TWO MORE FOSSIL HAWKS FROM THE MIOCENE OF NEBRASKA

By ALEXANDER WETMORE

On March 22, 1938, Harold J. Cook of Agate, Nebraska, secured from the dump at the well known Stonehouse Draw Quarry, about 18 miles south of Agate, Nebraska, the distal end of an avian humerus that he forwarded to me for study. Through preoccupation with other matters this bone was identified at the time only as a hawk of the family Accipitridae and was not studied in detail until recently. On careful comparison it proves to be an additional species in the subfamily Aegypiinae. The specific name is given as meaning one of great age.

The drawings that illustrate the specimens described in this paper have been made by Sidney Prentice.

Neophrontops vetustus, new species

Characters.—Distal end of humerus (fig. 62) similar to that of *Neophronotops dakotensis* Compton (Amer. Jour. Sci., 30, 1935:344) from the Lower Pliocene at Big Spring Canyon, Bennett County, South Dakota, but considerably smaller; form relatively somewhat more slender.

Description.—Type, distal end of right humerus, collection of Harold J. Cook, no. 691, from the Stonehouse Draw Quarry, Sheep Creek Beds, Middle Miocene, Sioux County, Nebraska, collected March 22, 1938, by Harold J. Cook. Shaft relatively slender, elliptical in outline, somewhat expanded below to support the condyles; radial condyle relatively long, elevated, narrowed toward its inner end, with the distal face nearly plane at inner end, becoming rounded at outer end, and the proximal face slightly undercut; ectepicondylar process projecting slightly as a narrowed plate; ulnar condyle irregularly rounded, projecting distally slightly below the adjacent processes; entepicondylar process rounded; olecranal fossa slightly indicated; brachial depression strong and well marked, considerably elongated. Specimen strongly fossilized; shaft mottled with neutral gray on dull whitish so heavily that it appears gray; distal end grayish white.

Measurements.—Greatest transverse breadth across condyles, 19.2 mm.; least transverse breadth of shaft, 8.2.

Fig. 62. Distal end of right humerus of *Neophrontops vetustus*; type; natural size.

The accipitrine birds of the subfamily Aegypiinae have the outline of the distal end of the humerus less angular, with the projecting angles more rounded than in related groups, a character well shown in the present specimen. In form, *Neophrontops vetustus* is very similar to *N. dakotensis*, being distinguished mainly by its size, as it was seemingly only slightly more than half as large. It is the third species in the genus to be found in the fossil beds of the United States.

With seven fossil species of this subfamily now known from North America, it appears that birds of this group were found from the Lower Miocene into the Pleistocene,

so that one must wonder at the reasons that led to extinction of these vultures in the New World in view of the abundance of other hawks in the Recent period.

While there is some argument as to the age of the section of the Sheep Creek beds where this fossil was found, it is given here as Middle Miocene.

From the well known Stenomylus Quarry near Agate, Nebraska, in the Lower Miocene, Harold J. Cook recently forwarded the distal end of a right metatarsus of a hawk allied to genera which at the present day are known from tropical and subtropical forests. After careful comparison it is designated as

Palaeastur atavus, new genus and species

Characters.—Distal end of metatarsus (fig. 63) rather similar to that of *Spizastur melanoleucus* (Vieillot) (Nouv. Dict. Hist. Nat., 4, 1816:482) from Guiana, but with the inferior foramen relatively more distal in position, located more toward the external margin of the shaft; middle trochlea relatively larger; inner trochlea relatively reduced in size; the shaft relatively slenderer and lighter; and posteriorly projecting plate on outer trochlea less produced.

Description.—Type, collection of Harold J. Cook, no. 693, distal end of right metatarsus, from the Lower Miocene of the Lower Harrison beds, collected by Grayson E. Meade, in the Stenomylus Quarry, about 2 miles southeast of the Agate Springs fossil site near Agate, Nebraska. Shaft light and slender in form, the external margin plane and only slightly thickened toward the center; posterior face shallowly concave with sharply angular margins; shaft flattened and broadened distally; inferior foramen located low down in a depression with rounded margins, into which a shallow groove leads from above; facet for hallux strongly defined, relatively elevated; external trochlea narrow with the posteriorly projecting plate on its outer margin decidedly shortened; middle trochlea narrow with its inner and outer faces excavated, and a decided groove around its free margin; inner trochlea relatively small, the projecting wing reduced in size. Bone light brownish white in color, completely fossilized.

Measurements.—Transverse breadth of shaft toward the center, 6.5 mm.; transverse breadth across trochlea, 13.3; distance from upper margin of facet for hallux to distal margin of inner trochlea, 17.2.

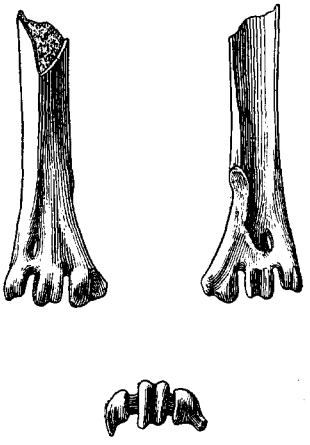

Fig. 63. Distal end of right metatarsus of *Palaeastur atavus*; type; natural size.

The present species, while related to *Spizaëtus grinnelli* (Miller) and *S. willetti* Howard of Quaternary deposits, is decidedly smaller and less heavily formed. Its affinities evidently are with *Leucopternis* and *Spizaëtus*, as well as with *Spizastur* to which it is compared, but it is sufficiently different from all of these to stand apart as a distinct genus. From the first two genera mentioned it differs exactly as it does from

Spizastur. It therefore takes its place as an additional element among the considerable number of fossil accipitrine birds of North America, being the oldest known representative of the restricted group of genera to which it is assigned.

When received in the National Museum the specimen was still embedded in a piece of sandstone matrix from which it has been skillfully removed by Norman Boss, who also has repaired one slight break in the anterior face of the shaft.

United States National Museum, Washington, D.C., August 9, 1943.