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Radiocarbon chronology of woolly mammoth (Mammuthus primigenius) from Poland

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Many fossil mammoth remains from more than 300 localities have been discovered over last 170 years in Poland. First radiocarbon dates of woolly mammoth from Poland were published in the 1960s and the 1970s. These dates must be regarded with caution due to absence of details of the used methods. Recently, about 40 fossil mammoth remains were radiocarbon dated by accelerator mass spectrometry (AMS) method in the Poznań Radiocarbon Laboratory. Dates are given as an uncalibrated radiocarbon dates (BP) and as calendar dates (cal. BP). The dates range from ca. 52 ka BP to ca. 13,2 ka BP (> 50,0 – ca. 16,1 cal. ka BP) and can be correlated with Oxygen Isotope Stage (OIS) 3 and OIS 2. A new radiocarbon evidence fits into the well known colonization pattern of Mammuthus primigenius in Central Europe and confirms a continuous distribution in the Grudziądz Interstadial (middle Weichselian, OIS 3) and the onset of the Last Glacial Maximum (LGM). On the other hand, the severe climatic circumstances lasting in conventional radiocarbon dates from ca. 22 ka BP to ca. 17 ka BP probably reduced the number of animals or even cased the withdrawal of woolly mammoth from the area north from the Sudetes and the Carpathian Mountains for 4-5 millennia. Only one date ca. 20,3 ka BP (ca. 24,2 cal, ka BP) is available from this time-span. Mammuthus primigenius reappeared in southern Poland ca. 14,6 ka BP (ca. 17,9 cal. BP) but soon had disappeared from this region because of marked reduction in open habitats at the beginning of Late Glacial Interglacial warming (Greenland Interstadial I or Bølling and Allerød) The latest available record from Poland is from Dzierżysław: 13,180±60 BP (ca. 15,600±400 cal. BP).