PROCEEDINGS OF THE UNITED STATES NATIONAL MUSEUM

issued by the

SMITHSONIAN INSTITUTION
U. S. NATIONAL MUSEUM

Vol. 85 Washington : 1938 No. 3031

ANOTHER FOSSIL OWL FROM THE EOCENE OF WYOMING

By Alexander Wetmore

During the field season of 1931, M. V. Walker, working under C. W. Gilmore, curator of vertebrate paleontology in the United States National Museum, collected a few fragmentary fossil bird bones in a Wasatch exposure near Worland, Wyo. This material, which has recently come to attention during the laboratory preparation of the final specimens from this field season, contains an undescribed species of the family Protostrigidae that may be known as

PROTOSTRIX MIMICA, new species

Characters.—Distal end of tibiotarsus (fig. 4) similar to that of *Protostrix leptosteus* (Marsh)[1] but decidedly smaller; outer condyle heavier.

Type.—U.S.N.M. no. 15156, distal end of right tibiotarsus, collected July 23, 1931, on the south side of Ten Mile Creek, 12 miles northwest of Worland, Wyo., by M. V. Walker, from the Wasatch formation of the Eocene.

Description.—External condyle reniform in outline (somewhat distorted by pressure), its external face concave, projecting well beyond the line of the shaft both in front and in back; internal condyle viewed in outline distinctly flattened, projecting considerably forward beyond the line of the shaft and to a less degree behind, the external face concave, viewed from the distal end, broad and flattened; intercondylar sulcus broadly open, U-shaped in outline; shaft

[1] *Bubo leptosteus* Marsh, Amer. Journ. Sci., ser. 3, vol. 2, 1871, p. 126 (Bridger Eocene).

broad and flattened both in front and behind, the anterior margin of the inner condyle produced over the shaft in a slight overhang; no supratendinal bridge. Bone strongly fossilized, dull brownish gray in color, somewhat distorted by crushing.

Measurements.—Transverse breadth across condyles, 11.5 mm; transverse breadth of lower end of shaft, 8.9 mm.

Remarks.—Though in somewhat worn and distorted condition the fragment described above shows so definitely the characters assigned at present to the family Protostrigidae that it was identified as of that group at once on casual preliminary examination.

In general form *Protostrix mimica* is closely similar to *P. leptosteus* as indicated in the diagnosis, smaller size being its main characteristic. The size difference between the types of these two species has been carefully checked with differences existing between

FIGURE 4.—*Protostrix mimica*, new species: Distal end of tibiotarsus (type). Natural size.

male and female in species of modern owls to find that the amount is more than covered by this sexual variation. In addition, the outer condyle is somewhat thicker. Possibly the two belong in separate genera, but with so small a representation of both of the species concerned it is considered best to list them as congeneric.

As *Protostrix saurodosis* (Wetmore) is intermediate in size between the barred and great horned owls, *P. mimica* is decidedly smaller.

In the same locality and horizon Mr. Walker secured the distal end of a right tarsometatarsus (fig. 5) that I consider also to represent the species here described. The specimen (U.S.N.M. no. 14874) is slightly distorted by pressure and has part of the slender processes of the lateral trochlea missing, but it is sufficiently complete to indicate its characters. I have no hesitancy in identifying it as coming from a member of the Protostrigidae, and its dimensions are such as to indicate that it comes from a bird the size of *P. mimica*. It is logical therefore to place it with the species of that family from the same collecting locality.

Following is the detailed description of this fragment: Outer trochlea in lateral outline comparatively broad and rounded, pro-

jecting strongly distally, and set at a distinct angle with the central axis of the shaft (a portion of the posterior projection missing); considerably compressed from side to side, with free margin narrowed; middle trochlea relatively broad and heavy, separated from the external trochlea by a narrow, shallow sulcus; anterior surface merging smoothly with lower end of shaft; articular surface deeply marked on posterior face by a sharply angular groove, the outer margin bounding this groove projecting farther than the inner; axis of trochlea making an oblique angle toward the outside with the axis of the shaft; internal trochlea relatively heavy, projecting rather abruptly beyond the free margin of the shaft; anterior face with a broad, smooth articular surface, and posterior face deeply grooved (outer, free margin missing); outer face with a deep, somewhat irregular pit; separated from the middle trochlea by a shallow, narrow groove; lower end of shaft broad, roundly concave on the anterior face, and broadly grooved behind; a well-marked inferior

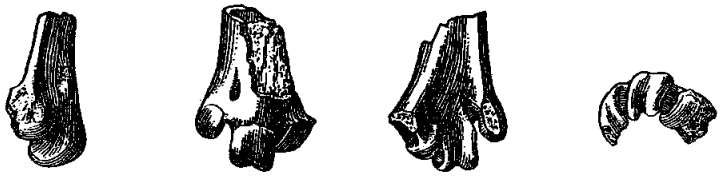

FIGURE 5.—*Protostrix mimica*, new species: Distal end of metatarsus. Natural size.

foramen. Bone dull dark brownish gray in color, well fossilized. Transverse breadth across trochlea 13.2 mm (other pertinent measurements not available).

Compared with living *Strix varia* of the family Strigidae the fossil has the outer trochlea much broader when viewed from the side, the anterior base of the middle trochlea merging smoothly with the base of the shaft instead of projecting abruptly, and the internal trochlea relatively smaller when viewed from in front. It is nearer to the Strigidae in its characters than to the Tytonidae and is sufficiently different to support the separation of *Protostrix* in a distinct family. It will be recalled that to this time the Protostrigidae have been separated on the basis of characters found in the distal end of the tibiotarsus.

Discovery of this new species increases the number now known in the Protostrigidae to four, as follows: *Protostrix lyddekeri* (Shufeldt), *P. leptosteus* (Marsh),[2] *P. saurodosis* (Wetmore), and *P. mimica* Wetmore.

Drawings of the specimens described herein were made for me by Sydney Prentice.

[2] For reference of *Bubo leptosteus* Marsh to this genus, see Wetmore, Condor, 1937, pp. 84–85.

U. S. GOVERNMENT PRINTING OFFICE: 1937