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## TETRABELODON ABELI, Sp. Nov.

Erwin Hinckley Barbour

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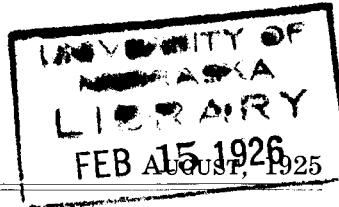
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BULLETIN 9

VOLUME 1

THE NEBRASKA STATE MUSEUM

ERWIN H. BARBOUR, *Director*

TETRABELODON ABELI, Sp. Nov.

BY ERWIN HINCKLEY BARBOUR

Brown County, Nebraska, which has been so prolific of long-jawed mastodons, has yielded another form which seems to be new and which may throw light on certain small tusks that occur where Tetrabelodon bones abound. Heretofore, we have considered these to be embryonic, but they show apparent wear, and in other respects they are enigmatic, and at best, atypical. Tetrabelodon tusks proper, however young, are typical, and are obviously tusks in miniature. The tusks in doubt are of varying lengths and about the diameter of one's thumb, but taper backwards, are worn to a bluntly oblique point, and are slightly fluted. Can it be that these are vestigial, lateral incisors of the mandible, I 2?

At any rate, the jaw under consideration shows a perfect socket paralleling that of the regular tusk. This side socket is about 10 inches long, about  $\frac{3}{4}$  of an inch in diameter in front, tapering backward. Thus the socket conforms well with the above-mentioned tusk. If this is not the socket of a small, accessory tusk there is at present no satisfactory accounting for the unique structure. Dr. O. Abel, University of Vienna, for whom the species is named, examined this lateral socket with evident interest, and seems disposed to concur with this suggestion. The course of the socket is plainly indicated on the surface by a suture line which is more or less open.

The mandible of *T. abeli* is finely preserved. Its dentition is practically perfect, and is of the typical *Trilophodon* type. Most of the jaws in our collections taper towards the tip, but this one flares noticeably and is considerably recurved. The angle is large and the condyle and coronoid higher than in the types represented by *Tetrabelodon osborni* and *Eubelodon morrilli*, in which they are strikingly low. The mental foramen is not so lengthened as in the majority of examples. Under each molar, on the inner surface of each ramus, is a deep depression, like a dent, 6 inches long by 2 inches wide, not to be seen in any other *Tetrabelodon* jaw in our collection. This is taken to be a character of this species. On the outer border, opposite the dent, and directly under the last molar, is a notable protuberance, which is more angular and prom-



FIG. 52.—Mandible of *Tetrabelodon abeli*, sp. nov. Right side reversed to face left. The circular highlight under the last molar is a strong protuberance, better shown in Fig. 53. Palaeontological Collections of Hector Maiben, No. 1-12-9-24S. 1/9 natural size.

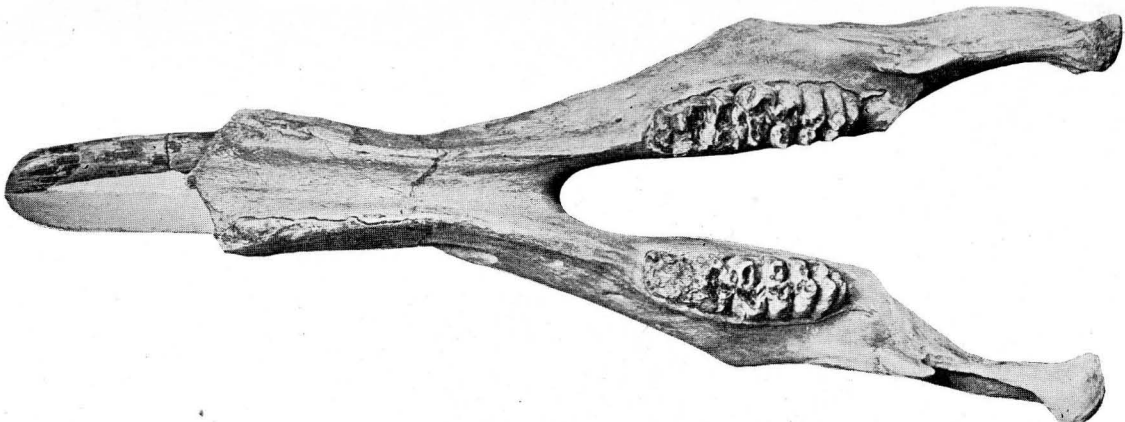


FIG. 53.—Mandible of Tetrabelodon abeli. Crown view. 1/9 natural size.

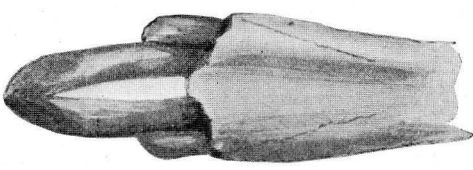


FIG. 54



FIG. 55



FIG. 56

- FIG. 54.—Tip of mandible of Tetrabelodon abeli, with lateral tusks supplied. 1/9 natural size.
- FIG. 55.—Section across the tip of the mandible, showing two central sockets and two lateral sockets. 1/9 natural size.
- FIG. 56.—A section of the mandible in Fig. 52, through the last molar. 1/9 natural size.

inent than in any other example in our collections. This can be seen as a strong highlight, directly under the last molar, in Fig. 52, also in Fig. 53.

This mandible was found in Devil's Gulch, Brown County, Nebraska, by Mrs. J. F. Francis, by whom it was carefully dug out and preserved. Later it was procured for the palaeontological collections of Mr. Hector Maiben by William Strong, while doing field work during the summer of 1924.

It is well known that the American Mastodon, though a two-tusker, sometimes is found with four, namely two in the upper jaw, and two in the lower. The mandibular tusks of Mastodons are occasionally as large and long as one's arm. Sometimes they are very small, and with one or both but partially erupted. At other times they occur unerupted and imbedded in the jaw, being purely vestigial. This is assumed to be reversion. The case in hand may be analogous.

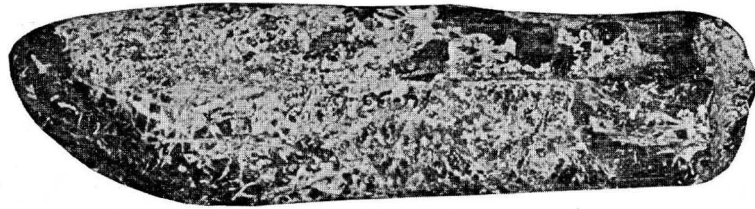


FIG. 57.—A portion of a problematic proboscidean tusk, heavily etched by *Daimonelix* fibers. Found in the quarry with *Tetrabelodon osborni*. Palaeontological Collections of Charles H. Morrill. No. 14-30-6-15. Natural size.

MANDIBLE	mm.	inches
Length, tip of symphysis to back of condyle	1156	45 ½
Tip of tusk to back of condyle	1359	53 ½
Depth of jaw at molar	190	7 ½
Thickness of jaw at molar	165	6 ½
Length of symphysis	470	18 ½
Width of tip	184	7 ¼
Across condyle	489	19 ¼
TUSK		
Exposed portion of tusk	216	8 ½
Total length of tusk	508	20
Diameter of tusk	51	2
MOLARS		
Length of the two molars	292	11 ½
Length of last molar	185	7 ¼
Greatest width of last molar	76	3

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