



PRESS RELEASE

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Discovery of the oldest evidence of human-generated heavy metal pollution

An international team of scientists, including researchers from the Gibraltar Museum and the University of Gibraltar's Life and Earth Science Institute have demonstrated evidence of prehistoric heavy metal pollution in prehistoric cave environments. To get these results scientists have analysed sediment from a number of sites from the Iberian Peninsula, including Gorham's and Vanguard Caves in Gibraltar, and Atapuerca in northern Spain.

In Atapuerca polluted levels have been found associated with guano deposits dating to 450 thousand years ago. In the Gibraltar Neanderthal sites, the polluted levels are associated directly with the activities of the cave occupants themselves. It is the earliest known evidence of heavy metal pollution resulting from human activity. Furthermore, the activities in Gorham's and Vanguard Caves generated pollution resulting from the use of fire inside the caves by the Neanderthals. It is worth highlighting that the contamination levels found would be comparable to "polluted soils" by heavy metals under present-day standards. This is a major step in research and Gorham's Cave therefore now marks an important early marker of the period which has come to be known as the Anthropocene.

The results are published today in the journal *Scientific Reports*, belonging to the *Nature* journal group.