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A New Genus and Species of Rhinoceros, Epiaphelops Virgasectus from the Lower Miocene of Nebraska

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A NEW GENUS AND SPECIES OF RHINOCEROS[1]

EPIAPHELOPS VIRGASECTUS.

FROM THE LOWER MIOCENE OF NEBRASKA.

BY HAROLD JAMES COOK.

EPIAPHELOPS VIRGASECTUS.

Dental Formula, $M._3$, $P._4$, $C._0$, $I._1$.

Type, right lower jaw, and anterior portion of left lower jaw, No. HC265, collection of the writer.

This genus of the early Miocene Rhinocerotidae is a somewhat unexpected type in the beds where it occurs. Certain fragmentary remains of this, or a closely allied form, have been found, but nothing up to date which seemed worth describing. Among the known forms of the American Oligocene, there seems to be nothing strictly prophetic of it.

In the most typical rhinoceros known from the White River beds, *Caenopus*[2], we already find a reduction in the lower grinding dentition to six functional teeth. In C. *platycephalum*[3], we find the first lower premolar present, but vestigeal, and of a variable character. In the type of *Epiaphelops,* the first premolar is of good size, and is a functional grinding tooth. Likewise, while the present species is more primitive than C. *platycephalum* in this respect, E. *virgasectus* has the typical development of the premolar cusps, not the atypical structure found in *platycephalum.* Therefore, while there are several superficial similarities between these two, they are analogies, and *Epiaphelops virgasectus* has obviously descended from a more primitive ancestral stock than *Caenopus.*

It may have descended from some such stock as *Trigonias osborni*[4], Lucas, but comparison of these forms at present appears unprofitable. It is perhaps most closely related, among known forms,

(1)	Epi	aphel	ops	virga	sectus
	ἐπί	ἀφελής	ὄψ		
	Near	smooth	face	twig	cutting

Notice of a new Genus of Rhinoceros from the Lower Miocene. Science, N. S., Vol. XXXV., No. 893, pp. 219-220, Feb. 9, 1912.

(2) Cope, E. D., Am. Nat. XIV, 611, Aug. 1880.

(3) Osborn, H. F., Mem. Am. Mus. Nat. Hist. Vol. I, Pt. III, 1898.

(4) Hatcher, J. B., Vol. 7, Part 3 An. Carn. Mus. Vol. I, Pt. III, 1901.

to *Aphelops megalodum*, hence the name. It is separated from this form by the presence of a functional P_1, a more brachyodont dentition, and a heavy cingulum, which is developed least on the last molar. Likewise, the last molar shows the greatest tendency to become hypsodont.

Epiaphelops virgasectus is somewhat larger than *Aphelops megalodum*. Additional good material, judging from fragmentary specimens, will show other characters by which this form will be more clearly characterized. It represents an earlier stage in the approximate ancestral line of Aphelops, and may well be a migrant, rather than a direct descendent of any American Oligocene stock.

This specimen was secured by the writer during August, 1911, about eighteen miles east of Agate, Nebraska, in one of the old channel beds which are probably a phase of the Upper Harrison. However they contain many types also found in the Lower Harrison, (including Moropus, Dinohyus, Diceratherium, etc., in species found in the Lower Harrison), and the stratigraphy is such as to make correlation difficult. The writer has also found fragments of *Epiaphelops* in the typical Lower Harrison.

EPIAPHELOPS VIRGASECTUS.

Measurements of teeth.	*Type.*
M_1 antero-posterior diameter	42 m. m.
M_1 transverse diameter	31 m. m.
M_2 antero-posterior diameter	44 m. m.
M_2 transverse diameter	31 m. m.
M_3 antero-posterior diameter	52 m. m.
M_3 transverse diameter	31 m. m.
P_1 antero-posterior diameter	17* m. m.
P_1 transverse diameter	15* m. m.
P_2 antero-posterior diameter	26 m. m.
P_2 transverse diameter	21 m. m.
P_3 antero-posterior diameter	32 m. m.
P_3 transverse diameter	23 m. m.
P_4 antero-posterior diameter	36 m. m.
P_4 transverse diameter	27 m. m.
Incisor, antero-posterior diameter at enamel base	21 m. m.
Incisor, transverse diameter at enamel base	34 m. m.
Incisor, length from base of enamel	96 m. m.

*Approximate measurement.

Measurements of jaw.	*Type.*
Depth of jaw at base of M_3	84 m. m.
Width of jaw below base of M_3	48 m. m.
Depth of jaw below base of P_2	64 m. m.
Width of jaw below base of P_2	37 m. m.
Length of mandibular symphasis	75 m. m.

Agate, Nebr., Dec. 1911.

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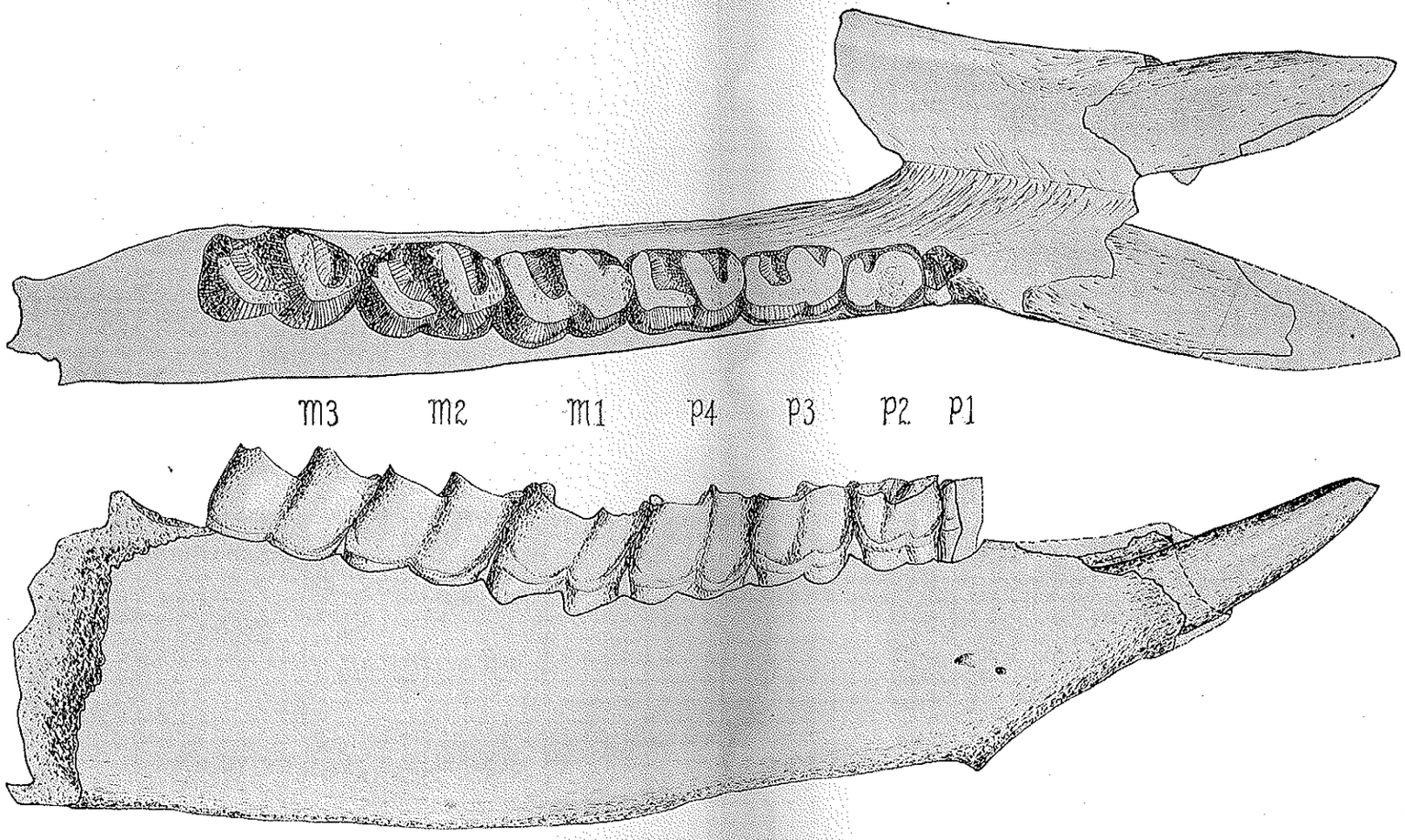

EPIAPHELOPS VIRGASECTUS, Cook. ×½.