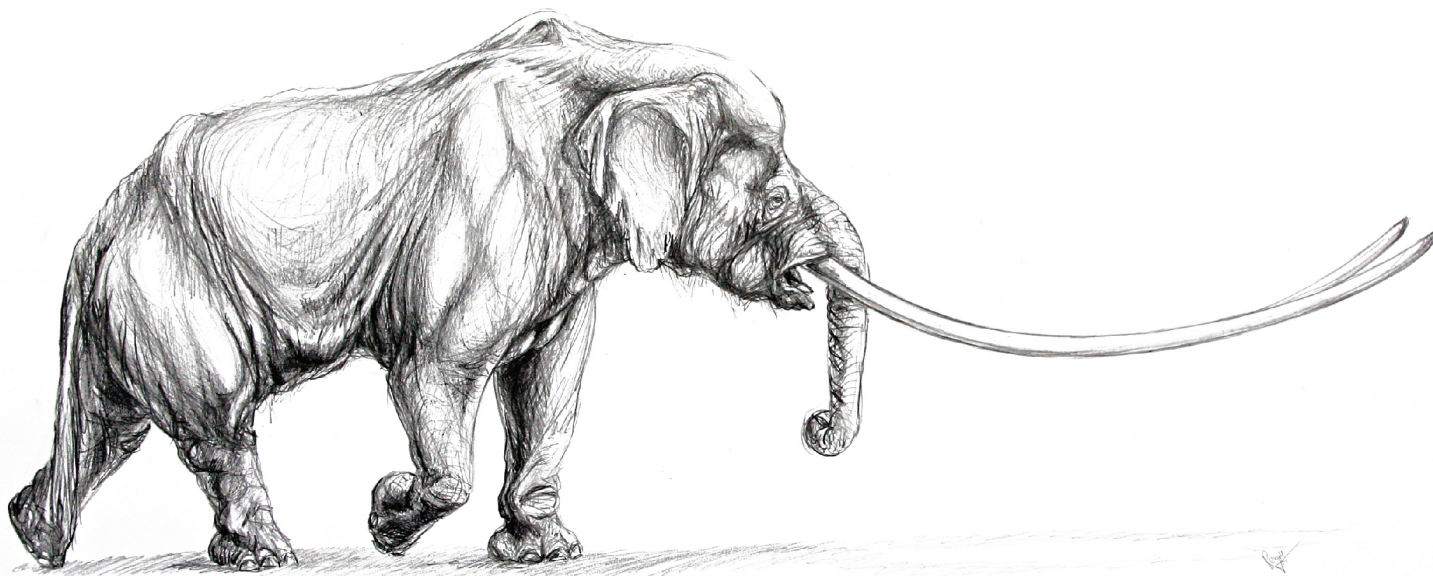




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ABSTRACT BOOK

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Evidence of contact between *Mammuthus intermedius* (Jourdan, 1861) and ancient humans from Duruitoarea Veche, Republic of Moldova: preliminary data

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In 2004, in the village of Duruitoarea Veche (Râscani district, northwestern Republic of Moldova), Eugen Tomuz (worker at the local stone quarry), found mammoth ivory and a mandible, in a landslide of the old country road near the northwestern part of the limestone cliffs of a Badenian reef (27°15' eastern longitude; 47° 52' northern latitude).

The animal's remains were found on the slope of a landslide, about 20-30 m northwest from the reef mentioned above, where the archaeological monument from the Duruitoarea Veche Cave (the "Starye Duruity" Cave – in the old Soviet literature) is found. The cave contains four layers with evidence of different human industries, of which three are Paleolithic: two Lower Paleolithic layers (IV and III) with Acheulean industry, and one (II) with Upper Palaeolithic industry (Chetraru, 1973; Chetraru, 1995). The recovery of the specimens took place under the author's supervision, with support from Professor Dragoș Panțâr (mayor of the Costești commune) and from Professor L. A. Radcenco („Silvian Lucaci” Theoretical Highschool, Costești commune), with help from local volunteers in 2004 (5-8 August) and 2009 (7-8 September).

A surface of 23 m² was exposed in 2004. Some of the remains were lying at an angle of 30°, at a depth ranging from 0.5 m (in the west) to 1 m (in the east). The bone remains were found quite separated from a few centimeters to a few decimeters from one another. It is worth mentioning that only two metapodials were found underneath the ivory, near its base, and the lateral-medial surface of the ivory was flattened (Fig. 1A), probably as a result of hits intentionally made by ancient humans, as on an anvil. This allows only for the assumption that ancient humans were present at this site.

In 2009, the excavation was extended 9 m² eastward, and the remains were found 1.2-1.5 m deep, at the eastern margin of the excavation. The total surface exposed during the excavations carried out in 2004 and 2009 therefore reached 32 m².

In the sector investigated in 2009, the bone remains were randomly positioned. Some limestone fragments had sharp edges and were found right next to fractured bones. This allows for the idea that these limestone fragments were used by ancient people as tools to crack or crush some of the animal bones.



Fig. 1. Mammoth fossil remains and elements of human industry from Duruitoarea Veche. A, Part of the 2004 excavation. Crescent-shaped mammoth ivory: length along the circumference – 2750 mm; thickness at the base – 200 mm. Two metapodials were found near the base of the ivory which was latero-medially flattened, allowing for the assumption that this surface was used as an anvil. B, View of the 2009 excavation. The arrow points to the location of the flint tool, beneath the mammoth rib fragment. Rounded limestone boulders several decimeters in diameter (result of ancient deluvial processes or possible result of human activities) were found on the slope in the back, at the eastern end of the excavation; C, Flint tool found in the eastern part of the 2009 excavation, underneath a rib fragment (scale bar equals 1 cm).

In the eastern part of the 2009 excavation, under a rib fragment (Fig. 1B) was found a black flint tool (crude ridge flake, Fig. 1C). The tool presents secondary, pretty rough, but clearly visible working. The material used for the tool is locally available (the so-called Prut flint) as pebbles and rubble. A sector covered in gray crust, 3-6.5 mm thick, is present on the distal end of the tool. The maximum dimensions of the flake are: length – 47.1 mm, width – 25.7 mm, thickness – 12.4 mm.

Black flint tools are predominant in the industry layers IV and III from Duruitoarea Veche Cave, both assigned to the Acheulean teyac variety, based on their typology (Chettraru, 1973; Chirica and Borziac, 2005). The following information is given by David and Chettraru (1978) on the mammoth remains from this multi-layered station: “*The fact that bones and teeth are found near the station, more so at the base of the stone crest, allows the assumption that the mammoths were hunted in groups, being directed towards gorges and ravines*”.

The fossil remains recovered so far is represented by: ivory (I2); skull fragment bearing M3 sin. and dex.; mandibulae bearing m3 sin. and dex.; distal humerus epiphysis; ulna; radius (proximal end); fibula sin. and dex.; rib fragments; complete and fragmentary vertebrae; pelvis fragment. Feet bones are represented by: metacarpale I dex., metacarpale III sin., metacarpale IV sin. and dex., metacarpale V sin., metatarsale II dex., cuboideum sin. and dex., lunar bone sin. and dex., magnum dex., naviculare sin., trapezoid sin. and dex., trapezium dex., lateral cuneiform. The age of the *Mammuthus intermedius* (previously assigned to *M. cf. chosaricus* Dubrovo, 1966) individual (following the method proposed by Laws, 1966) is estimated to 36-39 years (Obadă and David, 2008).

Evidence of *M. intermedius* bones being crushed, the presence of the latero-medially flattened ivory, the probably intended positioning of two metapodials under the ivory (probably to maintain the latter in a sub-horizontal position during the hitting that would be made on its lateral surface), and the tool found right under one of the *M. intermedius* ribs, allow at least for the hypothesis that the mammoth skeleton was chopped by the ancient people, which probably inhabited the nearby Duruitoarea Veche Cave, where layers with Acheulean industry were found. The possible hunt of the mammoth by ancient humans is also admitted.

Mammuthus intermedius appears as the peculiar species

of the MNQ 23-26 zone, correlatable with the Singilian and Chosarian large mammal assemblages of Eastern Europe. These zones correspond to a rather wide time span (MOIS 6-12). The absolute age of this time interval is comprised between 470 and 130 ka BP (Markova, 2007). The rehabilitation and acknowledgement of the species *M. intermedius* was made by several authors (e.g. Labe & Guérin, 2005). The age of the mammoth was confirmed by the diagnostic measurements of the molars (lamellar frequency, enamel thickness, the length of a plate, etc.) presented in the paper published by Obadă & David (2008). The age was also confirmed by the typology of the flint tool collected from between the ribs of this mammoth.

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