, thin, almost blade-like form strongly flexed into an open arc instead of a sigmoidal curve.
- 2.—This arc is accentuated by the backward thrust of the deltoid crest beyond the middle point of the shaft where it becomes even carinate in form.
- 3.—The ligamental furrow on the head assumes a deep basin shape, and lies just opposite the capital groove with which it communicates by way of a notch in the posterior contour of the head. This notch is very deep in both specimens.
- 4.—The sub-trochanteric fossa is much larger than in the Great Auk, though smaller than in the penguins.
- 5.—The brachialis anticus muscle attached to a ridge that lies almost on the very profile of the flattened shaft.

The Great Auk (*Plautus impennis*) was known to be flightless, though the wings were doubtless used with good effect in underwater swimming.

The Pliocene bird was held by Lucas to have been of greater specialization than the Great Auk and hence the humerus was of smaller size in relation to the body mass. He therefore estimates for *Mancalla* a body size about equal to that of *Plautus impennis*. With this conclusion, I am quite in accord.

Lucas further postulates for the species an insular breeding ground, protecting it from certain mammalian predators. For some years the general area of the present city of Los Angeles, in my own thinking and speaking, has been designated as a Pliocene archipelago. Perhaps the present bay of San Diego is the residuum of another Pliocene sea that was broken by islands comparable to the Los Angeles archipelago and afforded to *Mancalla californiensis* a haven comparable to Funk Island. No ice floes made pathway for fox or wolverine, and no poultry-minded whaler landed there to vary the monotony of his diet and herd the helpless creatures across the gangplank onto his boat's deck. Yet *Mancalla* "walked the plank" into oblivion just as certainly as did the Great Auk of Recent time.—LOYE MILLER, *University of California at Los Angeles, October 13, 1932.*

**Occurrence of the White-winged Scoter in Montana.**—On June 7, 1932, a White-winged Scoter (*Melanitta deglandi*) was observed by the writer at Black Lake, near Fortine, in extreme northwestern Montana. The bird, evidently a wanderer, was not observed at that lake, or any other lake in the locality, at any other time during the season.

There appear to be no published records of the occurrence of this species in Montana during spring or early summer. In his list of Montana birds (Pacific Coast Avifauna, no. 14, 1921, p. 39), Saunders cites a few described cases of its occurrence as a fall migrant, principally during August, with the statement that these are the only Montana records.—WINTON WEYDEMEYER, *Fortine, Montana, September 19, 1932.*