Evidence of Neanderthal ochre production in Navalmaíllo Rock Shelter (Pinilla del Valle, Madrid, Spain)

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Ochre processing and use are considered proxies for detecting complexity and/or the emergence of symbolic behaviour due to the versatility of uses for this material. Apart from its colouring properties, actualistic studies show ochre can also be used, e.g., as an abrasive element for hide treatment, hafting, food preservation and skin photoprotector. The oldest evidence of ochre use can be found in South Africa, in Acheulean contexts associated with early Homo sapiens. It can also be found more frequently in the European Upper Palaeolithic contexts. However, some of the oldest evidence in Europe were recovered in Middle Palaeolithic sites and, except for Roebroeks et al., 2012 [1] with dates of 200-250 ka, the vast majority, are from MIS3. These dates partially overlap with known incursions of AMH into Neanderthal occupied territories (e.g., Mandrin Cave and Bacho Kiro) contributing to the debate on spontaneous invention vs contact or mimicking behaviour. Furthermore, the vast majority of Middle Palaeolithic sites with ochre evidence show traces of ochre or other materials with pigment stains and no clear evidence of ochre processing.

Navalmaíllo Rock Shelter is a Middle Palaeolithic site located in Calvero de la Higuera, a karstic hill located in Pinilla del Valle in the upper Lozoya river valley (Central System of the Iberian Peninsula at c. 1100 m a.s.l.). The valley is of tectonic origin and the Calvero de la Higuera Hill represents an Upper Cretaceous dolomite elevation, surrounded by granitic pop-up structures. The data present the first evidence of possible ochre processing in a Neanderthal context on the Iberian Peninsula, at Navalmaíllo Rock shelf in early MIS 4.