



## ***A new Late Neogenepaleo-fauna from the Kiowa/Rita Blanca National Grassland, northeastern New Mexico***

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*This is one of many related papers that were included in the 2001 NMGS Fall Field Conference Guidebook.*

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# A NEW LATE NEOGENE PALEO-FAUNA FROM THE KIOWA/RITA BLANCA NATIONAL GRASSLAND, NORTHEASTERN NEW MEXICO

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**Abstract.**—The Perico Creek local paleo-fauna was informally documented by USDA Forest Service archaeologists in 1990 when nearly 350 partial bones and bone fragments of large mammals were recovered from the surface of an actively eroding cut-bank along Perico Creek, Union County, New Mexico. The bony elements are dominated by *Camelops* sp., with paired elements of similar size perhaps belonging to a single individual. Also present are a partial skeleton of *Platygonus*, remains of *Equus*, a large bone fragment referable to Proboscidea, and a possible cervid antler base. The bones are eroding from thin beds of unconsolidated sand and clay and are associated with (minimally) two species of freshwater gastropods (*Lymnaea* cf. *L. caperata*, *Physa* sp.), two species of terrestrial gastropods (unidentified taxon, *Succinea* cf. *S. grosvenori*), and two species of freshwater bivalves (*Unio* cf. *Unio tetralasmus*, *Sphaerium* cf. *S. striatinum*). Future work will likely increase the known diversity of the assemblage and produce age-diagnostic taxa to further constrain the relative age of the deposit. The first excavation and detailed analysis of the stratigraphic interval will be undertaken this year.

## INTRODUCTION

In 1990, Dr. Joseph Tainter, an archaeologist with the USDA Forest Service, undertook an investigation of paleo-faunal remains recovered from an actively eroding cut-bank along Perico Creek, just west of the Texas-New Mexico border on the Kiowa/Rita Blanca National Grassland (Fig. 1). Tainter originally suspected that the collection might represent a Paleoindian site on the basis of apparent burning and anomalous breakage patterns of the bony materials. Laboratory examination revealed, however, that the “burned” bone merely possessed patchy black surface staining due to manganese mineralization. In the end Tainter determined that the site showed no evidence of cultural affiliation and labeled it a paleontological occurrence.

The site was re-visited in 1997 by Greg Liggett of the Sternberg Museum of Natural History, Hays, Kansas. In the same general area, Liggett located and salvaged a partial *Platygonus* skeleton on the surface, but limited exploratory excavation revealed no further *in situ* material. In October of 2000, the author visited the site and on the surface located abundant small molluscs, a complete *Camelops* phalanx, and a shattered *Equus* molar. Exploratory excavation in several locations uncovered only small fragments of *in situ* bone. So, although the Perico Creek locality has produced numerous vertebrate remains over the past decade, the context of recovered specimens with respect to the exposed sediments remains in question (Fig. 2).

The materials collected by Tainter have until now been stored at the Cibola National Forest office in Albuquerque. This year the Tainter specimens, together with those collected by Liggett, will be transferred and curated into the collections at the New Mexico Museum of Natural History, Albuquerque.

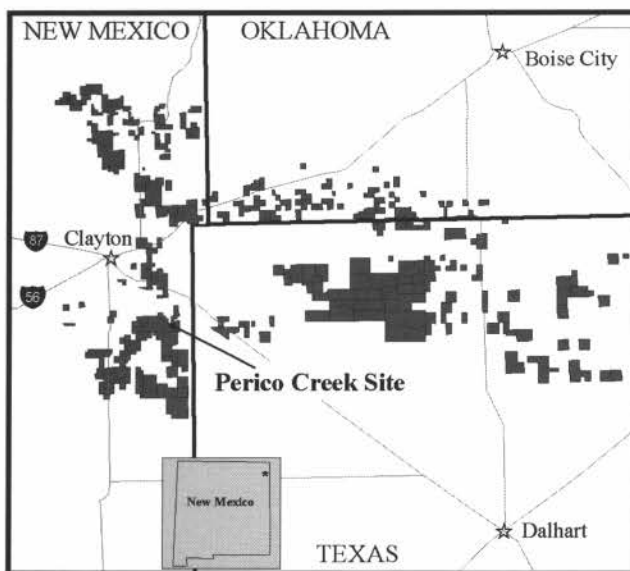


FIGURE 1. Location of the Perico Creek Site (New Mexico Museum of Natural History Locality 4638) in northeastern New Mexico, shaded areas denote a portion of the Kiowa/Rita Blanca National Grassland.



FIGURE 2. Overview of the Perico Creek Site, Kiowa/Rita Blanca National Grassland, northeastern New Mexico.

TABLE 1. Late Neogene paleo-fauna from the Perico Creek Site, Kiowa/Rita Blanca National Grasslands, northeastern New Mexico.

### Invertebrates

#### Phylum Mollusca

#### Class Gastropoda

##### Order Basommatophora

##### Family Lymnaeidae

*Lymnaea* cf. *L. caperata*

##### Family Physidae

*Physa* sp.

##### Family Succineidae

*Succinea* cf. *S. grosvenori*

##### Family Planorbidae

unidentified terrestrial form

#### Class Bivalvia

*Unio* cf. *Unio tetralasmus*

##### Order Veneroida

##### Family Sphaeriidae

*Sphaerium* cf. *S. striatinum*

### Vertebrates

#### Class Mammalia

##### Order Artiodactyla

##### Family Camelidae

*Camelops* sp.

- partial right scapula, proximal one-half
- partial left scapula, proximal one-half
- head of right humerus
- head of left humerus lacking epiphysis
- partial shaft of humerus
- distal one-third of metapodial
- complete astragalus
- complete proximal phalange

##### Family Tayassuidae

*Platygonus* sp.

- partial juvenile skeleton including anterior one-half of mandible (with incisors and canines), partial premaxilla with 2 incisors, lower M1, right and left humeri and scapulae, 3 thoracic vertebrae, and numerous vertebral and rib fragments

##### Order Perissodactyla

##### Family Equidae

*Equus* sp.

- five splintered cheek teeth
- partial axis vertebrae
- humeral shaft

##### ?Family Cervidae

- base of antler

##### Order Proboscidea

- large chunk of bone not attributable to other taxa based upon size

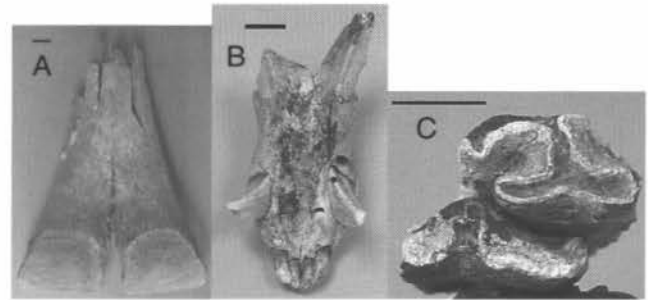


FIGURE 3. Select vertebrate specimens from the Perico Creek Site, bar is 1 cm. A) *Camelops* distal metapodial; B) *Platygonus* mandibular symphysis; C) *Equus* partial lower tooth.

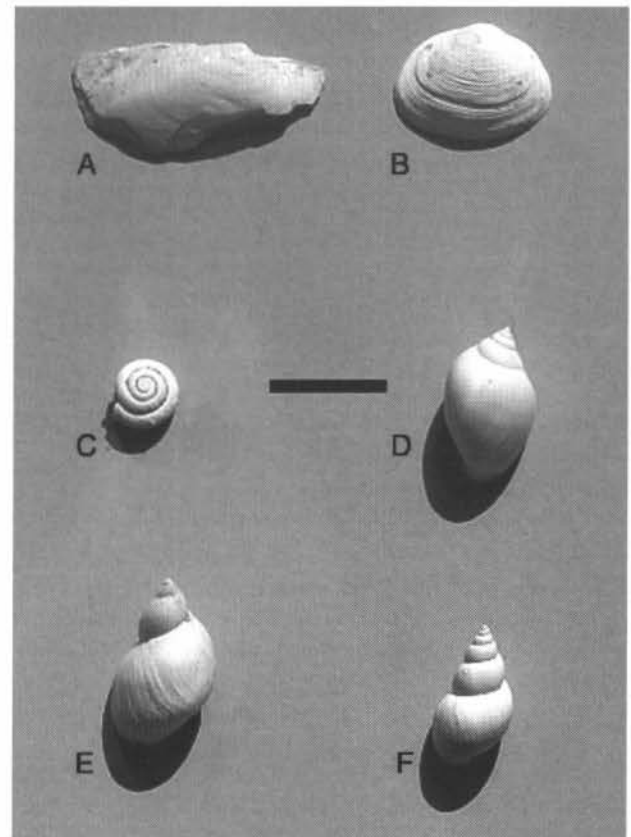


FIGURE 4. Invertebrate fauna of the Perico Creek Site, bar is 1 cm. A) *Unio tetralasmus*; B) *Sphaerium* cf. *S. striatinum*; C) unidentified terrestrial form; D) *Physa* sp.; E) *Succinea* cf. *S. grosvenori*; F) *Lymnaea* cf. *L. caperata*.

### PALEO-FAUNAL LIST

Diagnostic specimens from the Perico Creek Site are listed in Table 1. The skeletal remains are dominated by *Camelops* sp. (Fig. 3a), and the majority of preserved elements may comprise a single individual due to the presence of paired scapulae, humeri,

and various podial elements of similar size. A *Platygonus* partial skeleton is represented by cranial (Fig. 3B), axial, and appendicular elements. Also present are several teeth (Fig. 3C), a partial humerus, and a partial axis vertebrae attributable to *Equus*, a possible cervid antler base, and a large chunk of bone referable to Proboscidea based upon size.

There are minimally two bivalve and four gastropod taxa present (Fig. 4), including: two species of freshwater gastropods (*Lymnaea* cf. *L. caperata*, *Physa* sp.), two species of terres-

trial gastropods (unidentified taxon, *Succinea* cf. *S. grosvenori*), and two species of freshwater bivalves (*Unio* cf. *Unio tetralasmus*, *Sphaerium* cf. *S. striatinum*). Small mollusc shells are abundant on the surface of the site, and those few variants noted here resulted from brief surface inspection of the site. A vigorous search specifically for these small shells will likely produce higher diversity.

#### AGE OF THE DEPOSIT

Until such time that the Perico Creek paleo-fauna can be investigated in more detail, the age of the deposit can only be constrained to somewhere within the Blancan through Rancholabrean land mammal "ages". Three large vertebrate taxa are well represented at the site, but *Camelops*, *Equus*, and *Platygonus* all have their first appearances in the Blancan and range through the end of the Pleistocene (Lundelius et al., 1987). The lack of *Bison* or *Mammuthus* material does not permit restriction to Pleistocene or younger age. However, the nature of the deposit (unconsolidated sands just below ground surface) suggests a relatively young age, more likely Rancholabrean than Blancan. A Rancholabrean age is supported by the fact that the illustrated invertebrate paleo-fauna includes largely extant forms, and some of these taxa are present at two other late Pleistocene sites in New Mexico including the Casados Ranch local fauna (McMullen and Zakrzewski, 1972) and the Badlands Ranch local fauna (Morgan et al., 2000).

#### CONCLUSIONS

The known Perico Creek paleo-fauna is composed of well preserved invertebrate and vertebrate remains including (minimally) four gastropods, two bivalves, a camel, a horse, a pec-

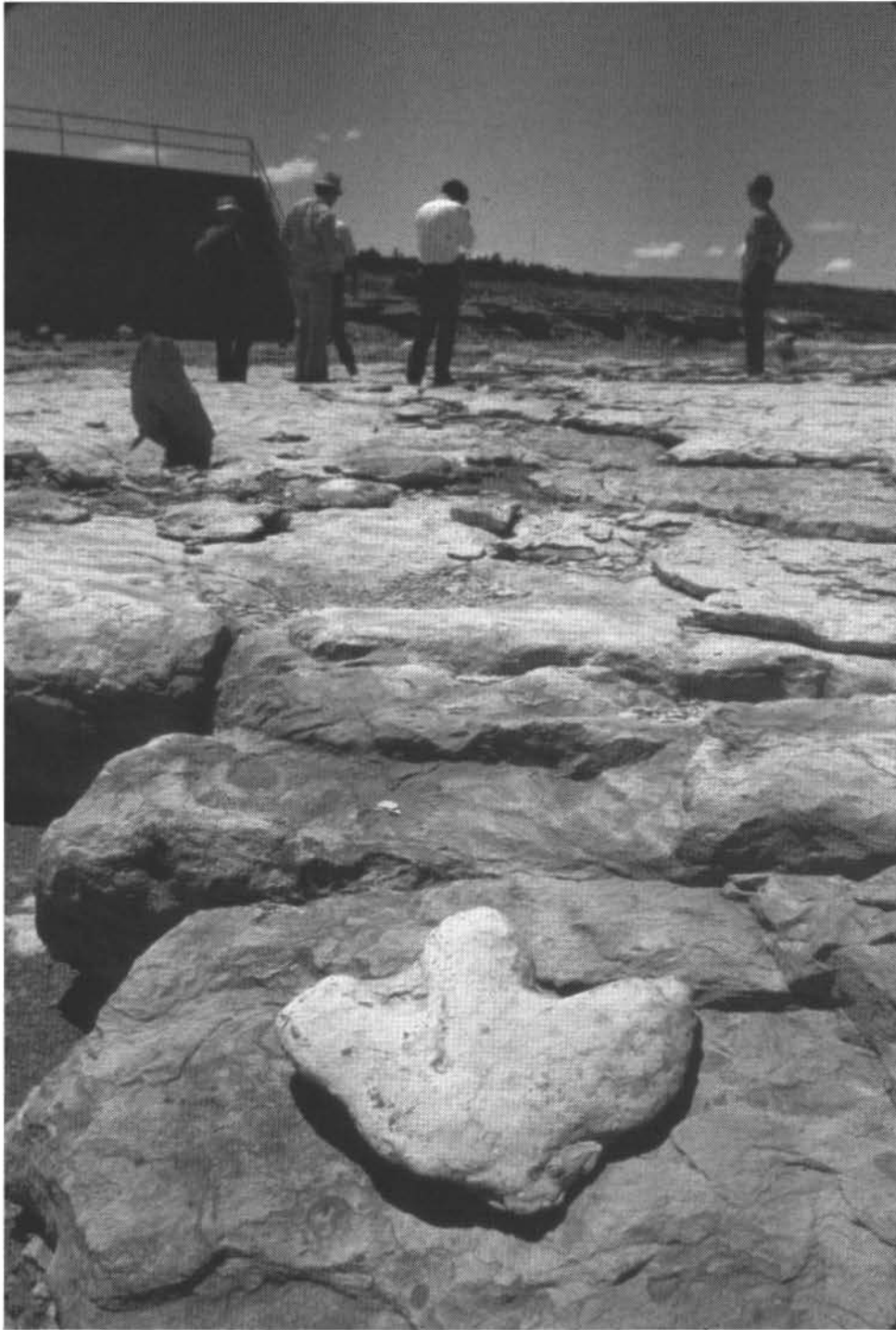
cary, and possibly a cervid and a proboscidean. Further work is needed to fully elucidate the composition of the Perico Creek local paleo-fauna. To date, only minor exploratory excavation has been undertaken, and the USDA Forest Service is planning an intensive excavation effort in the near future in conjunction with the New Mexico Museum of Natural History. This work will likely increase the number of vertebrate and invertebrate taxa present at the site. Invertebrate paleo-ecology, distribution of the vertebrate remains, and analysis of the sedimentary record will help to unravel the taphonomic history of the site. Discovery of additional taxa may permit the assignment of a more closely constrained relative age to the assemblage.

#### ACKNOWLEDGMENTS

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About 800 dinosaur tracks are exposed in the dam spillway at Clayton Lake in Union County. Most of these Early Cretaceous tracks are like this one, and represent some sort of ornithopod (iguanodontid or hadrosaurid?). Clayton Lake and similar Early Cretaceous tracksites in eastern New Mexico indicate an abundance of such ornithopods in local shoreline facies during the latest Albian.