

## TWO FOSSIL BIRDS FROM THE MIOCENE OF NEBRASKA

WITH SIX ILLUSTRATIONS

By ALEXANDER WETMORE

In field work for the Museum of Comparative Zoölogy dealing with vertebrate fossils, Mr. Erich M. Schlaikjer has recently obtained a few remains of fossil birds from the Miocene deposits of Sioux County, Nebraska. These have been placed in the hands of the writer for study and prove to include two peculiar species, both new to science, which are named and described below. They form an important addition to the series of avian species now known from this area, which has proven one of those important in giving us information concerning the wonderful bird-life of the Tertiary in North America. Much is due Mr. Schlaikjer for the careful attention that he has shown in obtaining in excellent condition the delicate bones here under discussion.

With the two specimens described there come a broken ulna, a pedal phalanx, and a broken vertebra, from the same locality as the grouse, which represent a hawk of the family Accipitridae that may not be identified specifically from these remains.

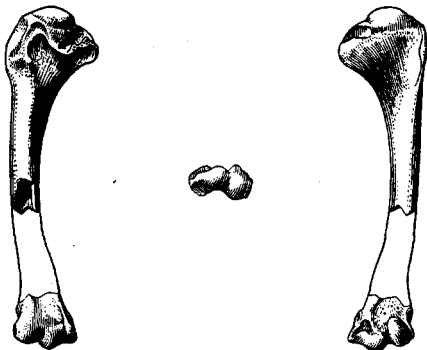
Drawings illustrating this account have been made by Mr. Sydney Prentice.

## Family TETRAONIDAE

*Palaelectoris incertus* gen. et spec. nov.

*Characters*.—Humerus somewhat similar to the living *Canachites canadensis* (Linnaeus)<sup>1</sup> but decidedly smaller; crista superior more developed, projecting farther, with free margin more rounded; depression below caput humeri less deeply impressed; proximal margin of incisura capitis higher on side of caput humeri; tuberculum inferior relatively broader; radial trochlea relatively smaller, less curved, relatively shorter.

*Description*.—Type (figs. 51-53), Museum of Comparative Zoölogy, cat. no. 2190, proximal and distal parts of left humerus with part of shaft missing, collected in



Figs. 51 to 53. TYPE OF *Palaelectoris incertus*, NATURAL SIZE, MISSING PORTION OF HUMERUS INDICATED BY UNSHADED LINE.

the Lower Miocene of the Agate Springs quarries, Sioux County, Nebraska, summer of 1928, by E. M. Schlaikjer. Shaft slender near center, expanding broadly to support head, rounded; pronounced depression on anconal face below head sharply delimited except toward the pneumatic foramen where it is open, merging without break with the shaft; caput humeri elongate, rounded, rising as a pronounced prominence; crista superior a narrow plate, thickened toward the center and narrowed at either end, in lateral outline rounded, sub-triangular, strongly projecting at the center; insertion of pectoralis major a broadly rounded ellipse; bicipital surface smoothly and gently rounded; coracohumeral groove deeply impressed externally, becoming rapidly shallow internally to disappear a short space beyond the

median axis of the head; incisura capitis deep, with abrupt walls, but making only a slight notch on the outer margin of the head; crista inferior projecting, strongly rounded; (tuberculum inferior broken away); tuberculum exterior elongate but low, with only slight projection; pneumatic foramen small; (center of shaft missing); lower end of shaft broad and flattened to support condyles; radial condyle elongate

<sup>1</sup> *Tetrao canadensis* Linnaeus, Syst. Nat., ed. 10, vol. 1, 1758, p. 159. (Hudson Bay.)

elliptical, with free surface somewhat flattened and very slight distal flexure, at upper end terminating abruptly; ectepicondylar process a slightly projecting plate, poorly defined except for its low tip; intertrochlear sulcus nearly a right angle; ulnar tubercle rounded, only slightly elongate, projecting well below line of radial condyle; entepicondylar process projecting as a distinct angle; depression of brachialis inferior well marked and rather broad. Specimen grayish white in color and strongly fossilized.

*Measurements.*—Transverse diameter of shaft slightly above center 3.8 mm.; greatest breadth of head 11.1 mm.; greatest breadth across condyles 8.2 mm.

*Remarks.*—The present form is described in the family Tetraonidae where it is compared with *Canachites* among the North American species though its relationship to the spruce partridges is seemingly rather distant. The form and outline of the crista superior as well as of the head of the humerus in general are much like that of *Ortalis*, in the Cracidae, the resemblance here being surprisingly close; but this appears to come from convergence in development rather than from actual relationship to the cracid group. The projection of the ulnar tubercle below the general level of the lower end of the bone, and the strong impression below the head on the anconal surface, are sufficient to place the species in the Tetraonidae, where as indicated above it is somewhat aberrant.

In size *Palaelectoris* appears intermediate between the bob-whites and the spruce partridges. There is little else that may be said about it except to note that seemingly it has no near relatives among our other known fossil gallinaceous birds.

In connection with this species it is pertinent to mention the proximal articular surface of a tibio-tarsus, U. S. Nat. Mus. no. 11,983, collected on May 17, 1925, in the Calvert formation of the Miocene of Maryland, one-half mile south of Randall wharf, near Chesapeake Beach, Calvert County, Maryland, by Dr. Remington Kellogg and Mr. Norman Boss. This comes from a species of grouse and exhibits the general outline of *Canachites canadensis*, with the articular facets more deeply excavated, the internal one being especially deeply cut. The depth of this suggests strongly the condition found in the genus *Ortalis* of the Cracidae, but the general outline of the bone is distinctly that of *Canachites*, from which it differs in decidedly smaller size. The difference in size is of the amount that distinguishes the humerus of *Palaelectoris incertus* from that of *Canachites*. Taken with the resemblances discussed above, this seems to indicate that the Maryland fossil may be generically the same as the species here named from Nebraska. After comparison with an extensive series of modern species of the order Galliformes the Calvert specimen is identified as *Palaelectoris* sp., with the statement that it is believed to be closely allied to *P. incertus*. The presence of this bone in marine strata near Chesapeake Beach must be considered an accidental occurrence.

#### Family HAEMATOPODIDAE

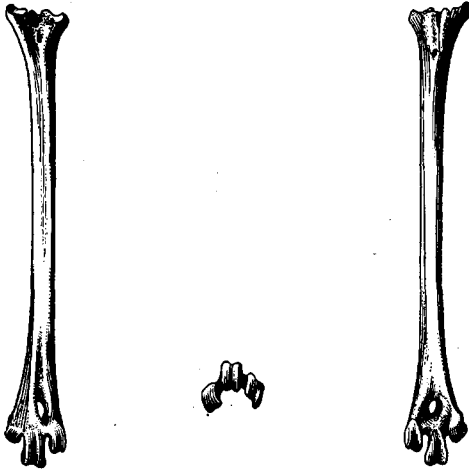
#### *Paractiornis perpusillus* gen. et spec. nov.

*Characters.*—Metatarsus generally similar in form to that of *Haematopus palliatus* Temminck<sup>1</sup> but with anterior face of shaft flat and plane without pronounced ridges, lower end of shaft relatively more slender; inner trochlea less heavily supported where it joins the shaft at its base; proximal end of shaft more narrowly ridged posteriorly; size very much smaller.

*Description.*—Type (figs. 54-56), left tarso-metatarsus, complete except for slight imperfections of the head, Museum of Comparative Zoölogy, cat. no. 2191, from Lower Miocene of Carnegie Hill, Agate fossil quarry, Sioux County, Nebraska, collected August 22, 1929, by Erich M. Schlaikjer. Proximal articular surfaces of

<sup>1</sup> *Haematopus palliatus* Temminck, Man. Orn., ed. 2, vol. 2, 1820, p. 532.

head largely missing; head rather abruptly expanded from shaft with a pronounced depression below on anterior face of shaft; talon square, block-like, with three pronounced ridges marking the limits of two grooves, the inner crest projecting decidedly



Figs. 54 to 56. TYPE OF *Paractiornis perpusillus*, NATURAL SIZE.

beyond the rest of this structure; shaft slender; anterior face transversely plane with right-angled margins, sides nearly flat with posterior face more or less rounded; expanded and flattened transversely at lower end to form a support for the trochlea; a very large inferior foramen situated at the bottom of a short, broad groove; facet for articulation of first toe small but evident; inner trochlea projecting posteriorly as a flattened plate that projects back past the line of the shaft, being swung back so that the inner face of the middle trochlea is entirely exposed, its distal margin reaching slightly beyond the base of the middle trochlea, its posterior margin marked by a slightly projecting, flattened tubercle, its inner face much excavated; the middle trochlea projecting distally far beyond the level of the other two, in lateral outline elliptically rounded, its lateral faces much ex-

excavated, and its distal margin deeply grooved, on its posterior face the inner margin cut away at an angle; outer trochlea flattened, swung far back posteriorly, its free margin grooved and its external edge projecting as a distinct, flattened plate or ridge; sulci between the trochleae relatively broad and open. Specimen grayish white in color and well fossilized.

*Measurements.*—Total length 30.5 mm.; greatest breadth of head 4.2 mm.; greatest breadth across trochlea 4.0 mm.; smallest transverse diameter of shaft 1.4 mm.

*Remarks.*—The metatarsus from which this interesting species is described is in perfect condition except for the proximal articular surface of which only parts of two facets remain, so that its characters are easily apparent. The general contour and sculpture is that of the modern oystercatcher except in the details noted in the diagnosis, the similarity being so close that the differences listed are seen only on careful scrutiny.

On the basis of this metatarsus it appears that *Paractiornis* was about the size of a sanderling or a Wilson phalarope, so diminutive a member of the family seeming truly remarkable in view of the dimensions of the living species of this group. The further fact that it comes from the interior, away from the Miocene sea-coasts, is also subject for consideration, giving indication of range in ecological preference in this family that may be construed to mean that the living Haematopodidae are only a remnant of a group that at one time contained a considerable diversity of species.

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