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AVIAN FOSSILS FROM THE LOWER PLIOCENE OF KANSAS

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THE BIRDS REPORTED in this paper are part of a fossil collection made in Kansas by the junior author during the summer of 1966. Originally, Hibbard and Phillis (1945) reported *Eucastor* cf. *tortus* and *Epigaulus minor* from two proximate localities, UM-K6-59 of the University of Michigan and Trego County Locality 29 of the University of Kansas. Both birds described here are from locality UM-K6-59. A new catfish, *Ictalurus lambda,* was described from this locality by Hubbs and Hibbard in 1951.

Specifically, UM-K6-59 is in the SW¼ SW¼ NW¼, Sec. 22, R.22W, T.11S, 2300–2550 feet south and 75 feet west of the NW corner of Sec. 22 (on the WaKeeney East Quadrangle), 1¾ mi W and 6½ mi N of Ogallah, Kansas.

Stratigraphically the fossils from UM-K6-59 were deposited over a former flood plain in an argillaceous, crossbedded, quartzose sand. The underlying floodplain, on the basis of identical faunal members, is contemporaneous with the fossiliferous deposit and it, in turn, unconformably overlies the Upper Cretaceous, Smoky Hill member, of the Niobrara Formation.

The fossiliferous sediment from UM-K6-59 was excavated and the clayey sand was wet screened in a nearby spring. By this screening process specimens representing about 70 species of vertebrates were recovered. Three species of birds are represented in association with other primarily micro-vertebrate forms from the many tons of washed sediment and earlier surface collections.

Brodkorb (1962) recorded the first of the avian species from the fauna, a teal, *Nettion ogallalae.* Other fragmentary bird elements are noted in the screened sedimentary residue, but stream transport has fractured and nearly destroyed the majority of the more delicate re-

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mains. The three identifiable elements represent forms that probably lived very near the depositional site, as is true of the other faunal members. The site at this locality is assessed to be near the stream margin.

Catalogue numbers preceded by UMMP refer to collections in the University of Michigan Museum of Paleontology.

FAMILY CRACIDAE

Ortalis affinis, new species

HOLOTYPE.—A complete right carpometacarpus (UMMP V55784, Fig. 1).

TYPE LOCALITY AND AGE.—UM-K6-59. Ogallala Formation. Lower Pliocene.

DIAGNOSIS.—A cracid with carpometacarpus similar in size (Table 1) and morphology to that of Recent *Ortalis vetula* (Wagler), but differing from the Recent form in the following characters: carpal trochlea relatively larger; distal metacarpal symphysis slightly shallower; process of metacarpal I slightly more robust; and external ligamental attachment slightly more pronounced.

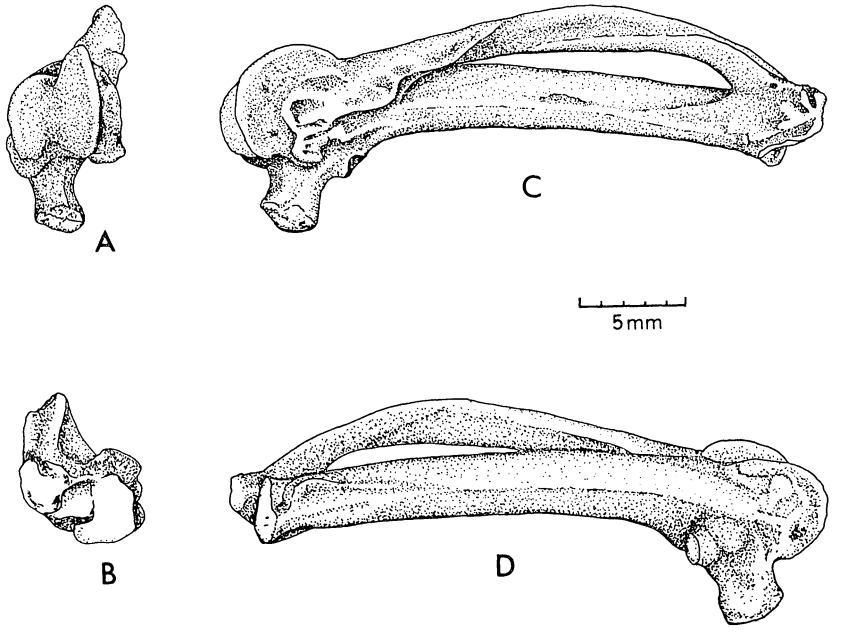

FIG. 1. Holotype (UMMP V55784), right carpometacarpus of *Ortalis affinis*. A, proximal end; B, distal end; C, medial side; D, lateral side. Length, 29.5 mm.

TABLE 1

MEASUREMENTS IN MILLIMETERS OF HOLOTYPE CARPOMETACARPUS OF *Ortalis affinis* AND THREE SPECIMENS OF *Ortalis vetula*

Measurement	*O. affinis*	*O. vetula*
Total length	29.5	30.8, 26.8, 27.8
Maximum width of distal end	9.2	8.4, 8.5, 8.3
Maximum width of shaft of metacarpal II	3.2	3.2, 2.9, 2.9

DISCUSSION AND COMPARISON.—Six chachalaca-like fossil birds are reported from the Tertiary of North America. Although the original generic assignments of some were considered tentative, Brodkorb (1964) placed all but one, *Palaeonossax,* under his genus *Boreortalis.*

Palaeonossax senectus Wetmore (1956) from the Upper Oligocene of South Dakota differs from *Ortalis,* but in many respects seems to be closely related.

Boreortalis laesslei Brodkorb (1954) is known from the Lower Miocene of Florida. This form is close to the Central American cracid, *Penelopina nigra* (Fraser), and much larger than *Ortalis vetula. Boreortalis pollocaris* (Miller, 1944) from the Lower Miocene of South Dakota is the largest of the Tertiary chachalacas. *Boreortalis tantala* (Wetmore, 1933) was described from the Lower Miocene of Nebraska, but its generic position was considered uncertain; it is smaller than *O. vetula. Boreortalis tedfordi* (Miller, 1952) was originally described as *Cyrtonyx tedfordi,* but Holman (1961: 194–195) states that this species may represent a small cracid. It is much smaller than *O. vetula* or *O. affinis. Boreortalis phengites* (Wetmore, 1923) from the Lower Pliocene of Nebraska is much smaller than *O. affinis.*

MEASUREMENTS.—Table 1. Measurements of other species of *Ortalis* are given in Tordoff and Macdonald (1957).

ETYMOLOGY.—From Latin, *affinis,* related to, in reference to the similar morphology of the fossil element to that of the Recent *O. vetula.*

FAMILY PICIDAE

Pliopicus brodkorbi, new genus and species

DIAGNOSIS.—A small Pliocene woodpecker with tarsometatarsus differing from those of other genera of the Picidae as follows: distal end relatively narrow compared with medial area of shaft; base of trochlea for digit II close to that of digit III; sehnenhalter (see Richardson, 1942 for terminology) for digit IV thin and less robust than in other genera of the Picidae; trochlea for digit III deeply grooved and laterally

compressed; intertrochlear notches for the trochlea of digit III parallel. In most of the Picidae the intertrochlear notches are flared laterally.

HOLOTYPE.—Right tarsometatarsus (UMMP V55785, Fig. 2) with proximal articular surface missing, trochlea for digit II absent, and trochlea for digit IV fractured.

TYPE LOCALITY AND AGE.—UM-K6-59. Ogallala Formation. Lower Pliocene.

DIAGNOSIS FOR SPECIES.—Same as for genus.

DISCUSSION AND COMPARISON.—*Pliopicus brodkorbi* seems to be most closely allied to the genus *Melanerpes,* agreeing with it in the following characters: anterior surface of shaft deeply grooved; possession of a

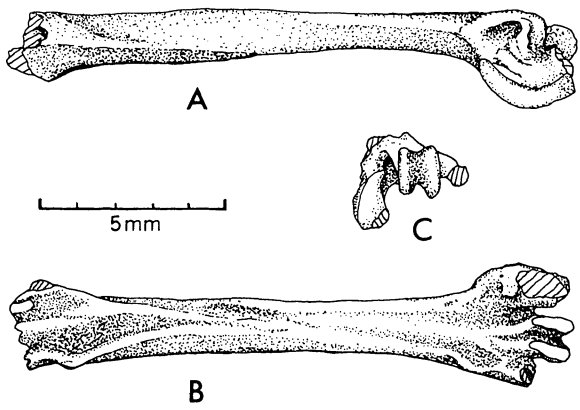

FIG. 2. Holotype (UMMP V55785), right tarsometatarsus of *Pliopicus brodkorbi.* A, lateral view; B, posterior view; C, distal end. Length, 16.9 mm.

depression at the base of trochlea for digit III on anterior surface of shaft; bulge of shaft at the position of inner foramen at proximal end of shaft on the anterior side. It differs from the species of *Melanerpes* by those characters listed under the generic diagnosis.

MEASUREMENTS.—Length, 16.9 mm; greatest width of shaft, 1.6 mm.

ETYMOLOGY.—We take great pleasure in naming the fossil for Dr. Pierce Brodkorb of the University of Florida for his contributions to the field of avian paleontology.

DISCUSSION

The Cracidae are a tropical, partially subtropical, family whose extant members occur north to the Rio Grande Valley in southern Texas and south to northern Argentina. No Recent species are present

in temperate North America or in austral South America. Slud (1960: 134–135) discusses the zoogeography of the Cracidae. The presence of many cracid fossils in the Mio-Pliocene of North America seems to indicate a subtropical or possibly tropical climate during those times. The vertebrate fauna associated with *Ortalis affinis* agrees with this environmental interpretation. Chachalacas and guans are generally forest-dwelling forms, and the presence of *Ortalis affinis* in association with a woodpecker indicates wooded areas, at least, near the site of deposition.

Pliopicus brodkorbi represents the oldest record of the Picidae in the New World. Forms of Aquitanian age are known from France (Lambrecht, 1933).

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