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## AN ADDITIONAL RECORD FOR THE FOSSIL HAWK *URUBITINGA ENECTA*

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From the fossil beds of Sioux County, Nebraska, the present writer has described a number of birds on material found in The American Museum of Natural History, the collections of Princeton University, and of Mr. Harold Cook. Recently, through the courtesy of Dr. W. D. Matthew and Mr. Barnum Brown of the American Museum, I have had the privilege of examination of additional bones from these deposits secured by Mr. Albert Thomson during the field season of 1925. These specimens are catalogued as No. 6617, Dept. Vert. Pal., American Museum of Natural History, and were collected in the Sheep Creek formation of the Miocene, in Stonehouse Draw, Sioux County, Nebraska.

Among these specimens is the left humerus of a large hawk that was considerably crushed, but that has been skillfully restored so that it is in shape for study. The shaft of this bone is practically complete, but the ulnar trochlea and the crista superior and some other of the more delicate parts of the head are missing. On comparison, it is found that this bone shows the extensive smooth space of bone separating the margin of the depression for the brachialis anticus from the base of the ectepicondylar process that characterizes hawks of the genus *Urubitinga*, a genus represented in previous collections by the species *Urubitinga enecta*.<sup>1</sup>

The type selected for *Urubitinga enecta* is a tibiotarsus, but with it there is a nearly complete left humerus and other bones identified as the same species that were found associated in a small pocket with the type. A cast of this humerus, perfect in every detail, made for me in the laboratories of the American Museum, is before me for study. Comparison between this cast and the humerus found in 1925 shows close conformity between the two in all points except that of size. The original specimen

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<sup>1</sup>*Urubitinga enecta* Wetmore, Bull. Amer. Mus. Nat. Hist., XLVIII, Dec. 3, 1923, p. 500 (Lower Sheep Creek Beds, early Middle Miocene, collected in quarry 20 miles south of Agate, Sioux County, Nebraska).

of *U. enecta* measures 172 mm. in length, while the specimen secured in 1925 is only 158 mm. long, a difference of approximately 8.1%.

It is well known that in most species of hawks there is a constant difference in size between the sexes, females being decidedly larger than males. On examining the length of the humerus in the red-tailed hawk, *Buteo borealis* (Gmelin), I find that in a supposed female it measures 103.9 mm. and in a male only 97.8 mm., a difference of 5.8%. In the Golden Eagle, *Aquila chrysaetos* (Linnæus), in a bird thought to be a female, the humerus measures 215 mm., while in a male it is 190 mm., a difference of 11%. It may be explained that distinction in sex in the modern skeletons at hand has been made by comparing the skulls and other bones, as the older collectors for some unknown reason usually failed to mark the sex of birds prepared as skeletons. The differences in size between male and female in the group now under discussion are so easily seen that there is no probability of error in assigning skeletons to male or female sex.

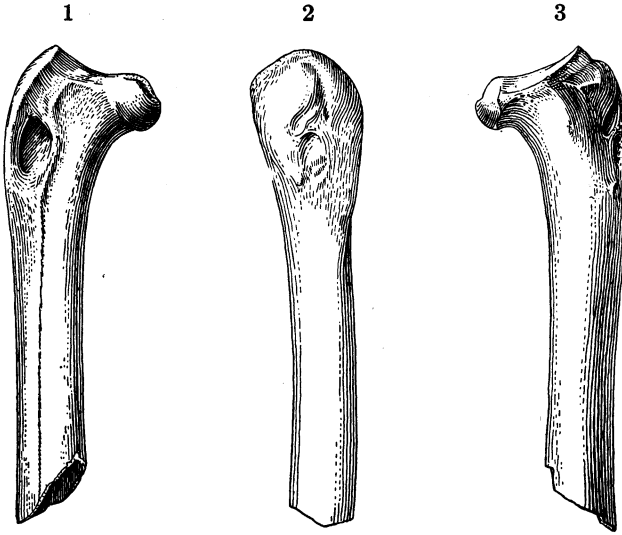
The proportionate difference between the two fossil humeri of *Urubitinga* of 8.1% falls between the sexual differences noted in the red-tailed hawk and the golden eagle.

On consideration of the above it appears that the second humerus of *Urubitinga* is susceptible of two interpretations, since it may be considered representative of a second species, smaller in size than *U. enecta*, or the distinction noted may be considered as due to individual difference. In view of the known sexual differences in hawks of this group, it seems logical to suppose that as the two fossils come from the same beds we have here male and female of one species. On this basis the second specimen is identified as a male of *Urubitinga enecta* Wetmore.

With this humerus there are other fragments of bone including slightly more than the proximal half of a right femur. This bone has the shape usual in large hawks (see figures 1 to 3) but from its slender proportions resembles *Urubitinga* more closely than related species. The greatest transverse breadth through the head is 19.5 mm., and the transverse diameter of the shaft near its center is 8.7 mm. The articular head has the usual globular form with a deep impression for insertion of the articulating tendon; the neck is only slightly constricted and the articular surface is relatively narrow. There is a pronounced pneumatic foramen, and the somewhat slender shaft is traversed on its upper surface by a nearly straight *linea aspera* extending apparently to the middle of the bone or beyond. This femur is identified also as *Urubitinga enecta*.

The remaining material, including part of an ulna, is too fragmentary to warrant study.

The drawings illustrating this paper have been made by Mr. Sydney Prentice.



Figs. 1 to 3. Proximal portion of right femur attributed to *Urubitinga enecta*. (Natural size).

