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TORYNOBELODON LOOMISI, gen et. sp. nov.

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BY ERWIN H. BARBOUR

The group of proboscideans which we have called the shovel-tuskers or Amebelodonts, was announced in June, 1927,[1] following the discovery of Amebelodon fricki. In the field season of 1928, two additional species were found which are represented by mandibular tusks. One of these is a tip of a large and unique tusk, numbered 2-3-9-28, S. and L., the collectors being Bertrand Schultz and John LeMar, both of the class of 1931, the University of Nebraska. It was found within 200 to 300 yards of the spot on his farm where Mr. A. S. Keith, Freedom, Frontier County, Nebraska, found Amebelodon fricki in the spring of 1927, the formation being Late Pliocene to Early Pleistocene. Influenced by the coarse ladle-shaped mandible, we have named this new form Torynobelodon loomisi, in recognition of Dr. Fred A. Loomis, who has spent many field seasons in exploring the Tertiary series of Nebraska.

As yet, the skull and skeletal parts of the genus Amebelodon are unknown, or at least, underscribed. The mandibular tusk of A. loomisi is roughly, like that of a giant rodent, broad, flat, chisel-like, and curved, with a radius of two feet. It is concaved above and below throughout its length, hence it has thickened inner and outer borders. The inner border is the thicker of the two. The tip of the tusk is worn to a sharp, thin, chisel-like edge. It is assumed that the wear came about by the actual shovelling, or rather scooping, of muds, sands, and soft earths in the animal's quest for food. If so, herein is realized nature's original dredge, and this group is best designated by the term, dredge-tuskers. In the name is implied the character, shape, and possible use of the

[1] Preliminary notice of a new Proboscidean, Amebeldon fricki gen. et. sp. nov. Bulletin 13, Volume 1, June 1927, the Nebraska State Museum.

mandible and strange tusks. The mandible and up-curved tusks could have functioned quite like a dredge. They are to be compared with those of the shovel-tuskers which may have functioned much more like a blunt spade or shovel. The former could plainly dredge or scoop up more material than the latter, and the presumption is that the two kinds of elephants, though fairly similar, had somewhat different life habits. From the material already at hand, it is plain that there are two very distinct groups of amebelodonts, namely the shovel-tuskers with straight tusks, such as Amebelodon fricki and others to be described in Bulletin 17, and the dredge-tuskers, with curved tusks, such as A. loomisi. The differences between the dredge-tuskers and the shovel-tuskers seem more than specific and must be interpreted as generic. Such differences can scarcely be ascribed to variations due to age and sex.

Can it be that the dredge-tuskers fed on coarse reeds, cattails, pond lilies, and the like, cutting them off by pressing the trunk against the sharp cutting edges of the tusks and lifting upward, much as cattle graze by pressing their thickened and calloused upper lips against their sharp lower incisors, and by swinging the head, shear off tufts of grass?

As pointed out in preceding papers, it does not necessarily follow that the Amebelodontinae were aquatic in habit. Even though named dredge-tuskers and shovel-tuskers and restored in marshy habitats, they, like other elephants, may have preferred the forest and underbrush with its firm ground. Loomisi may have used his tusks, aided by pressure of his coarse and calloused trunk, to strip leaves from grass and shrubs. The spoon shape may have aided the creature, as

Fig. 98. a. Tip of the left mandibular tusk of Torynobelodon loomisi, seen from below, showing structure and wear. b. Same, seen from above, showing extensive wear at the tip which is reduced to a wedge and which shows many elipses. See diagram above. Width of tusk 4¼ inches (114 mm.). c. Same, sectioned with structure and measurements. (Note elipses at the tip and compare with b.) d. Detail. A longitudinal section showing outer zone of decussated ivory and inner core of cones. e. Cross section showing decussated ivory and core of cones. Specimen No. 2-3-9-28, S. & L. The Palaeontological Collection of Hon. Charles H. Morrill.

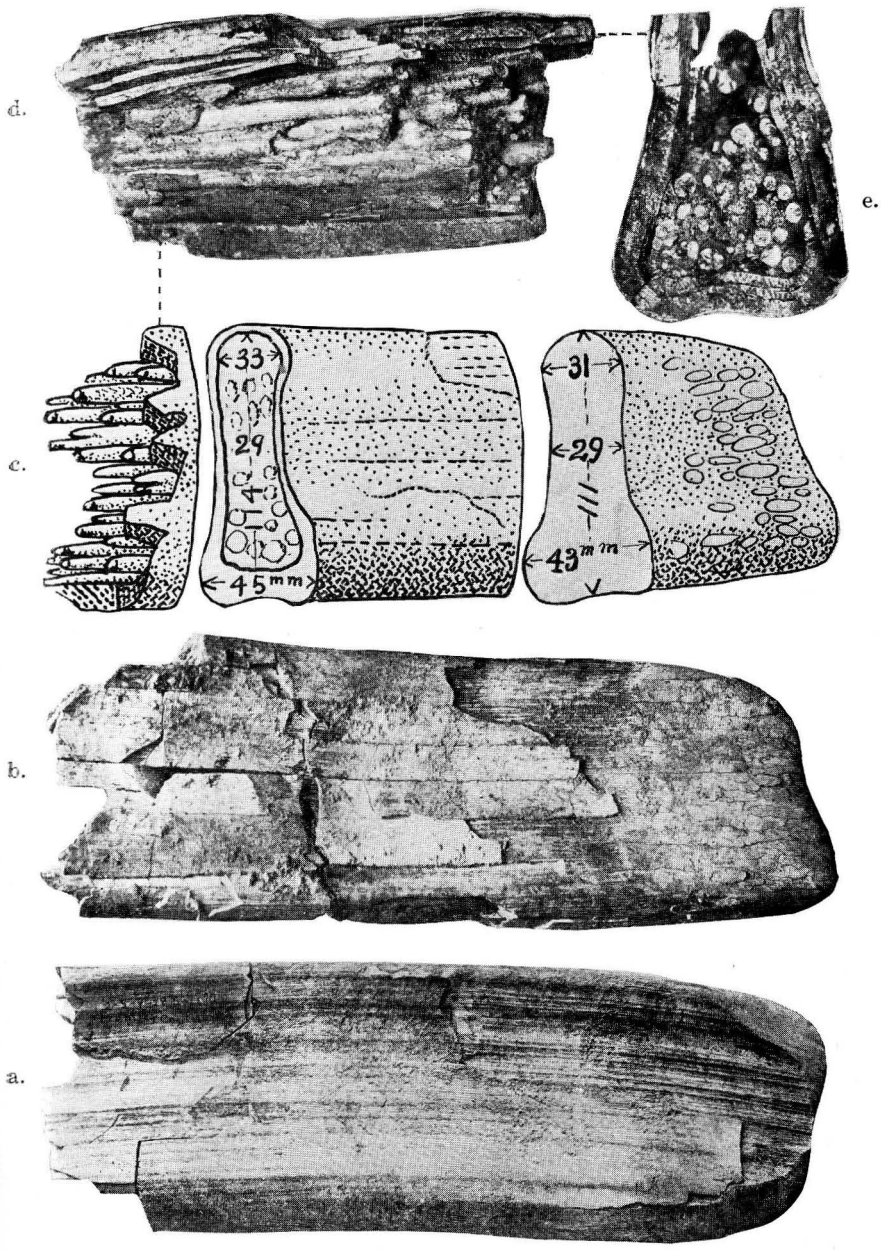

Fig. 98

well, in collecting seed heads from grasses and wild cereals. The broad, short, curved tusks gave a spoon-shape or dredge-shape to the mandible, suggesting its possible use as an actual dredge. This strangely shaped mandible must rank with the remarkable and unaccountable structures. The worn surface of the tusk as seen in the accompanying cuts, is covered with elipses, or the outlines of cones cut in oblique sections, and the cones themselves are to be seen at the fractured portions. With the exception of a periphery of decussated ivory, the entire tusk consists of long, slim cones, some of them branching and many intimately intergrown with the concentric ivory plates, as is partly shown in the accompanying illustrations. Some of the cones are 12 inches in length and about ¼ to an occasional ½ inch in diameter at the larger end, as may be seen in Figure 98, c, d, and e, and are similar to the cones seen in many mammoth teeth. The surfaces of the cones show wavy corrugations, such as are common to the cones of proboscidean teeth, and they seem to be structural rather than induced, or secondary, and are at present problematical. They are so like the bundle of unworn cones commonly seen at the heel of molar teeth that the writer at first sight wondered, too impulsively, if by any chance this tusk could be a modified incisiform molar. With this tusk in hand, and with its dimensions and curvature well in mind, visualizations of the great dredge-shaped mandible can be readily tranferred to paper, not that figures are so indispensable, but rather that they are helpful. If the vision of the jaw is correct, then the animal as a whole may be figured, for nothing remains but to hang the mandible on the body of an elephant, since the bodies of all elephants are essentially alike. Restorations from fragments are not necessarily ridiculous, as many prefer to think, nor are they idle figments of fiery imaginations. Instead they are attempts on the part of naturalists to convey to the public better conceptions than are obtainable from bare descriptions. A horseshoe, even a horseshoe nail, justifies the visualization of a horse. Amebelodonts hark back genetically to Phiomia

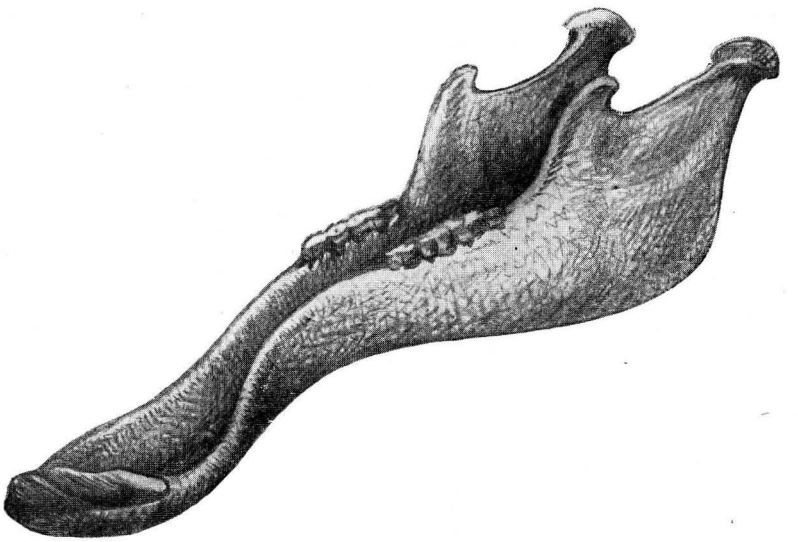

Fig. 99. A pencil sketch showing a purely conjectural restoration of the mandible of Torynobelodon loomisi based upon the dimensions and curvature of the mandibular tusks. The flared and ladle-shaped mandible ranks with the rare and unaccountable structures.

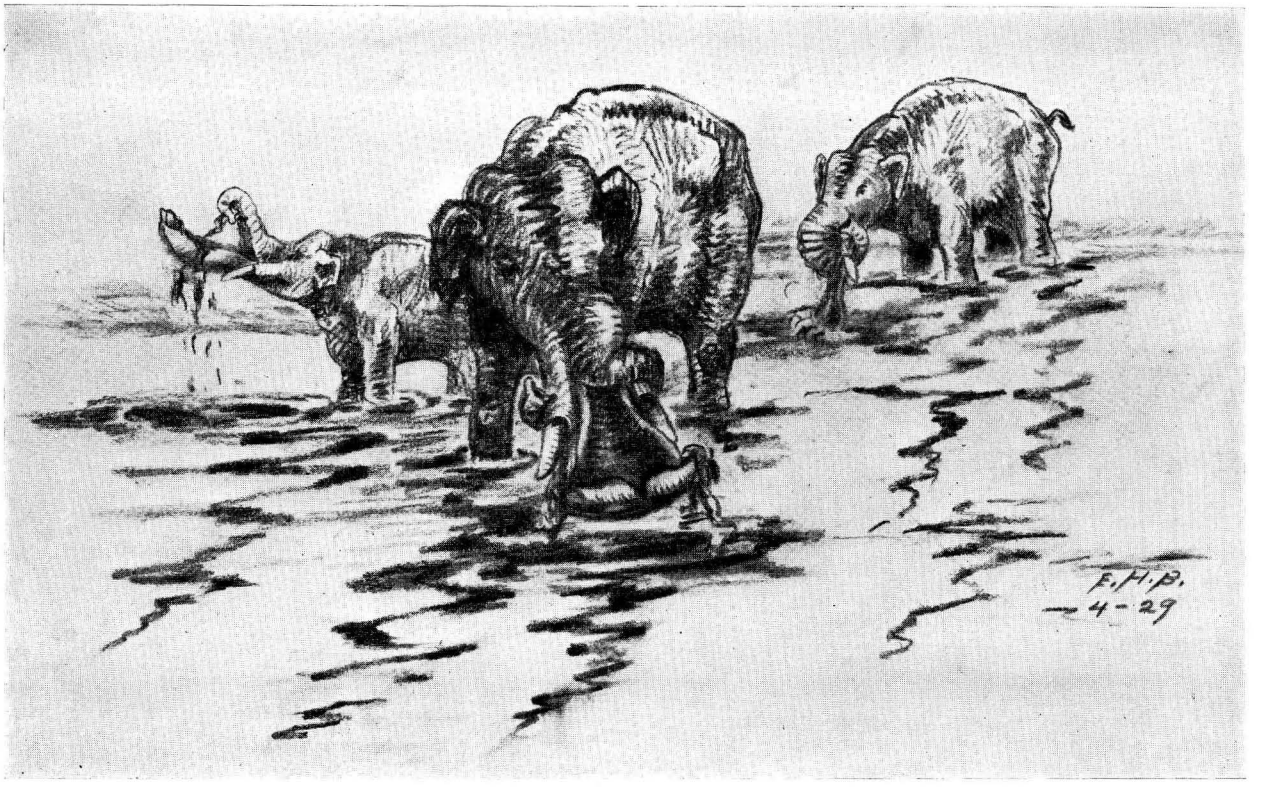

Fig. 100. A pencil sketch of a purely conjectural restoration of Torynobelodon loomisi, the dredge-tusked mastodon as he may have appeared in his supposed marshy habitat, dredging for various aquatic plants for food. This may be indulging a fancy, for the flared and spoon-shaped mandible may have been simply a case of excessive development and not a scoop.

osborni, an Oligocene ancestor with noticeably flattened tusks. Since that remote date, there has been ample time for many and wide variations. It is a reasonable prediction that a long list of these strange elephants await discovery, and the next few years can scarcely fail to reveal a rich amebelodont fauna. Two have been named by Osborn, one Amebelodon grangeri, figured but without description, and Amebelodon andrewsi, from the Gobi desert, at this writing without figure or description.

At this writing no reports on any of the Amebelodontinae have reached this office and no citations can be made.

AMEBELODONT PUBLICATIONS

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The University of Nebraska,
Lincoln, Nebraska,
December 20, 1929.

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