REVISION OF CANIFORM DIVERSITY FROM THE LITTLE BADLANDS AREA (OLIGOCENE) OF NORTH DAKOTA

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Category
Taxon: Mammals
Taxon Subcategory: Eutheria – Carnivora
Geological Era: Cenozoic - Paleogene
Topic: Diversity

The reported vertebrate fauna of the Brule Formation within North Dakota is largely based on preliminary faunal lists presented without detailed discussion. An effort is underway to refine our knowledge of that fauna, beginning with a thorough review of the caniforms collected in the Little Badlands area (Stark County, North Dakota) and held within the North Dakota State Fossil Collection. Caniforms previously reported from this area include *Brachyrhynchocyon* (=*Daphoenus*) *dodgei, Daphoenus* sp., *Hesperocyon gregarious,* and *Osbornodon renjiei*. This study confirms that the canid *H. gregarious*, which is represented by dozens of specimens, was the most common component of the caniform fauna. A single skull is referred to the amphicyonid *Daphoenus vetus*, marking the first occurrence from North Dakota. Another first report from North Dakota, the canid *"Mesocyon" temnodon*, is based on a well-preserved skull, lower jaws, and the most complete postcranial skeleton yet referred to that species. An isolated m1 is referred to *O.renjiei*, the type specimen of which is also from the Little Badlands area. A robust, yet small (p1-m2 length 37.1 mm) lower jaw likely representing an undescribed species is referred to Arctoidea, though its exact affinities remain uncertain. The carnivoran *Palaeogale sectoria* is also documented here for the first time. The previously reported presence of *B. dodgei* was not confirmed during this study. However, additional caniform diversity is indicated by specimens that do not match any of the taxa named above, but are too fragmentary to definitively assign to a specific taxon. All of these taxa (except *D. vetus*) and most of the caniform specimens were recovered from the Fitterer Ranch area within the Little Badlands, likely as a result of increased collection efforts focused on that area over the years. These results provide support for the hypothesis that a large portion of the vertebrate fauna from the Brule Formation of North Dakota remains unreported. Elucidating that diversity will facilitate better correlation between these sediments and those exposed throughout the northern Great Plains region.