

A NEW RHINOCEROS, TRIGONIAS OSBORNI, FROM THE  
MIOCENE OF SOUTH DAKOTA.

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The name *Trigonias osborni* is proposed for a rhinoceros from the Miocene, presumably the Lower Titanotherium beds of South Dakota, represented by the anterior part of the palatal portion of the cranium bearing on the right side three incisors, a canine, and the first

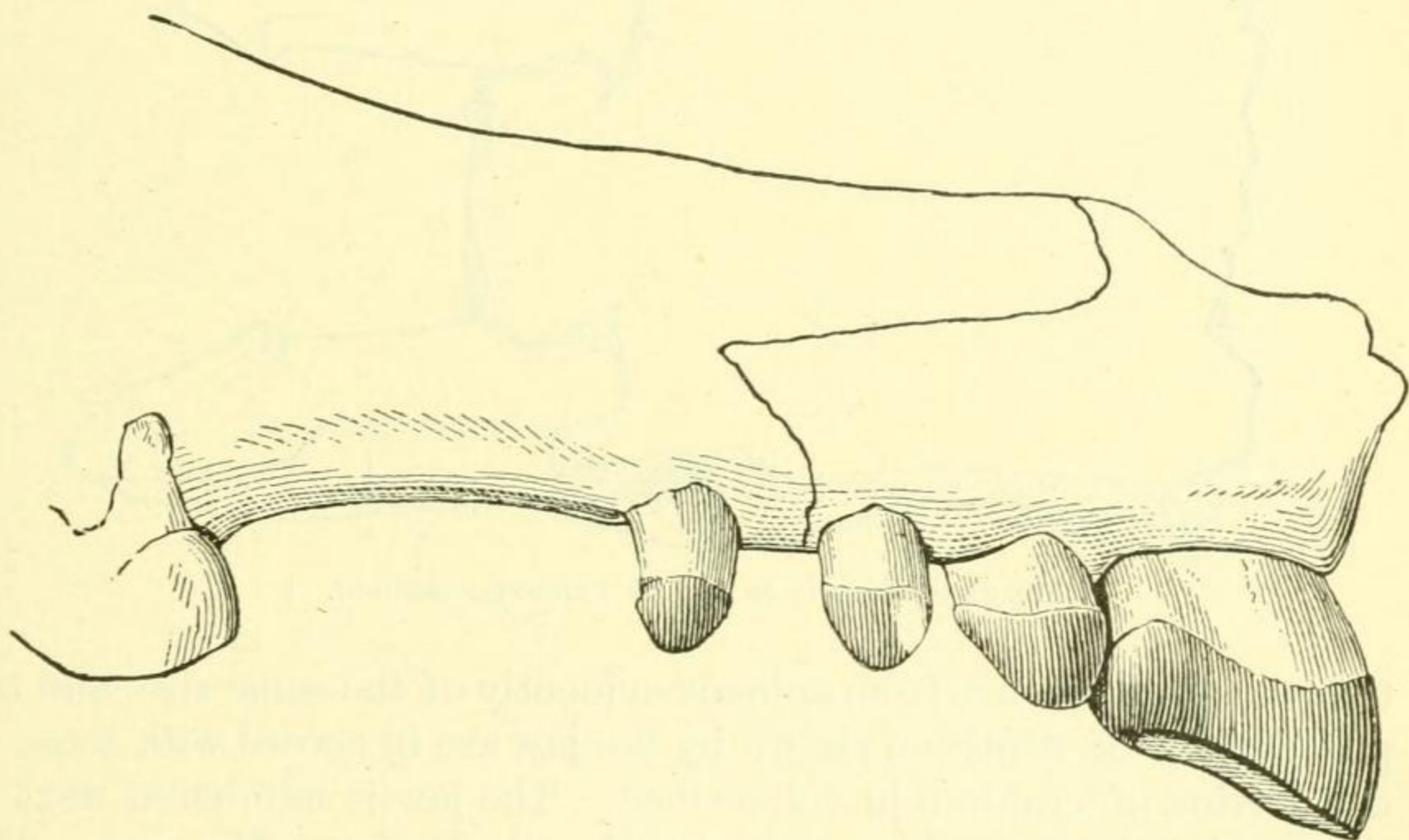


FIG. 1.—ANTERIOR PORTION OF CRANIUM OF TRIGONIAS OSBORNI.  $\frac{1}{2}$

three premolars, and on the left side the third incisor and first three premolars.

The generic name is given in reference to the triangular shape of the cutting portion of the procumbent tooth, while the species is named in honor of Henry F. Osborn, who has done so much toward increasing our knowledge of the extinct rhinoceroses. The specimen bears the number 3924, catalogue of fossil vertebrates, U. S. National Museum. The species is remarkable from the fact that it possesses

three incisors and a canine, having therefore the most generalized dentition of any rhinoceros thus far discovered. The canine and second and third incisors are of the same general shape, being slightly compressed with rounded points; the canine is the smallest tooth in the series and the teeth progressively increase in size from the canines forward. The three premolars are practically of the same size, as those shown on Plate XIII, fig. 7, of Osborn's memoir on the Extinct Rhinoceroses, but exhibit a greater degree of wear. The first premolar is, however, slightly more elongate and less trihedral in section than the first premolar there shown, while the protoloph is narrower, lies on the extreme inner edge of the tooth, and runs directly backward.

The left ramus of a jaw, including the entire symphyseal portion, also from the Miocene of South Dakota, is assigned to this species, as

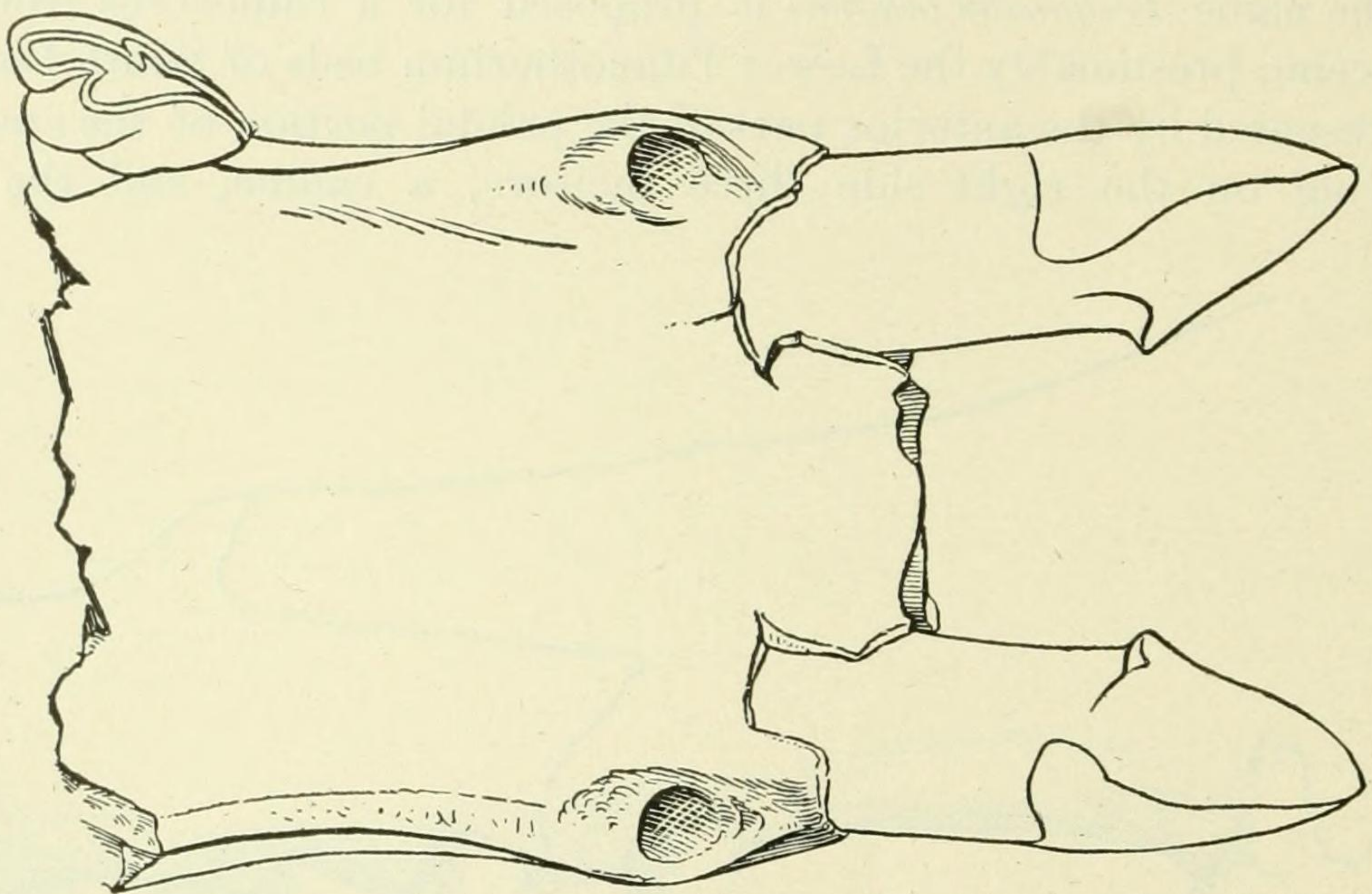


FIG. 2.—SYMPHYSIS OF JAW OF TRIGONIAS OSBORNI.  $\frac{1}{2}$

the two specimens are from animals evidently of the same size, and the peculiarities of dentition shown by the jaw are in accord with those of the portion of cranium just described. The jaw is numbered 4815 in the catalogue of fossil vertebrates, U. S. National Museum. The important portion of the jaw is the symphysis, which bears on either side a small inner incisor, the root of which only is present, a large procumbent tooth, usually regarded as a canine, and back of this an alveolus for a third and small tooth. The presence of this tooth shows conclusively that, whether it be regarded as a canine or an incisor, the large procumbent tooth must be an incisor. Until proof to the contrary is forthcoming, I prefer to look upon the small tooth as the third incisor and to regard the canine as absent.

The lower grinders increase considerably in size from before backward, so that while the second and third premolars are of nearly the

same size as those of a specimen of *Aceratherium occidentale* used for comparison the molars are very much larger.

*Measurements.*—Upper jaw: length of largest incisor at widest part, 24 mm.; length from anterior part of first incisor to back of canine, 56 mm.; length of diastema, 29 mm.; and length of three premolars, 70 mm.

Lower jaw: length of symphysis, 82 mm.; length of diastema, 35 mm.; length of premolar series, 90 mm.; length of molar series, 115 mm.; length from anterior part of symphysis to posterior angle in a straight line, 410 mm.