

## A CHACHALACA FROM THE MIOCENE OF FLORIDA

BY PIERCE BRODKORB

ONLY six species of Miocene birds have been described from the eastern United States while no less than 47 are known from the Great Plains and westward. All of the eastern species are water birds and with one exception all are from marine deposits. The only eastern non-marine Miocene formation which has yielded avian fossils is at the locality known as the Thomas Farm, north of Bell, Gilchrist County, Florida. Wetmore (1943) listed three bird bones from that deposit, only one of which, however, was determined beyond the family level. This was a shore-bird which he made the type of a new family, Rhegminornithidae.

Recently Dr. Albert M. Laessle, of the Department of Biology, University of Florida, collected a fourth fossil bird in the same locality. The specimen is the tibiotarsus of a chachalaca, a representative of the family Cracidae which at present has a Neotropical distribution, extending from the lower Rio Grande south to Argentina.

Three other Tertiary cracids have been described from North America. They are *Ortalis phengites* Wetmore (1923) from the Lower Pliocene of Nebraska, *Ortalis tantala* Wetmore (1933) from the Lower Miocene of Nebraska, and *Ortalis pollicaris* A. H. Miller (1944) from the Lower Miocene of South Dakota. The discovery of a cracid in the Lower Miocene of Florida is thus of considerable interest from a distributional standpoint. First, it helps to link the Miocene land fauna of Florida with that of the Great Plains area, as already indicated by White (1942) on the basis of the mammals of the Thomas Farm. Further it marks the fourth record of the family Cracidae from the Nearctic Tertiary. Although at present characteristic of the Neotropical Region, the cracids are unknown in South America before the Pleistocene (cf. Lambrecht, 1933:752). Thus the family is assumed to be of Nearctic origin and probably did not reach South America before the Pliocene or Pleistocene land connection between the two continents.

### *Boreortalis* new genus

*Type.* *Boreortalis laesslei* new species.

*Diagnosis.* Agrees with the Cracidae in shape of external condyle of tibiotarsus, prominent oblique groove for branch of peroneus profundus crossing external side of base of shaft, extent and position of tendinal groove and bounding ridges along external anterior side of shaft, conformation of tibial bridge, and presence of a tubercle on lower end of tibial bridge.

Closest to *Ortalis*, but differs from it as follows: (1) distal portion of bone less compressed; (2) arc formed by anterior portion of external condyle greater, and therefore the condyle extends less abruptly forward from shaft; (3) depression on anterior internal edge of shaft opposite upper opening of tibial bridge larger and shallower; (4) tubercle on tibial bridge located more medially, better developed, with more prominent edges, and

with its external margin concave; (5) area external to tubercle flattened, forming a depression which leads from shaft to intercondylar fossa; (6) depression in upper outer part of intercondylar fossa at base of external condyle below tubercle on tibial bridge much broader and shallower and without a pit; (7) pit on side of external condyle located nearer center, less forward and distad.

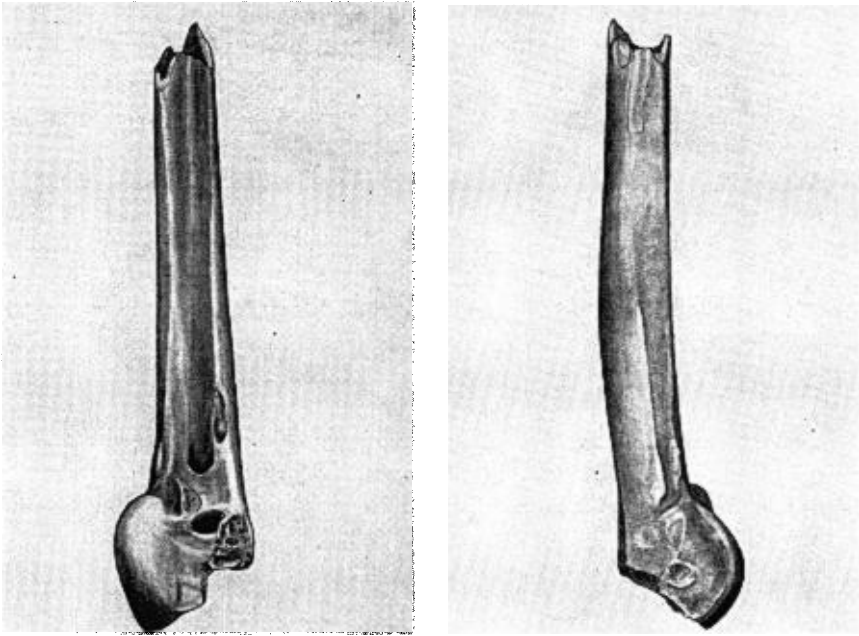


FIG. 1. Tibiotarsus of *Boreortalis laesslei*. Anterior (left) and external views. About two times natural size.

*Affinities.* Although in the main closest to the chachalacas of the genus *Ortalis*, the fossil resembles the Central American black chachalaca (*Penelopina*) in one respect, the large size and shallowness of the depression opposite the upper opening of the tibial bridge.

The question arises whether the other Tertiary chachalacas may belong in this genus rather than in *Ortalis*, especially since two of the three Tertiary species were referred to *Ortalis* with hesitation by the describers. The tibiotarsus is known only of *Ortalis tantala*. That species agrees with *Boreortalis* in having the distal end of the bone less compressed than in the living species of *Ortalis*. The figure, however, shows the external condyle rising abruptly from the shaft as in *Ortalis* in contrast with the condition in *Boreortalis*. Since the other generic characters of *Boreortalis* are not mentioned in the description of *O. tantala* and are not evident in the figures, I hesitate to refer it generically. Still less can be deduced about the generic position of the other two species, which are known only from wing elements.

***Boreortalis laesslei*** new species

FIG. 1

*Type.* Distal portion of right tibiotarsus (with internal condyle and posterior portion of external condyle missing), No. 743, collection of Pierce Brodkorb. From Lower Miocene at Thomas Farm, eight miles north of Bell, Gilchrist County, Florida. Collected November 24, 1953, by Albert M. Laessle.

*Diagnosis.* Differs from the living species of cracids as detailed in the generic diagnosis. Size between the living *Ortalis vetula* (Wagler) and *Penelopina nigra* (Fraser).

Larger than other described Tertiary cracids. Of these *Ortalis pollicaris* is the largest, resembling the living *O. leucogastra* in size. *Ortalis phengites* is smaller than the living *O. vetula*, and *O. tantala* is only about half the size of the living species.

*Measurements.* Least width of shaft 4.4. least depth of shaft 3.8, distance from posterior end of base of shaft to anterior end of external condyle 9.4 mm.

*Associated Fauna.* Since the discovery of the Thomas Farm deposit in 1930 an extensive vertebrate fauna has been found there. The mammals, represented by 34 or more species, have been studied by Simpson (1932), Wood (1947), White (1940, 1941, 1942, 1947), and Lawrence (1943), and have been summarized by Romer (1948). The reptiles were described by White (1942a) and Vanzolini (1952), and the frogs were reported by Tihen (1951). The paper by Wetmore (1943) on other avian remains has already been mentioned. The ecological picture derived from these studies is of a river flowing through a dry, grass-covered plain. The presence of a cracid is in harmony with the previously studied fauna, since its closest relative, the present-day chachalaca, frequents the brush along streams in arid country.

## LITERATURE CITED

## LAMBRECHT, KALMAN

1933 Handbuch der Palaeornithologie. Gebrüder Borntraeger, Berlin.

## LAWRENCE, BARBARA

1943 Miocene bat remains from Florida, with notes on the generic characters of the humerus of bats. *Jour. Mamm.*, 24(3):356-369, 2 figs.

## MILLER, ALDEN H.

1944 An avifauna from the Lower Miocene of South Dakota. *Univ. Calif. Publ., Bull. Dept. Geol. Sci.*, 27 (4):85-100. 8 figs.

## ROMER, ALFRED SHERWOOD

1948 The fossil mammals of the Thomas Farm, Gilchrist County, Florida. *Jour. Florida Acad. Sci.*, 10 (1):1-11.

## SIMPSON, GEORGE GAYLORD

1932 Miocene land mammals from Florida. *Florida State Geol. Surv. Bull.*, 10:7-41, 23 figs.

## TIHEN, J. A.

1951 Anuran remains from the Miocene of Florida, with the description of a new species of *Bufo Copeia*, 1951 (3):230-235, pl. 1-2.

## VANZOLINI, P. E.

1952 Fossil snakes and lizards from the Lower Miocene of Florida. *Jour. Paleont.*, 26 (3):452-457, pl. 55-57.

WETMORE, ALEXANDER

- 1923 Avian fossils from the Miocene and Pliocene of Nebraska. *Bull. Am. Mus. Nat. Hist.*, 48:483-507, 20 figs.  
1933 A fossil gallinaceous bird from the Lower Miocene of Nebraska. *Condor*, 35 (2):64-65, figs. 10-14.  
1943 Fossil birds from the Tertiary deposits in Florida. *Proc. New England Zool. Club*, 22:59-68, pl. 11-12, text-figs. 1-2.

WHITE, THEODORE E.

- 1940 New Miocene vertebrates from Florida. *Proc. New England Zool. Club*, 18:31-38.  
1941 Additions to the Miocene fauna of Florida. *Ibid.*:91-98.  
1942 The Lower Miocene mammal fauna of Florida. *Bull. Mus. Comp. Zool.*, 92 (1):1-49, pl. 1-14.  
1942a A new alligator from the Miocene of Florida. *Copeia*, 1942 (1):3-7, figs. 1-2.  
1947 Additions to the Miocene fauna of north Florida. *Bull. Mus. Comp. Zool.*, 99 (4):497-515, figs. 1-6.

WOOD, ALBERT E.

- 1947 Miocene rodents from Florida. *Bull. Mus. Comp. Zool.*, 99 (3):489-494, plate.

DEPARTMENT OF BIOLOGY, UNIVERSITY OF FLORIDA, GAINESVILLE, FLORIDA,  
DECEMBER 29, 1953