New data on the chronology of the Vale do Forno sedimentary sequence (Lower Tejo River terrace staircase) and its relevance as a fluvial archive of the Middle Pleistocene in western Iberia

The Vale do Forno archaeological sites (Alpiarça, central Portugal) document the earliest human occupation in the Lower Tejo River, well established in geomorphological and environmental terms, within the Middle Pleistocene. In a staircase of six fluvial terraces, the Palaeolithic sites were found on the T4 terrace (+24 m, above river bed) which is made of a basal Lower Gravels unit (LG) and an overlying Upper Sands unit (US). Geomorphological mapping, coupled with lithostratigraphy, sedimentology and luminescence dating (quartz-OSL and K-feldspar post-IRIR290) were used in this study. The oldest artefacts found in the LG unit show crude bifacial forms that can be attributed to the Acheulian. In contrast, the US unit has archaeological sites stratigraphically documenting successive phases of an evolved Acheulian. Luminescence dating and correlation with the Marine Isotopic Stages suggest that the LG unit has a probable age of ca. 335 to 325 ka and the US unit an age of ca. 325 to 155 ka. This is in contrast to previous interpretations ascribing this terrace (and lithic industries) to the Last Interglacial and early phases of the Last Glacial. The VF3 site (Milharós), containing Micoquian (Final Acheulian) industries (with fine and elaborated bifaces), found in a stratigraphic level located between the T4 terrace deposits and a colluvium associated with Late Pleistocene aeolian sands, is younger than 155 ka but much older than 32 ka.

General information
Publication status: Published
Organisations: Center for Nuclear Technologies, Radiation Physics, Universidade de Coimbra, University of Evora, Museu Nacional de Arqueologia, University of Padova, University of Plymouth, Aarhus University
Number of pages: 23
Pages: 204-226
Publication date: 2017
Peer-reviewed: Yes

Publication information
Journal: Quaternary Science Reviews
Volume: 166
ISSN (Print): 0277-3791
Ratings:
BFI (2017): BFI-level 2
Scopus rating (2017): CiteScore 4.51 SJR 2.668 SNIP 1.582
Web of Science (2017): Impact factor 4.334
Web of Science (2017): Indexed yes
Original language: English
Keywords: Acheulean, Fluvial terraces, Geomorphology, Iberia, Luminescence dating, Middle Pleistocene, Palaeolithic, River Tejo
Electronic versions:
20161015JQSR_D_16_00187R1.pdf. Embargo ended: 18/11/2018
DOIs:
10.1016/j.quascirev.2016.11.001
Source: FindIt
Source ID: 2349060072
Research output: Contribution to journal › Journal article – Annual report year: 2017 › Research › peer-review