

# New dating results for two Lower Palaeolithic sites in France

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Archaeological excavation in 2006 at the Oldowan site of Lunery-la Terre-des-Sablons/ Mathieu Duval

A study published in the journal *Quaternary International*, led by Dr. Mathieu Duval, Ramón y Cajal Research Fellow at the Centro Nacional

de Investigación sobre la Evolución Humana (CENIEH), dates two Lower Paleolithic sites in France based on the use of an unprecedented combination of three dating techniques: electron spin resonance (ESR), luminescence and palaeomagnetism.

"The initial purpose of this study was to refine the chronology of these two sites, which are amongst the oldest evidence of human presence in Western Europe, north of the 45°N latitude, before 500,000 years ago," says Dr. Duval. "They were previously dated using one method only, and we now provide an independent age assessment, based on a multi-technique approach that enables to build a robust chronological framework."

The two archeological sites have delivered lithic tools that are typical of the Lower Paleolithic, the oldest cultural period identified in Europe. The first one, Lunery-la Terre-des-Sablons, provided an Oldowan lithic industry similar to that found at other sites such as Atapuerca Gran Dolina, Sima del Elefante, Barranco León or Fuente Nueva-3 (Spain). Initially dated to about 1.1 million years, the new study indicated a more complex site formation process than thought earlier, and a minimum age of 710,000 years is now proposed for the lithic tools. In contrast, the new age results obtained for the second site, Brinay-la Noira, are in excellent agreement with those obtained previously. They confirm the age of the lithic industry to around 650,000 years, making the site one of the oldest Acheulean [site](#) in Western Europe.

"Nowadays, the number of old archeological sites in Western Europe is still very limited, which is why it essential to obtain at least an accurate dating for those that have been found and excavated so far. These new dating results will undoubtedly contribute to improve our understanding of the timing of the early human settlements in Western Europe," concludes Prof. Josep M. Parés, co-author of the work and Head of the Geochronology and Geology Program at CENIEH.

**More information:** Mathieu Duval et al. A multi-technique dating study of two Lower Paleolithic sites from the Cher Valley (Middle Loire Catchment, France): Lunery-la Terre-des-Sablons and Brinay-la Noira, *Quaternary International* (2020). [DOI: 10.1016/j.quaint.2020.05.033](https://doi.org/10.1016/j.quaint.2020.05.033)

Provided by CENIEH

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