

Extinct Camel in Oklahoma

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I have previously discovered fossil remains of *Procamelus grandis* from an excavation site in northwestern Roger Mills County (section 3, T15N R23W), directly west of the South Canadian River. Fossil remains were found embedded within the Ogallala formation, which is a part of the Tertiary bed in western Oklahoma and extends into the northwestern part of the Texas panhandle (1). In western Oklahoma the Ogallala stratum is about 90 m thick and rests unconformably upon the Permian Cloud Chief and Quartermaster formations(1). Clays and silts are present, but are relatively rare in the Ogallala formation. Calcium carbonate cement in the sands is absent or occurs only in small amounts. In section 3, T15N R23W, the terrace deposit occurs directly west of the South Canadian River; the intermediate terrace surface and the adjacent Ogallala hills are covered by inactive sand dunes. Along the northwestern border of Roger Mills County the South Canadian River forms a horseshoe bend, and consequently the river lies only 8.0 km to the west of the dune-covered area, which lies over a low line of Ogallala hills (1).

At this excavation site, severe erosion has revealed a cross section of Ogallala stratum. During the spring of 1994, approximately 63 m from the top of the stratum, I found several fossilized remains of a camel embedded within fine-grained, yellowish- brown, quartz sand. I removed a broken femur (Fig. 1a), a complete sternabrae (Fig.1b), and the pelvic girdle with the left acetabulum (Fig. 1c) embedded in the Ogallala formation. Subsequently, these fossils were identified as belonging to *Procamelus cf grandis*, a medium-size camel that thrived during the Pliocene epoch (2).

Previous finds include specimens with the catalog numbers K105 and K106 excavation in 1989 and 1990 respectively (3). The first and second camel fossil remains were identified by comparison with the fossil collection at the Natural History Museum, University of Kansas. The first *Procamelus grandis* specimen was excavated in 1989 and consisted of cannon bones, metapodial, metatarsal, and several cervical vertebrae and an immature skull. The second *Procamelus grandis* remains excavated in 1990 consisted of cervical vertebrae, lumbar vertebrae, cannon bones, radius, tibia, femur, phalange, and a astragal bone. The third *Procamelus grandis* specimen was excavated in 1991 and consisted of a complete skull with several articulated cervical vertebrae encased within the Ogallala formation and studied by CT scan (4). The third and fourth camel remains excavated were compared to the camel bone collection at Southwestern Oklahoma State University.

Dimensions and measurements of the recently collected postcranial elements of *Procamelus cf grandis* are given in Table 1

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TABLE 1. Dimensions of 1994 fossils of
Procamelus cf. grandis

Fossil	mm
Phalange	
1st, distal end, width	25.8
length	44.3
2nd, length	44.7
width	24.4
3rd, length	28.6
Humerus, distal end width	54.1
Humerus metapodial, distal end width	51.6
Metapodial, distal end, width	29.2
Sternabrae	
length	71.2
breadth	43.7
Distal end radial ulna, width	63.4
Articular surface, radial ulna, proximal width	51.6
Olecranon process, fragment length	±56.8
Proximal end of tibia, transverse width	83.7
Distal end of tibia, transverse width	59.3
Center shaft of tibia, transverse width	40.0
Head of femur, length	41.7
Astragalus, width	33.2
Astragalus, length	55.0
Acetabulum of pelvis	42.0

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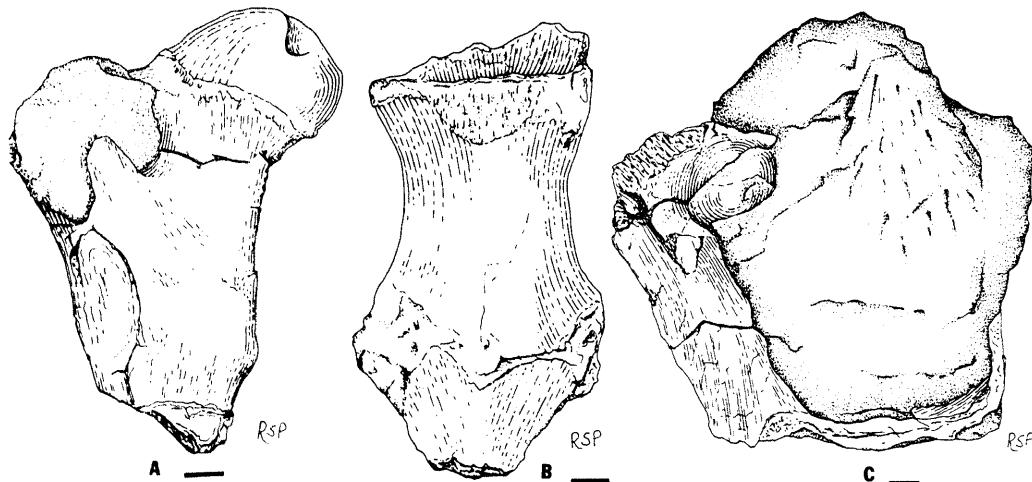


Figure 1. *Procamelus cf. grandis*: 1a, Broken femur; 1b, Sternabrae; 1c, Pelvic girdle. Scale bar = 10 mm.