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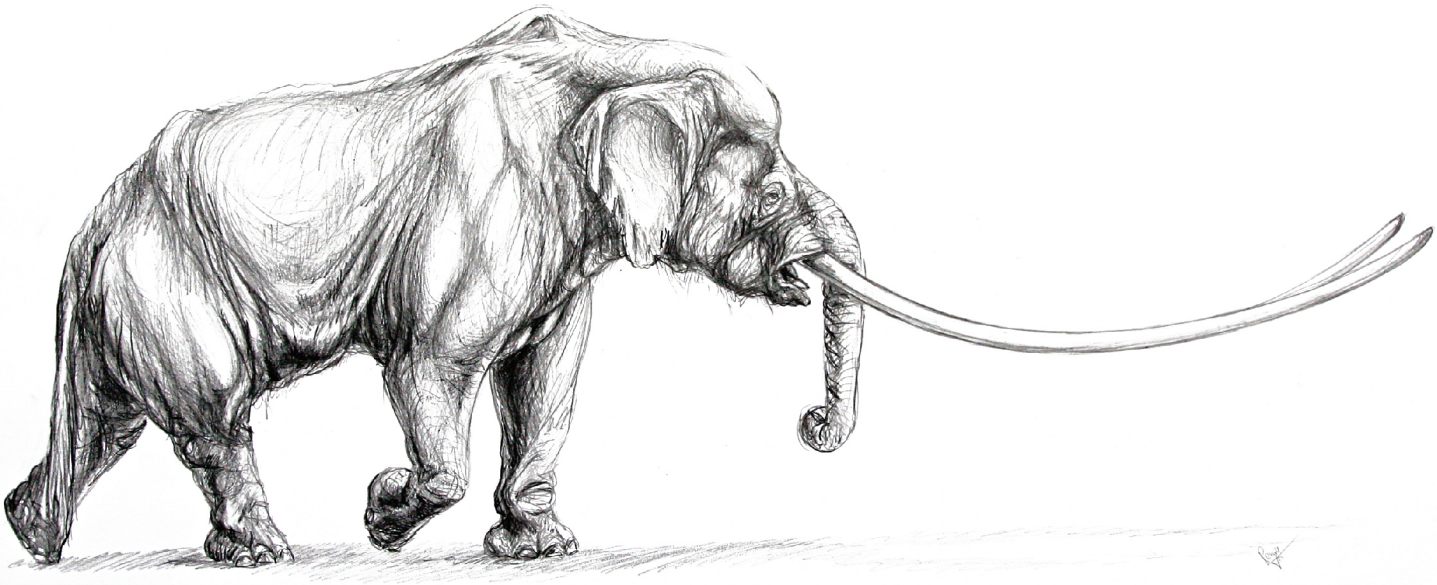

VIth International Conference on Mammoths and their Relatives

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ABSTRACT BOOK

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Convincing evidence of mammoth hunting in the Siberian Arctic between 29,000 and 27,000 ^{14}C years BP (new data from Yana Palaeolithic site)

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Although mammoth hunting by Paleolithic humans has become an iconic reconstruction, definite evidence of mammoth kills by humans remains surprisingly scarce. Here we show convincing evidence of mammoth hunting in the Siberian Arctic between 29,000 and 27,000 ^{14}C years BP or 32,000-34,000 calendar years BP.

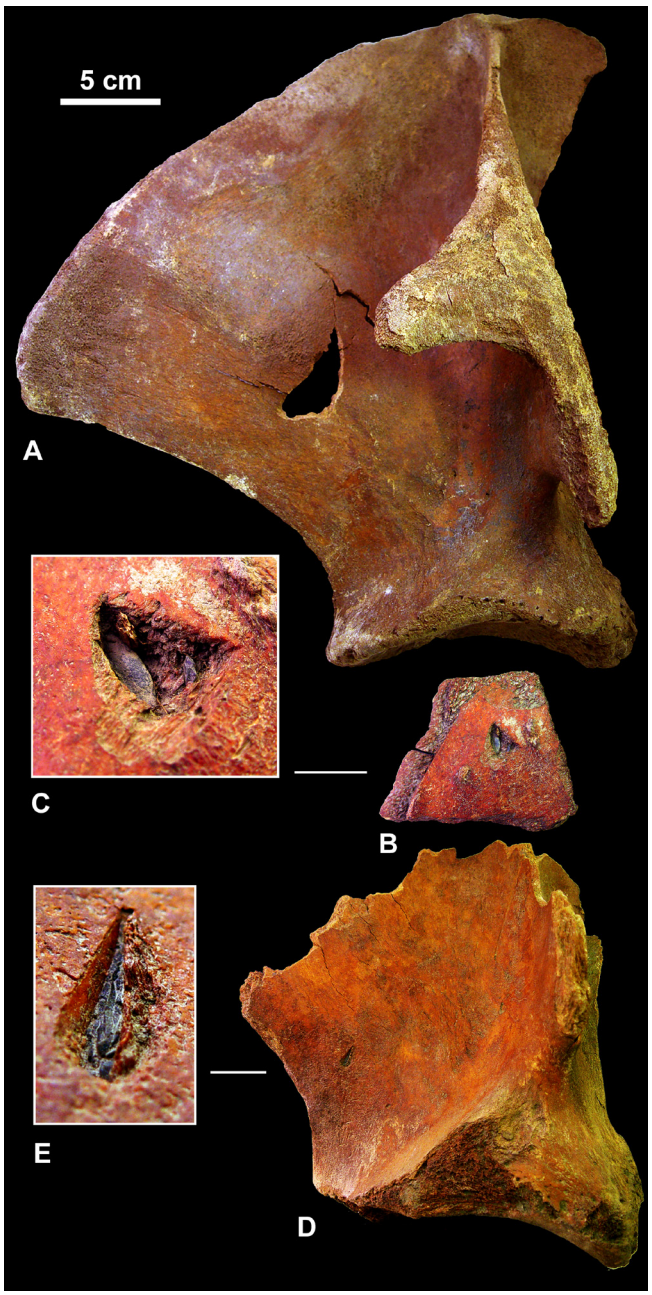

Fig. 1. Open hole left by hunting weapon on the right scapula of a juvenile mammoth (**A**); stone tools embedded in bones (**B-E**): two lithics and an osseous fragment embedded in a fragment of right scapula from a mid-size mammoth (**B-C**), and a tip of a narrow flat-convex siltstone point embedded in another right scapula of a young mammoth (**D-E**). Yana Palaeolithic site, Arctic Siberia, 29000-27000 ^{14}C BP or 32000-34000 calendar YBP (see Nikolskiy, Pitulko, 2013 for details).

In 2008, a mass accumulation of woolly mammoth bones (YMAM) was found near Siberia's northernmost Upper Palaeolithic site (Yana RHS) (Pitulko et al., 2004), on the lower Yana River at 70°43'25" N, 135°24'47" E (Basilyan et al., 2011). The accumulation constitutes a portion of the spatial structure of the Yana site. At least 31 mammoth individuals have been recovered from YMAM. The timing of the YMAM exactly corresponds to that of the cultural layer of the Yana RHS. This, along with the unnatural spatial distribution and the orientation of the bones in the deposits, the peculiarities of preservation, and the composition of skeletal elements in the sample, indicate the anthropogenic nature of the YMAM (Basilyan et al., 2011). At last, during 2009-2013 field seasons convincing proofs of mammoth hunting were obtained from the Yana site (Nikolskiy, Pitulko, 2013) that include fragments of lithic points and ivory shaft embedded in two mammoth scapulae (Fig. 1); two identical holes made by projectiles in a mammoth scapula (Fig. 1) and a pelvic bone; mammoth tongue bones found in the cultural layer far away from the main mammoth bone accumulation, indicating the consumption of fresh mammoth meat; and a narrow mammoth bone size distribution, implying hunting selection based on animal size. The data suggest that humans hunted mammoths sporadically, presumably when ivory was needed for making tools. Such hunting pressure would not be fatal to a sustainable mammoth population (Nikolskiy et al., 2010, 2011; Pitulko, Nikolskiy, 2012), but after the Last Glacial Maximum, when mammoth habitat shrank due to climate changes , such an impact could have become the "last straw" that led to the final extinction of the mammoth.

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