THE SYSTEMATIC POSITION OF BUBO LEPTOSTEUS MARSH

WITH ONE ILLUSTRATION

By ALEXANDER WETMORE

While collecting in Eocene deposits at Grizzly Buttes, near Fort Bridger, Wyoming, in 1870, O. C. Marsh secured the distal end of the left tibia of an owl-like bird that he named *Bubo leptosteus* (Amer. Journ. Sci., ser. 3, vol. 2, 1871, p. 126). Under that name the species has been included in the A. O. U. Check-list of fossil birds, though Marsh in the original description indicated certain differences from *Bubo* that in his words "seem to imply a generic difference."

Shufeldt (Trans. Connecticut Acad. Arts Sci., vol. 19, 1915, pp. 33-34, pl. 2, fig. 18) made a careful comparison of Marsh's type with modern owls, with the final conclusion that "it came from the skeleton of some long extinct generalized form, with strigine affinities." His photograph is the only illustration of the specimen that heretofore has been published. In the fourth edition of the A. O. U. Check-list (1931, p. 462) the present writer listed this form in the genus *Bubo* with a footnote that indicated "generic allocation open to question".

Through the kindness of Dr. Richard S. Lull and Dr. M. R. Thorpe of the Peabody Museum of Yale University it has been my privilege to examine the type of *Bubo leptosteus* in an endeavor to establish more definitely its relationships. The result has been highly interesting.

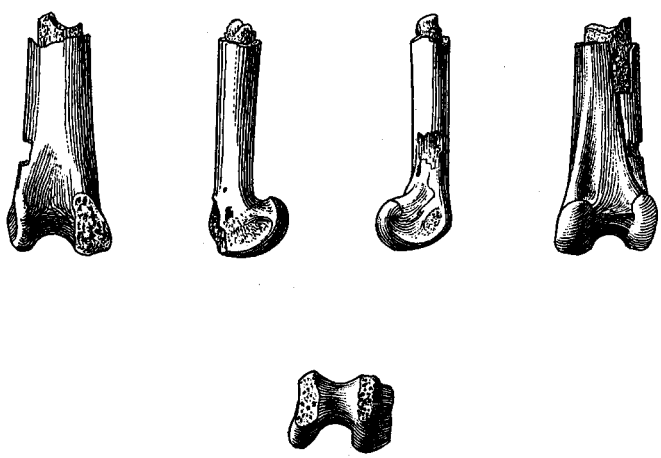

Fig. 23. Distal end of tibiotarsus, type of *Protostrix leptosteus* (Marsh); about natural size.

The type specimen (fig. 23), illustrated for me by Mr. Sydney Prentice, agrees with modern owls in lacking a supratendinal bridge. The intercondylar sulcus is broad and U-shaped, with the intercondylar fossa relatively small. The external condyle is reniform in external outline, with this external face irregularly concave. The amount of projection posteriorly beyond the line of the shaft is not certain as the bone is worn, but it appears to have been less than in modern owls. Anteriorly this condyle is narrow, much more so than in living Strigidae. The internal condyle has the posterior pro-

jection broken away. Anteriorly it extends as far as the companion condyle on the inner side; so much of the external face as remains is concave. Viewed from the distal end this internal condyle is thick and heavy, its lateral diameter being rather uniform throughout its length. The shaft is broad and flattened, tapering only slightly in transverse diameter toward the upper end. Posteriorly there is a slight concavity above the intercondylar sulcus. The external margin is somewhat narrowed, with no indication of the attachment of the fibula. The internal margin is broader, with the tubercle for the oblique ligament large but little elevated, so that it is distinguished only by close scrutiny of that part of the shaft. The anterior face of the shaft is somewhat excavated, but without the pronounced depression found in *Bubo*. The specimen (cat. no. 512, Peabody Museum, Yale University) is dull olive in color and is heavily fossilized. It measures as follows: Least transverse breadth of shaft 8.4 mm., transverse breadth across condyles 13.5 mm., anterior-posterior diameter of shaft 5.0 mm.

It is evident on even casual examination that the specimen differs from the Strigidae so decidedly that it should be removed from that family. Further, it is apparent that in its form *leptosteus* agrees with the Eocene genus *Protostrix* (Wetmore, Amer. Mus. Nov., No. 680, Dec. 4, 1933, p. 3) the type of which, *Protostrix lydekkeri* (Shufeldt), is also the distal end of the tibiotarsus. The resemblance to *Protostrix* is particularly close in the form of the condyles and of the intercondylar fossa.

From this it follows that Marsh's species must be removed to the family Protostrigidae where it will stand as *Protostrix leptosteus* (Marsh).

Compared with the drawings of *Protostrix lydekkeri*, the type of the genus, as illustrated in my published notes on that bird, *leptosteus* is appreciably smaller. In spite of this lesser size the intercondylar sulcus is equal in dimension in the two species, though both internal and external condyles are relatively narrower in *leptosteus*. While the two are quite distinct, it appears better, for the present at least, to place *leptosteus* in the genus *Protostrix* rather than to erect a new genus for it.

The genus will now be constituted as follows:

Protostrix lydekkeri (Shufeldt). Type.
Protostrix leptosteus (Marsh).
Protostrix saurodosis (Wetmore).

U. S. National Museum, Washington, D. C., September 12, 1936.

FROM FIELD AND STUDY

A Record of the White-winged Dove from Twenty-nine Palms, San Bernardino County, California.—In the *Condor* (vol. 3, 1901, p. 100) appeared an article by Edmund Heller, entitled, "Notes on some Little-known Birds of Southern California." Among his observations is the following, apparently made in May, 1896: "*Melopelia leucoptera*. White-winged Dove. While at Warren's Wells the miners told me of a white-winged dove which occurred at Twenty-nine Palms, a station some thirty miles farther east. From their description I judged it to be this species. If correct, future exploration should prove its presence, which would make an addition to the list of California birds."

Such "future exploration" came quite by chance. During the winter and spring of 1934, I was observing and banding birds in the oasis surrounding the Twenty-nine Palms Inn. Particularly successful was a four-celled Potter trap, placed on a small platform in an isolated mesquite at the edge of a grassy swamp. Mourning Doves had been plentiful for several weeks. On the morning of May 12, I noticed doves near the platform and replenished the supply of chick feed bait, in the hope of