

DESCRIPTION OF A NEW SPECIES OF MASTODON,  
GOMPHOTHERIUM ELEGANS, FROM THE PLEISTO-  
CENE OF KANSAS.

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The specimen here described was found about 1908 near McPherson, Kansas, by Mr. Frank Dillon, of the town named. It was met with in a sand pit, at a depth of about 35 feet, in section 34, township 19 north, range 3 west. The tooth was presented to the United States National Museum by Mr. Dillon.

*Type-specimen.*—A lower left hindermost molar, No. 8255, of the United States National Museum.

*Type-locality.*—McPherson, McPherson County, Kansas.

*Type-formation.*—Sheridan beds.

*Diagnosis.*—The lower hinder molar furnished with six cross-crests, or five cross-crests and a large talon, a deep longitudinal median cleft and principal cones and accessory conules. Outer ends of valleys closed by buttresses and forming trefoils on wear. Inner ends of valleys partially closed by accessory conules.

Judging from the narrowness of the tooth and the fact that the crests run across the crown somewhat obliquely, the writer concludes that it is the lower left hindermost molar. It had not yet been cut and is therefore wholly unworn. The pulp cavity is large and the roots had not yet been developed. Unfortunately, in the process of exhumation, the tooth was injured somewhat; but nevertheless it is in good condition.

The length of the tooth is 217 mm.; its width at the first cross-crest, 83 mm.; at the fourth, 85 mm. It will be seen from the measurements and the figures (pl. 26, figs. 1, 2) that the tooth is a long and relatively narrow one. There are present six cross-crests, the hindermost one being something more than a talon. The inner and the outer halves of each crest are separated by a narrow but very deep cleft. Each half of each crest may be regarded as composed of two cones, the principal one and another nearer the mesial cleft. The latter does not rise quite as high as the principal cone and is separated from the latter by a cleft.

To these four cones of each crest may be added accessory conules. It is probable that at a later time the median cleft and those sepa-

rating the parts of each lateral half of the crests would have been hidden by a deposit of cement; but a specimen of a tooth of *G. floridanum* in a similar stage of development has already a rather thick layer of this.

The outer cones of each crest are furnished with buttresses which effectually close up the transverse valleys. These buttresses are mostly composed of subsidiary conules, which cling closely either to the parts of the principal cone or to one another. The row of conules forming the anterior buttress of the first crest runs into the anterior cingulum. The posterior buttress is composed of two conules, the hinder of which is applied to a conule which forms the anterior buttress of the second crest. The hinder buttress of this second crest, apparently of three or four flattened conules, joins the anterior buttress of the third crest; but it appears to be carried also inward and downward by a row of flattened conules between the inner halves of the second and third crests. The posterior buttress of the third crest is similarly disposed, as is also that of the fourth crest. The hinder buttress of the fifth crest is less completely developed.

On wear the outer halves of the three anterior crests would produce each a trefoil; the succeeding two would form less complete ones.

There is a tendency for the formation of buttresses on the cones of the inner half of the tooth. In the first transverse valley the inner buttresses are nearly as complete as the outer ones. In the second transverse valley there is an accessory conule attached to the front of the third crest, but none to the rear of the second crest; nor are there buttresses on the succeeding crests. At the inner end of the first transverse valley there is a very large tubercle. There was a similar one at the inner end of the fourth valley.

The injuries done to the tooth make it difficult to speak with confidence regarding the cingulum, but this appears to have been present along the outer face of the tooth. At the outer end of each valley there is a cluster of small tubercles, and these appear to have met across the base of the outer cones.

The tooth here described resembles somewhat the corresponding one of *Gomphotherium tropicum* (Cope), of the Blanco Pliocene: but in the McPherson tooth there are a greater subdivision of the principal cones and a larger number of accessory conules in the valleys. It is also not greatly unlike the corresponding tooth of *Gomphotherium floridanum*, likewise a Pliocene species. The latter, however, very rarely develops buttresses on both halves of the crests; and it appears to have had properly only four cross crests and a talon. Likewise, the principal cones of *G. floridanum* appear to be more obtuse than those of *G. elegans*.

The region about McPherson is covered by deposits which belong to the Sheridan, or Equus, beds. We have in this tooth, therefore, evidence that the bunolophodont mastodons continued on into the Pleistocene. This is confirmed by the discovery of an upper second molar probably of this species and of a maxilla with two teeth of another species in the Pleistocene of Texas. The latter will be described and figured elsewhere.

The upper second molar mentioned above belongs to the right side. The tooth is in the collection of Baylor University, at Waco, Texas. It was found in Pleistocene deposits on Hog Creek, McLennan County, near Speegleville, a town about 8 miles west of Waco. The crown is practically complete, but the roots are missing. The length is 145 mm., the width 90 mm. There are three crests and a large talon. The wear on the two anterior crests has produced on the inner half of each a large trefoil. Where the enamel of these trefoils joins the outer cones it is considerably folded. There are very distinct buttresses on the outer halves of the crests, especially of the first and second. The anterior buttress of the second crest is double.

This tooth is larger than the corresponding one of any other mastodon known to the writer; but its size corresponds to that of the type tooth. Its complication is greater than in the hinder molar, but that might be expected. This tooth resembles somewhat those which Cope<sup>1</sup> has referred to *G. humboldtii*; but the crests are not so closely appressed and the enamel is not so strongly folded. The tooth described by Cope belonged to the Blanco Pliocene.

#### EXPLANATION OF PLATE 26.

*Gomphotherium elegans*. X  $\frac{1}{2}$ .

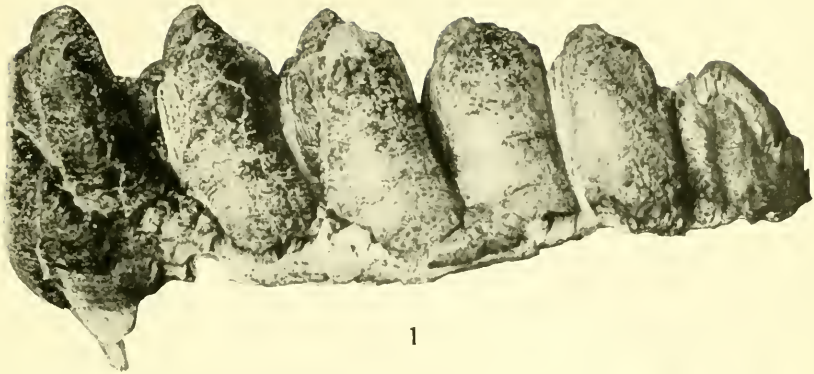
Figs. 1, 2. Lower third molar found at McPherson, Kansas.

Fig. 3. Upper second molar found near Waco, Texas.

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<sup>1</sup>4th Ann. Rep. Geol. Surv. Texas, p. 60, pls. 16, 17.





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GOMPHOTHERIUM ELEGANS.

FOR EXPLANATION OF PLATE SEE PAGE 221.

