15

NEBRASKA GEOLOGICAL SURVEY

EDWIN HINCKLEY BARBOUR, State Geologist

VOLUME 3

PART 6

A NEW GENUS OF RHINOCEROS FROM SIOUX COUNTY, NEBRASKA

BY

HAROLD J. COOK

A NEW GENUS OF RHINOCEROS FROM SIOUX COUNTY, NEBRASKA [1]

By Harold J. Cook

The present genus is based on a specimen (No. H. C. 105, Coll. of the writer) found in an exposure of the Lower Harrison beds, on the ranch of Mr. James H. Cook, at Agate, Sioux County, Nebraska, at a point about four miles west of the Agate Spring Fossil Quarry. The bone-bearing horizon at this spot is nearly if not identically the same as that in the Agate Spring Quarry, and these beds —the Lower Harrison— are now quite well established as a phase of the Lower Miocene.

The type consists of a good skull, part of the left mandible, and the atlas and axis. All are splendidly preserved, save that the skull has been slightly twisted laterally in the region of the nasals. These remains were closely associated with those of the little four-horned antelope-like Syndyoceras, the three- toed horse Parahippus, a small camel, and other animals.

In an earlier paper, this specimen was provisionally referred to the genus Aceratherium (Coenopus),[2] but subsequent study seems to warrant its being generically separated from that genus. Therefore, the name Metacoenopus is proposed.

In Metacoenopus there is but one upper incisor, in contrast with two in Coenopus. The brain case is proportionally larger, the skull is more robust, particularly in the anterior portion, and is relatively deeper than in the latter genus. The nasals are longer and heavier, as are the premaxillae. The teeth are somewhat more hypsodont, and the mandible is deeper and heavier than in Coenopus. The contour of the skull is quite different, being more smoothly turned than in any known speices of Coenopus, and it does not narrow so rapidly anteriorly.

In the type of M. egregius, the nasals are very long, extending well beyond the premaxillae. There is a slight

downward thickening of the nasals at the point where a horn usually occurs in the Rhinocerotidae, which may indicate a rudimentary horn, but it is quite different from the type of development found in the nasals of the Diceratheres. The skull is relatively longer, proportionately narrower, and deeper than that of the contemporary Diceratheres. The atlas, axis, and mandible are heavier, and the mandible lacks the outward turn or flange commonly found in the Diceratheres.[3] The shape and proportions of the nasals differ radically in these two genera, being much longer and situated higher above the premaxillae in Metacoenopus, and not showing the double-horn tendency found in Diceratherium.

M. egregius appears to agree best among the known species with Coenopus (Aceratherium) occidentalis, Leidy, found in the middle Oligocene of South Dakota and Nebraska, but is a much more advanced type in many respects, notably in the development of the brain, the loss of an incisor, and the increased size. The anterior portion of the skull of Metacoenopus egregius is relatively and actually longer and heavier than that of Coenopus occidentalis, and the skull of the latter is much more sharply pointed. Both the nasals and premaxillae are longer and heavier, and the nasal aperture is much larger in the former type. M. egregius was a much heavier animal than C. occidentalis.

In M. egregius, the temporal ridges unite in forming a sagittal crest, which rises quite abruptly near the occiput, adding materially to the general saddle-shaped appearance of the skull.

The grinding teeth show a comparatively simple pattern, and the first premolar is essentially a functional grinding tooth. On the premolars, the cingulum extends around the front and inner sides. The premolars are simple, having no anticrochet and only a suggestion of a crochet. The metaloph in the fourth upper premolar is not reduced in relation to the protoloph as in Coenopus, but is strongly developed. In the upper molars, the anti-

crochet is somewhat developed in the first and second, a moderate crochet is present, and a small crista appears in $M \frac{3}{0}$. The cingulum on the molars is interrupted on the internal face opposite both the protocone and hypocone.

Dental Formula: $I \frac{1}{?}$, $C \frac{0}{?}$, $P \frac{4}{?}$, $M \frac{3}{3}$.

MEASUREMENTS

	Mm.
Greatest length	473
Extreme width across zygomatic arches	245
Distance between orbits across frontals	140
Width of brain case	90
Length of upper molar-premolar series-left side	202
Length of upper molars, left side	102
Length of lower molars, left side	100
Length of diastema P. 1 to incisor	61

Harold James Cook

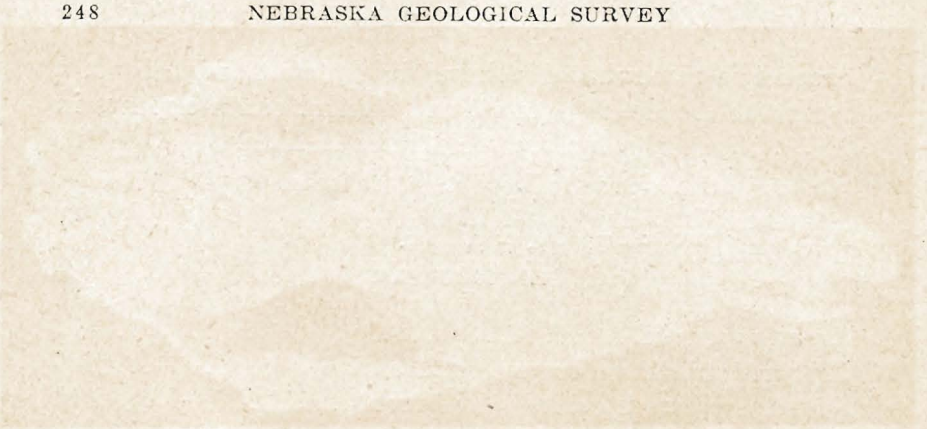
American Museum of Natural History,
New York, December 9, 1908.

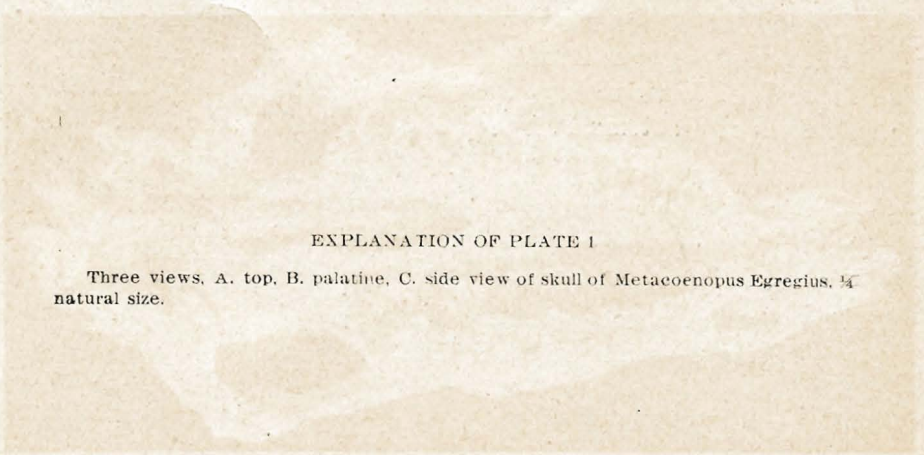
(Printed and distributed March, 1909.)

1. See Am. Nat. Vol. XLII, Aug. 1908.

2. See Leidy Proc. Ac Nat. Sci. 1850, 119, 276; 1853, 392; 1857, 89; 1865, 176; Owen's Rep. Geol. Surv., Wisconsin, etc. 1852, 552. Leidy, Proc. Ac. Nat. Sci., 1851 331; 1854, 157; Leidy, Jo. Ac. Nat. Sci., Vol. VII, p. 220, 1869. Osborn; Mem. Am. Mu. Nat. Hist., pp. 150-158.

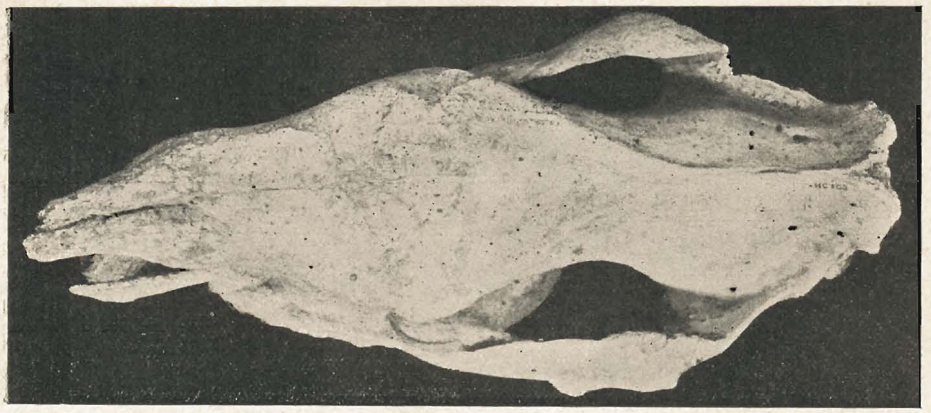
3. See Barbour, Nebr. Geol. Survey, Vol. 2, Part 4. See Peterson, Science, XXIV, No. 609, pp. 281-282, 1906. See Annals of the Carnegie Museum, Vol. IV, No. 1, 1906.



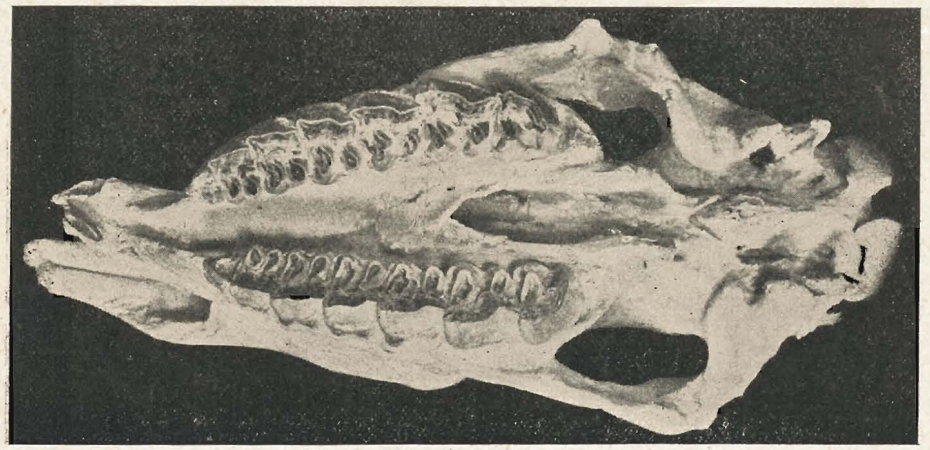


EXPLANATION OF PLATE I

Three views, A. top, B. palatine, C. side view of skull of Metacoenopus Egregius, ¼ natural size.



A



B

C

SKULL OF METACOENOPUS EGREGIUS. COOK. ¼