

TWO PRIMITIVE RAILS FROM THE EOCENE OF COLORADO AND WYOMING

WITH NINE ILLUSTRATIONS

By ALEXANDER WETMORE

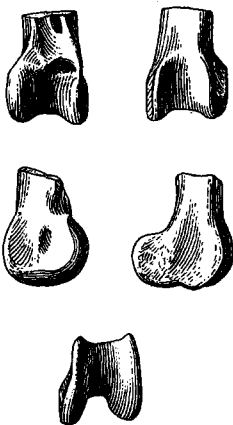
In the fossil collections of the National Museum there is the lower end of a tibio-tarsus of a bird, collected several years ago by Mr. W. H. Bradley during work for the United States Geological Survey, that the writer recently has studied critically with the result that the bone proves to come from an extinct rail. A further fossil specimen of this family has been presented by Dr. E. L. Troxell of Trinity College, Hartford, Connecticut, from recent collections in Wyoming. Descriptions of these two follow.

Family RALLIDAE

Eocrex primus gen. et spec. nov.

Characters.—A ralline form of large size, the lower end of the tibio-tarsus being slightly larger than that of the modern *Porphyrio melanotus* Temminck (Man. Ornith., ed. 2, vol. 2, October 21, 1820, p. 701). General outline somewhat similar to that of modern *Aramides ypecaha* (Vieillot) [*Rallus ypecaha* Vieillot, Nouv. Dict. Hist. Nat., vol. 28, 1819, p. 568], but lower end somewhat more compressed, inner condylar sulcus narrower, and without the projecting tooth external to the lower opening of the supratendinal bridge at the inner anterior base of the external condyle common to Rallinae, as well as to Aramidae and Gruidae (figs. 21-25).

Description.—Type, distal end of right tibio-tarsus, U. S. Nat. Mus. Cat. No. 12043, from near the top of the Cathedral Bluffs tongue of the Wasatch formation of the Eocene, near Steamboat Springs, Sweetwater County, Colorado, in Sec. 13, T. 24 N., R. 102 W., collected August 1923, by W. H. Bradley. Lower end of shaft rounded elliptically on sides and behind, in front strongly excavated by a longitudinal groove, this groove being deepest on inner side where it has a sharply angular bottom in cross-section; supratendinal bridge broad and strong, with perforation beneath it nearly round and relatively small; internal condyle viewed laterally quite round, with only a slightly greater anterior than posterior projection, lateral face somewhat excavated, free margins slightly thickened; external condyle elongated anteriorly so that in lateral outline it is somewhat shoe-shaped, free margin slightly raised, a little thickened anteriorly, with a projecting tubercle on outer face in a line with anterior margin of the shaft; intercondylar sulcus broadly open; intercondylar fossa deep cut with abrupt walls, being somewhat deeper toward external condyle; external tubercle for the attachment of the oblique ligament low and little pronounced; only a slight projection below at the outer lip of the lower tendinal opening beneath the supratendinal bridge.



Figs. 21-25. TYPE SPECIMEN OF *Eocrex primus*, NATURAL SIZE.

Measurements.—Transverse breadth of lower end of shaft 7.6 mm.; greatest transverse breadth across condyles 10.6 mm.; external transverse diameter of external condyle 11.4 mm.; external transverse diameter of internal condyle 12.0 mm.

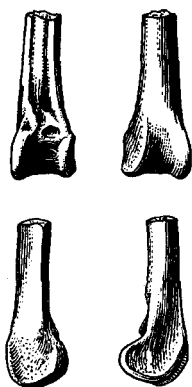
Remarks.—The species here described in many respects appears intermediate between the subfamilies Rallinae and Gallinulinae, though seemingly more nearly like the Gallinulinae, so that it is placed in that subfamily. In general outline it is more like the living *Tribonyx mortierii* of Tasmania than any other species seen, but the resemblance here in minute detail is not particularly close. *Eocrex* is believed to have been a swimming bird rather than one that waded.

The relationship of *Eocrex* to the three described species of *Telmatornis*, which come from the Eocene beds of New Jersey, is at present vague. *Telmatornis affinis* and *T. priscus*, known from fragmentary humeri, seem to have been smaller. *Telmatornis rex*, also known from a humerus, was apparently about the size of *Eocrex* but of highly peculiar form. From available information it does not now seem that the two genera are closely related.

Palaeorallus troxelli gen. et sp. nov.

Characters.—A ralline form of medium size with the lower end of the tibio-tarsus somewhat larger than that of the modern *Rallus longirostris* Boddaert (Tabl. Planch. Enl., 1783, p. 52 [Cayenne]); general form somewhat similar to that species, but lower end of bone relatively broader and heavier; external condyle stronger and heavier; space on anterior face of shaft external to tendinal bridge broader; groove for peroneus profundus lying more on external side of shaft; intercondylar sulcus relatively broader (figs. 26-29).

Description.—Type, distal end of right tibio-tarsus, U. S. Nat. Mus. Cat. No. 12042, collected from the Wasatch formation of the Eocene in a badlands locality a short distance south of Preator's Ranch, northwest of Little Tatman Mountain, and south of Burlington, Wyoming, in 1929, by Edward L. Troxell (orig. no. T 312). Lower end of shaft flattened anteriorly, with a slightly raised line external to center, forming two very faintly indicated longitudinal depressions; margins also slightly raised; a high, raised internal margin above supratendinal bridge; sides and posterior margin of shaft rounded, becoming flattened laterally and posteriorly as shaft descends toward the condyles; supratendinal bridge broad, tilted only slightly from longitudinal axis of shaft, with the passage beneath relatively large; space external to this bridge relatively broad, with indication of a projecting toothlike process external to lower external margin of bridge (that has, however, been broken away and lost); external condyle, viewed laterally, elliptical in outline, its circle being flattened from above downward, projecting forward beyond axis of shaft, its external margin raised (partly broken away anteriorly); internal condyle flattened and considerably elongated anteriorly, the external margin raised, with center of condyle considerably excavated externally; external faces of both condyles with poorly developed projecting tubercles, that on the external condyle being near the center, and that on the internal condyle being in a line with the anterior margin of the shaft; intercondylar sulcus broadly open, the intercondylar fossa being deeply cut with abrupt, perpendicular wall on inner side, and lower, more rounded wall on outer side; a distinct excavation below lower end of supratendinal bridge; groove on side of shaft for tendon of peroneus profundus long and well impressed, running along angular junction of external and anterior faces of shaft.



Figs. 26-29. TYPE SPECIMEN OF *Palaeorallus troxelli*, NATURAL SIZE.

Measurements.—Transverse breadth of lower end of shaft 5.1 mm.; transverse breadth across condyles 8.2 mm.; external transverse breadth of external condyle (approximate due to breakage) 7.9 mm.; external transverse breadth of internal condyle (approximate due to breakage) 8.2 mm.

Remarks.—This form is apparently allied to living members of the subfamily Rallinae and is placed in that group. In the diagnosis it is compared with *Rallus longirostris* as a matter of convenience but is not considered a close relative of that genus. The peculiarities setting it apart from *Rallus* seem also to distinguish it from related rails. It is believed to have been a walking form rather than one that regularly swam in deep water.

As in the case of *Eocrex* the relation of *Palaeorallus* to the three forms of *Telmatornis* described from the Eocene of New Jersey is uncertain. *Telmatornis rex* was larger. *Telmatornis affinis* and *T. priscus*, named from broken humeri, from comparison with bones of *Rallus longirostris* and *Palaeorallus* seem also to have been slightly larger. It does not appear that the genera *Palaeorallus* and *Telmatornis* were closely related.

Associated with the type specimen of *Palaeorallus* there were two indeterminate bits of bone, one bearing the same collector's number (T 312) as the type, and the other without mark.

Professor Troxell writes that the species here described is certainly from the Wasatch formation because of the presence in the same beds of *Eohippus* and other contemporary fossils. He has generously presented the type specimen to the U. S. National Museum. The species is named in honor of the collector, Dr. Edward Leffingwell Troxell.

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