

An Occurrence of Mammoth and other Bones at Whatley, Somerset

BY DESMOND T. DONOVAN, Ph.D., F.G.S.

On July 10, 1951, in the course of blasting at their quarry at Whatley, three miles west of Frome, the New Frome Quarry Company (branch of Roads Reconstruction (1934) Ltd.) encountered a natural fissure in which bones of mammoth and other animals were found, as already briefly noted in these *Proceedings* (Vol. 6, No. 3, p. 221). The occurrence was first visited by Mr. H. E. Balch, of Wells Museum, and Mr. T. R. Fry, of Bristol University. Later the remains were moved to Bristol for preservative treatment. Several visits were paid to the quarry by members of the Society, resulting in the recovery of a few more bones. Through the kindness of Roads Reconstruction (1934) Limited all the finds were presented to the University and are at present exhibited in the Society's museum, with the exception of a portion of tusk which has been returned to the company and will be displayed in their board room.

The Society is indebted to Mr. F. R. Whitney, manager of the quarry, and to Mr. R. Blacker, foreman, for their co-operation in recovering the bones. Dr. I. S. Loupekiné helped in the early stages of the discovery. We are obliged to Dr. A. Tindell Hopwood for examining the mammoth molar, and to Mr. A. J. Sutcliffe for identifying some of the other remains. Mr. T. R. Fry has kindly placed at our disposal the notes made when he visited the site.

DESCRIPTION OF THE SITE

The fissure was exposed in the north face of the quarry (*Plate 4*), and had been formed by solution of the Carboniferous Limestone along the plane of a minor fault. The main cavity lay about 20 feet below the surface of the ground, and at one time traces of a sloping fissure, ascending eastwards towards the surface, could be seen in the quarry face. The main cavity was about 5 ft. high and 10 ft. wide at the face, and extended about 20 ft. back. Its floor was formed of fine yellow clay, about 1 ft. thick, overlying black material of similar texture assumed to be stained by manganese compounds. Trial holes were dug in the deposit but were unproductive. The bones occurred in a conical mass of partly compacted scree, formed of angular pieces of limestone and impure yellow clay, which lay at the right-hand side of the entrance to the cavity and appeared to have descended from the surface through the fissure. The scree, which con-

PLATE 4



Photo: Dr. H. Taylor

View of the north face of Whatley Quarry showing the fissure exposed in 1951. The upper figure indicates the position of the mass of scree which contained the bones.

tained slabs of limestone up to about 1 ft. across, rested on the fine yellow clay. The bones were dispersed through the scree and the greater number of those recovered were thrown out during blasting. Material subsequently obtained by excavation consisted of small bones and fragments. Later, the cave was completely destroyed by quarrying.

The National Grid Reference of the site is ST730482.

DESCRIPTION OF THE FINDS

The site has been given the reference number M.16 in the Society's catalogue. The serial numbers of individual bones are quoted in brackets in the following notes. Three species have been recognized from the bones: mammoth (*Elephas primigenius* Blumenbach), horse (*Equus caballus* Linn.), and glutton (*Gulo* sp.). Notes on some of the mammoth bones are given below. Horse is represented by molar and incisor teeth (29-35) and various parts of the skeleton (27, 28, 36-39, 42-50), at least two individuals being represented. Glutton is exemplified by a single upper canine (52) and an incomplete radius (41).

NOTES ON THE MAMMOTH REMAINS

1. *Molar Tooth* (6).—First upper true molar, complete (an alternative identification as second true molar is unlikely, but cannot be completely excluded). Maximum length: 14.0 cm. Length of grinding surface: 12.0 cm. 13 ridges exposed on grinding surface. The wear of the tooth is not far advanced. A number of separate lamellæ (19-24) belong to an unerupted tooth.

2. *Tusk*.—Two pieces recovered, the smaller (10) 49 cm. long, measured along the curve, the larger (retained by Roads Reconstruction Ltd.) 52 cm. Greatest circumference of the two pieces: 22.0 cm. and 24.5 cm. respectively. The two pieces may have belonged to the same tusk but this cannot be proved.

3. *Skull*.—Small fragments only were found (2, 14, 49, 51).

4. *Vertebrae*.—One dorso-lumbar (3), probably the fifth. Total height with centrum vertical: approximately 30 cm. Horizontal and vertical diameters of centrum: 12.0 cm. and 10.5 cm.

The centrum of another vertebra (17) probably belonged to the fourth dorso-lumbar. The centrum of a caudal vertebra (26) is preserved.

5. *Pectoral Girdle*.—Damaged left scapula (17). Maximum length: 54 cm.

6. *Forelimb*.—The right humerus is the most complete limb bone. The proximal epiphysis is missing and had not fused to the shaft. The distal epiphysis is partly fused. Estimated length when complete: 77 cm. Length of shaft without epiphyses: 64 cm.

Proximal ends of left (16) and right (4) ulnas, both damaged.

Distal end of left radius (15). The epiphysis is missing and had not fused to the shaft. A piece of shaft, 31 cm. long, may have belonged to the same bone.

Two metapodials (11, 12). The foot to which they belonged has not been established.

INTERPRETATION OF THE FINDS

There is no evidence as to whether or not the bones of the different animals were contemporary. The horse bones are in a better state of preservation than those of the mammoth, but this may be due to the difference in original texture of the bones of the two animals.

The animals died and decayed either higher up the fissure, or at its mouth, and their bones were carried to their final position by the mass of mud and stones with which they were intermixed. Their skeletons must have been dispersed in the process, for the identifiable bones represent only a small proportion of the skeletons. Further damage was caused by blasting.

The bones clearly date from the Late Pleistocene. Mammoth is well-known from caves and river-gravels in Somerset, and the principle interest of the Whatley find is that it is believed to be the first record of the animal from the eastern Mendips. Horse is abundant at several late Pleistocene sites in Somerset, and although it persisted later than mammoth the ranges in time of the two animals overlapped. Glutton is an uncommon species in the British Pleistocene and is rare in Somerset. Reynolds (1912, pp. 8, 11) recorded canine teeth from Banwell Bone Cave and Bleadon Cave, and a doubtful lower jaw has since been noted from the rock shelter at Chelm's Combe, Cheddar (Jackson, 1927, p. 120), from a deposit which must belong to the uppermost Pleistocene.

REFERENCES

- JACKSON, J. W., 1927, "Chelm's Combe Shelter. The Vertebrate and Molluscan Fauna", *Proc. Som. Arch. Soc.*, Vol. 72, Pt. 2, 115-23.
REYNOLDS, S. H., 1912, *Monograph on the British Pleistocene Mammalia*, Vol. 11, Pt. IV, "The Mustelidæ", Pal. Soc.