

Dating the last Neanderthals in Central Iberia - New evidence from Abrigo del Molino, Segovia, Spain

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The timing of Neanderthal disappearance in the Iberian Peninsula is a hotly debated subject in Palaeolithic archaeology. Several studies suggested a late survival in South and Central Iberia until about 32,000 year ago (ka), but were probably subject to significant age underestimation due to contamination of dating samples and/or lack of stratigraphic integrity. More recently, Late Neanderthal presence was dated to no later than 38 ka. In Central Iberia, few archaeological sites contain Mousterian levels attesting occupation by Neanderthals. The newly discovered rock shelter of Abrigo del Molino contains chronologically well-constrained Mousterian levels, which, according to radiocarbon dating on bone, place the latest Neanderthal occupation to around 42-44 ka and within Greenland interstadial 11. Accumulation of these levels took place after deposition of fluvial and slope sediments, dated to around 46 ± 3.5 ka using luminescence techniques, and probably correlating with Greenland stadial 13 including Heinrich event 5. Micromorphological evidence of banded sediment fabrics suggests frost dynamics pointing to cold climate conditions during that time in Central Spain. Abrigo del Molino thus provides a detailed and chronologically well-constrained record on Late Neanderthal presence and morphodynamic change in Central Iberia during times of millennial-scale climate changes. The site gives further evidence for an early rather than late disappearance of Neanderthals in Iberia.