

BIRD REMAINS FROM THE KERN RIVER PLIOCENE OF CALIFORNIA

WITH ONE ILLUSTRATION

By LOYE MILLER

There were lately placed in my hands by Dr. Chester Stock, of the California Institute of Technology, two fragmentary bird bones that are of much interest. First of all, our knowledge of the Pliocene avifauna of California is but meager and anything that adds detail to the impressionistic picture is most welcome. Secondly, those Pliocene horizons that have yielded bird remains have, with one exception, been marine deposits and do not include land birds, whereas our Pleistocene avifaunas are nearly all from land-laid deposits. The formation here discussed is seemingly a fluvial deposit and it contains a fairly rich mammal fauna upon which age determinations are based with a fair degree of confidence. A third factor of interest lies in the relationships of the species recorded.

The remains were collected by field workers of the California Institute of Technology in their station number 49 on Pozo Creek—Kern River Divide, Kern County, California, approximately nine miles northeast of Bakersfield in SE $\frac{1}{4}$ of Sec. 23, T. 28 S., R. 28 E., Mount Diablo principal meridian. The formation is a series of land-laid continental beds of seemingly fluvial or lacustrine origin. Some twenty species of mammals have been identified from the locality, including *Pliohippus*, *Merychodus*, *Bassariscus antiquus*, camels, rhinos, and peccaries. From their studies of these mammalian remains, Stock and Furlong consider the beds to be of middle or lower Pliocene, and to represent a stage closely approximating the Ricardo beds which lie farther to the south and on the opposite side of the Sierran divide. The only bird yet recorded from the Ricardo is the goose, *Branta howardae*. Both species here discussed are diurnal raptors.

Vultur kernensis, n. sp.

* *Type specimen*.—Number 454, Calif. Inst. Technology; distal portion of humerus (fig. 16), Pliocene of Kern River, California. Characters essentially those of *Vultur papa* (Linn.), but much larger and relatively shorter.

The only known specimen of the type is very beautifully preserved except for rather remarkable local distortion in two places. The whole brachial depression has been crushed in without seemingly distorting the opposite side of the bone, and the entire trochlear assembly has been thrust proximad for a millimeter or two. The attachment of the brachialis anticus is, however, fairly well defined, and the condyles retain their form quite accurately. The most distal pneumatic foramen is overshadowed by the internal condyle, but it is readily discernible with closer scrutiny.

Compared with *Vultur papa* the type conforms in general form and curvature except for its greater size and robustness. The foramina in the brachial depression vary extremely in a series of six humeri of the recent bird examined, even showing great diversity between the two sides of the same individual. Within this range of variation the fossil easily falls. The ectepicondylar prominence is also quite variable in the sharpness of its demarcation. In the fossil specimen this sharpness is accentuated to a slight degree by the proximal thrust of the articular assemblage, but after due allowance is made for post-mortem distortion, the ectepicondylar prominence appears more positive than in the Recent bird.

At the proximal end of the fragment there appears just at the line of fracture, the rounded papilla that terminates the deltoid crest in all the Cathartiformes except *Teratornis*.

The presence of a King Vulture in the early California Pliocene is of much interest to the writer of this article, who has worked with the group of American vultures during a span of many years. Tropical America is apparently the center of the familial area of the Cathartidae, and from this center various species range more or less widely. The most closely restricted member, until human agency appar-

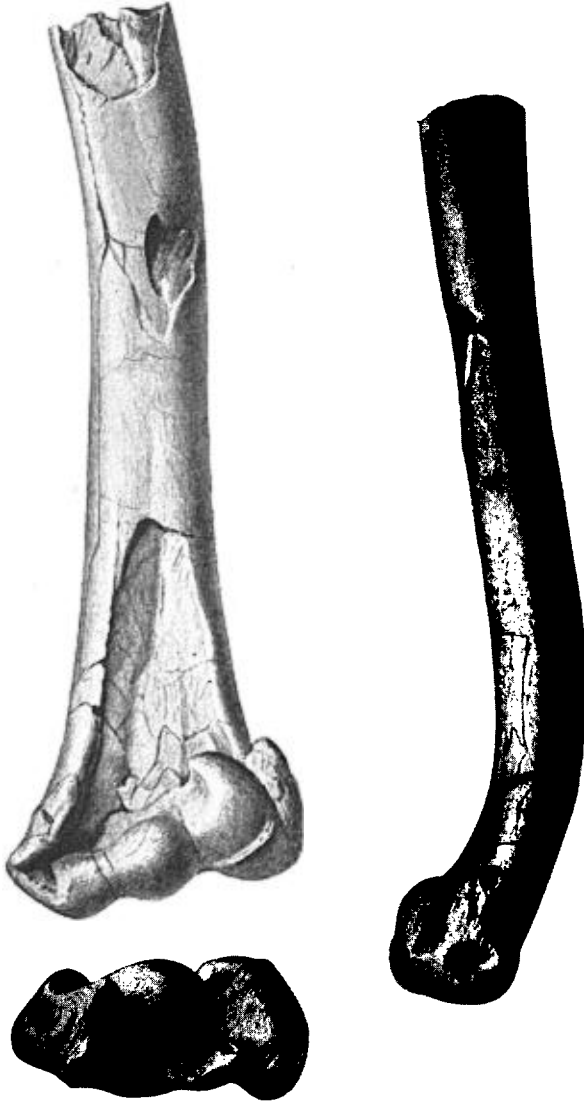


Fig. 16. *Vultur kernensis*, TYPE SPECIMEN, APPROXIMATELY NATURAL SIZE. HUMERUS, FROM PLIOCENE, KERN RIVER, CALIFORNIA.

ently reduced *Gymnogyps*, was the King Vulture (*Vultur papa*). A closely related bird is reported from the Pleistocene cavern deposits of Brazil (Winge, O., *Fugle fra Knoglehaler i Brasilien*, Museo Lundii, 1887). Fossil cathartids are abundantly recorded from Pleistocene strata in California and two species are reported from the Pampean Pleistocene of South America.

The assignment of an extinct genus *Psilopterus* from South American Pliocene to the cathartine relationship has already been considered as wholly uncertain (Miller, L. H., Univ. Calif. Publ. Bull. Dept. Geol. Sci., 7, 1912, p. 88). The Kern River specimen represents the most ancient record of the group in California. Wetmore (Proc. Colo. Mus. Nat. Hist., VII, 1927, pp. 1-14) has carried the family record back to Oligocene time by recording two genera from Colorado. Gaillard's (Ann. de l'Univ. de Lyon, n. ser., 1, Sci. and Med., fasc. 23, 1908) record of *Plesiocathartes* from the Oligocene of France represents the only known wanderer to the old world. We may then look upon the present familial area as a mere remnant of a once extensive realm.

Dimensions of *Vultur kernensis*:

Transverse diameter through condyles.....	38.7 mm.
Least transverse diameter of shaft.....	15.3 mm.
Dorso-ventral diameter of shaft.....	12.1 mm.

Parabuteo (?), sp.

The other avian specimen from the collection is the distal end of the tibia of a buteonid hawk. The edges of the condyles are unfortunately corroded badly so that the finer details are lost and ratios of various diameters are not determinable exactly. In general it may be said that the bone is relatively wide and thin when compared with typical *Buteo* as exemplified by *B. borealis*. The area just above the outer condyle and external to the tendinal bridge shows a distinct depression extending up the bone farther than is seen in buteonids at hand and is most nearly approached by *Parabuteo unicinctus*.

From *Urubitinga enecta* Wetmore, the specimen differs in being thinner and wider and the two condyles are more nearly equal in size when viewed from the distal end.

From *Buteo typhoius* Wetmore, it differs in the same characters. The size is much less than in either of the last named fossil species.

In all characters that are sufficiently well preserved, the specimen resembles *Parabuteo unicinctus*, but definite assignment to the genus is not considered to be advisable.

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