OLIGOCENE BIRDS FROM SASKATCHEWAN

Robert D. Weigel

Although more than 40 species of vertebrates are now recorded from the Cypress Hills Formation in Saskatchewan (Cope, 1891; Lambe, 1908; Russell, 1934, 1936, 1938, 1940), until now no birds were known. During the summers of 1960 and 1961 field parties from the Saskatchewan Museum of Natural History collected over 40,000 vertebrate fossils in the Cypress Hills, including the remains of three undescribed genera of birds reported herein.

According to Russell (1948), the formation is of early Oligocene age and on the basis of numerous mammalian genera is equivalent to the lowest part of the Chadron Formation of South Dakota. The sediments were deposited by rather swift streams emptying into temporary lakes. The presence of a crocodile and a boid snake suggests tropical or semitropical conditions in southwestern Saskatchewan during the early Oligocene.

The birds reported in the present paper occurred in a matrix of conglomeratic sandstone and sands with included clay pellets, along the north branch of Calf Creek, 10 miles northwest of Eastend, Saskatchewan, in Legal Subdivision 4, section 8, township 8, range 22, W. 3rd meridian; elevation, 3600 feet.

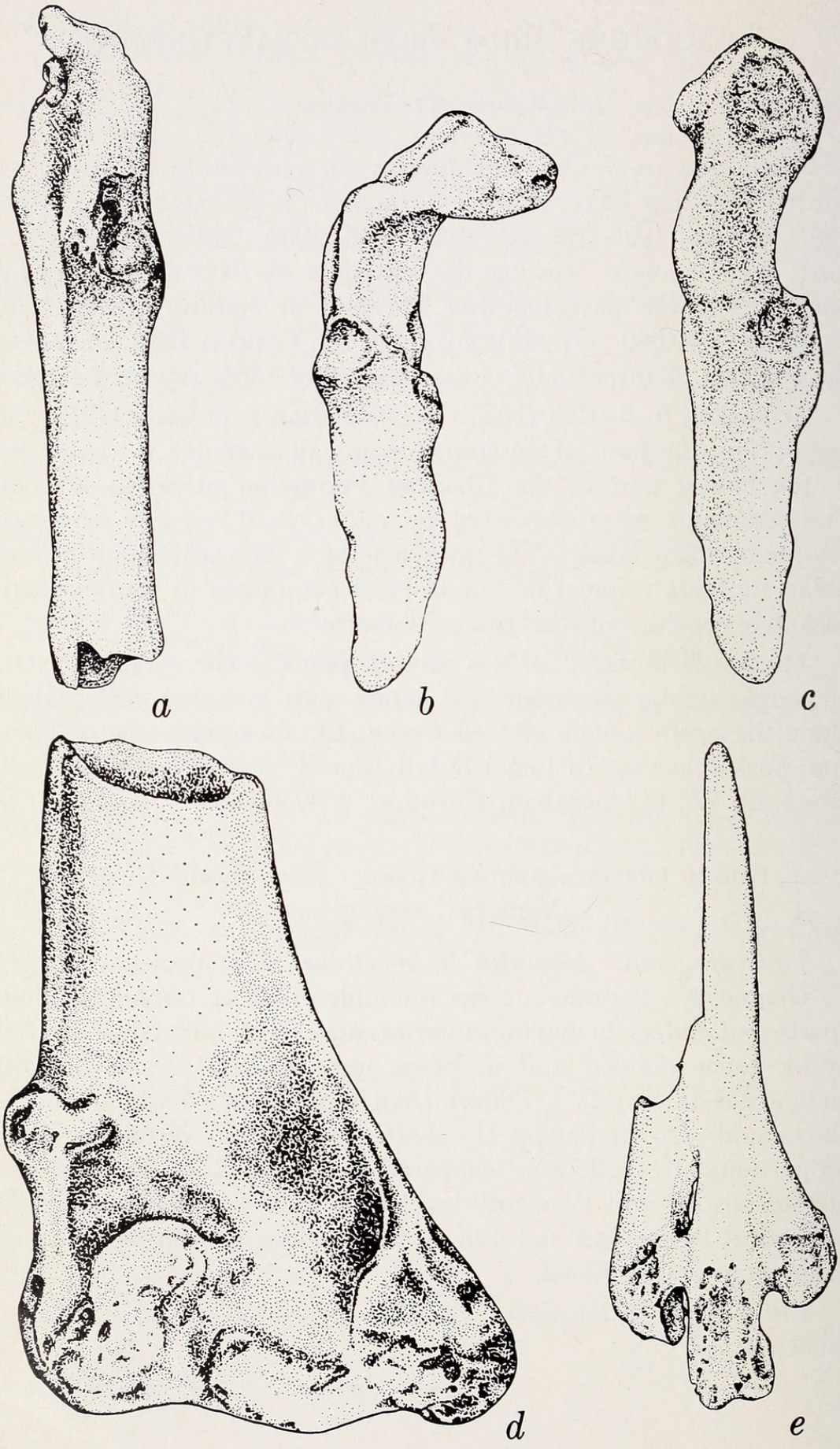
Family Odontophoridae Gould. New World Quails

Nanortyx, new genus

Type of genus. Nanortyx inexpectatus, new species.

Diagnosis. Tarsometatarsus resembles that of *Lophortyx* Bonaparte but differs in having anterior surface of metatarsal III flat rather than rounded and in being only slightly elevated above metatarsals II and IV. Differs from other New World quails as above and also in having (1) shaft, proximal to distal foramen, proportionately shallow as compared to width; (2) bridge between metatarsals III and IV nearly level with their anterior surface; (3) metatarsal IV straight and thin in lateral view; (4) wing of trochlea of metatarsal II reduced.

Etymology. From Greek, *nanos*, a dwarf, and *ortyx*, masculine, quail.


a
b
c
d
e

Nanortyx inexpectatus, new species

Holotype. Distal end of right tarsometatarsus, Saskatchewan Museum of Natural History, no. 1417 (plate 1, fig. *e*). Collected by Bruce McCorquodale, A. E. Swanston, and Robert D. Weigel, August 1961.

Description. Trochleae slightly worn, otherwise well preserved. Width across trochleae less than in *Lophortyx, Oreortyx* Baird, *Callipepla* Wagler, and *Cyrtonyx* Gould. Greatest width across trochleae, 5.2; width of shaft 1 mm proximal to distal foramen, 3.1; thickness of shaft 1 mm proximal to distal foramen, 1.3; length of fragment, 15.0 mm. The small foramen that perforates the bridge between metatarsals III and IV opens directly into the distal foramen. This condition was noted for *Lophortyx, Colinus* Goldfuss, and an unidentified quail from the Middle Oligocene of Colorado (Tordoff, 1951).

Referred material. Distal end of right tarsometatarsus, SMNH 1418, middle trochlea worn, extreme distal tips of inner and outer trochleae missing. Characters as in type.

Humeral end of right coracoid with head missing, SMNH 1419 (plate 1, fig. *a*). Fragment 12.0 mm long; least width of shaft, 1.6 mm. Differs from other odontophorids in smaller size and in having (1) intermuscular line much reduced; (2) procoracoid projecting posteriorly rather than medially; (3) anterior surface of shaft rounded rather than angular; (4) antero-dorsal border of glenoid facet reduced. The humeral ends of 2 additional worn quail coracoids (SMNH 1422, 1424) probably belong to this species.

Etymology. Latin *inexpectatus,* unlooked for. This is the earliest record of the New World quails.

Family SCOLOPACIDAE Vigors. Sandpipers

Paractitis, new genus

Type of genus. Paractitis bardi, new species.

Diagnosis. Coracoid agrees with scolopacids in lacking coracoidal fenestra. Closest to *Actitis* Illiger but differs from this and

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Plate 1. Birds from the Cypress Hills Formation. Figs. *a, e: Nanortyx inexpectatus,* n.g., n.sp., referred coracoid, length as preserved, 12.0 mm, and holotype tarsometatarsus, length, 15.0 mm. Figs. *b-c: Paractitis bardi* n.g., n.sp., holotype coracoid, internal and lateral views, length, 9.0 mm. Fig. *d: Neococcyx mccorquodalei,* n.g., n.sp., holotype humerus, greatest width, 6.2 mm.

other genera in having (1) coraco-humeral depression nearly round and proportionately large; (2) posterior border of coraco-humeral area at right angles to shaft; (3) ventral border of brachial tuberosity at right angles to shaft; (4) triosseal canal more deeply excavated; (5) anterior border of glenoid facet less produced, scapular facet large. Shaft below procoracoid stocky, as in *Lymnocryptes* Kaup.

Etymology. Greek, *para,* beside, and *actites,* masculine, a shore dweller.

Paractitis bardi, new species

Holotype. Humeral end of left coracoid, SMNH 1412 (plate 1, figs. *b-c).* Collected by McCorquodale, Swanston, and Weigel, August 1961.

Description. Head and neck slender. Length of fragment, 9.0; least width of shaft below procoracoid, 1.4; greatest width at humeral end, 3.7 mm.

This is the first record of the family from the Oligocene of North America. The three species of the extinct genus *Palaeotringa* Marsh (1870, 1872), from the Paleocene of New Jersey, are all much larger than *Paractitis bardi.*

Etymology. The species is named after Fred Bard, director of the Saskatchewan Museum of Natural History, in recognition of his efforts to preserve the whooping crane.

Family Cuculidae Vigors. Cuckoos

Neococcyx, new genus

Type of genus. Neococcyx mccorquodalei, new species.

Diagnosis. Humerus similar to living cuculids. Muscle attachment in area of ectepicondylar prominence extending onto palmar surface proximal to external condyle, as in *Crotophaga* Linnaeus, *Guira* Lesson, and *Coccyzus* Vieillot. Differs from these and other cuckoos in having (1) entepicondyle reduced; (2) ridge extending proximally from ectepicondyle to ectepicondylar prominence less angular; (3) area of attachment of anterior articular ligament flat; (4) ectepicondyle rounded and less produced; (5) intercondylar furrow shallow; (6) anconal surface of shaft at level of ectepicondylar prominence flat rather than rounded. About

the size of *Coccyzus americanus* (Linnaeus), but internal condyle smaller and olecranal fossa shallower.

Etymology. From Greek *neos,* new, and *coccyx,* masculine, cuckoo.

Neococcyx mccorquodalei, new species

Holotype. Distal end of right humerus, SMNH 1420 (plate 1, fig. *d*). Collected by McCorquodale, Swanston, and Weigel, August 1960.

Description. Greatest width of distal end of humerus, 6.2; width of shaft proximal to ectepicondylar prominence, 3.4; thickness of shaft at same point, 2.2 mm.

This is the first Tertiary cuckoo from North America, although two genera are known from the Tertiary of France. *Necrornis palustris* Milne-Edwards (1871) of the Middle Miocene is represented only by leg elements and is thus not directly comparable with *Neococcyx.* The Upper Eocene or Lower Oligocene *Dynamopterus velox* Milne-Edwards (1892) and *D. boulei* Gaillard (1938) are nearly three times the size of *Neococcyx mccorquodalei. Dynamopterus* differs additionally in having the ectepicondyle and internal condyle proportionately larger, and the ectepicondylar prominence weakly developed (Milne-Edwards, 1892; Lambrecht, 1933).

Etymology. The species is named in honor of Bruce McCorquodale for his contributions to the vertebrate paleontology of Saskatchewan.

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