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Neanderthal highlanders: Las Callejuelas (Monteagudo del Castillo, Teruel, Spain), a high-altitude site occupied during MIS 5

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ABSTRACT

This paper summarizes the current data about the site of Las Callejuelas (Teruel, Spain) and, for the first time, offers an accurate chronological proposal for its human occupations. The AAR dates confirm the chronology deduced after the lithic industry features and link it to some other uncommon Mousterian sites such as Bolomor or Estret de Tragó, which like Las Callejuelas are characterised by the profusion of small-sized tools, resharpened pieces and exhausted cores. Besides the lithic toolkit, a copious assemblage of faunal remains was found: most were large mammals (horses and bovids) that could have been hunted and/or scavenged by the human groups that frequented the site. Its striking high altitude (1400 m asl) is discussed in the final part of the paper, which also proposes a comprehensive review of similar high-altitude Neanderthal occupations in Iberia.

1. Introduction

Las Callejuelas is the highest Mousterian site of SW Europe. This paper aggregates data concerning Neanderthal high-altitude dwelling places in the Iberian Peninsula, a topic that has been marginally discussed (Baena et al., 2005; Sánchez-Yustos and Díez-Martín, 2015) in recent publications. Mourre et al. (2008) have specifically addressed the issue, but they have focused on other geographical regions. A brief summary is offered that reviews the high-altitude Middle Palaeolithic sites in Iberia, in order to contribute to the characterization of the Neanderthal behaviour and relationships with the environment. The scarcity of available data (we include 27 sites that cover a chronological range of at least 100,000 years, with very different degrees of archaeological information, from very little data to exhaustive multi-disciplinary publications) hinders the proposal of general conclusions that could explain why Neanderthals did venture in unfriendly areas even in the coldest periods.

Las Callejuelas is an open-air site located in the margins of the lower part of a small ravine that has been frequented for a long time as a pathway: we could translate callejuelas as “little streets”, a name suggesting that local people walked often through this area. After its discovery in 1974, Father Adrover excavated there from 1975 to 1978, with the main aim of recovering microfaunal remains for his own research, although he mainly found large mammals remains, which he sent for study to several researchers. These first studies were published by Eisenmann et al. (1993). Coincidentally, E. Moissenet told P. Utrilla that some lithic pieces had been found at the site. She proposed M. A. Tilo, who was preparing her PhD concerning lithic raw materials, to work at the site. The first comprehensive paper that included the study of lithic remains was published by Tilo (1994).

In 1999 Utrilla and Tilo continued fieldwork. Now they counted on F. Blasco for the study of the faunal remains and J. L. Peña for the geomorphological characterization, publishing a paper that summarized all the previous research and which should be considered the basis for the study of Las Callejuelas (Utrilla et al., 2004). Recently, Torres and Ortiz have dated some teeth from Las Callejuelas by Amino acid racemization, which allows us to refine our interpretation of the site within the peninsular Middle Palaeolithic context.

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2. Las Callejuelas: site location and features

2.1. Regional and local setting

At a regional scale, Las Callejuelas is located in the Eastern Iberian Ranges, and more precisely in the Mijares River basin, a transition area between two natural regions in the heart of the Iberian Ranges: the Maestrazgo, mainly drained by the Guadalope River, one of the most important tributaries of the Ebro River, and the Gúdar – Javalambre Ranges: these two areas form the south-eastern quadrant of Teruel province (Fig. 1). The Iberian Ranges, reaching 2028 m at Peñarroya, nurture the upper part of the Mijares and other river courses, that form narrow canyons in a plateau that stands at 1200 m asl. The geological background (Peña-Monné et al., 2000a) is one of the more complex and spectacular in the Peninsula: sedimentary Mesozoic and Cenozoic rugged accumulations superimposed over a Palaeozoic ancient platform.

The main feature of Las Callejuelas is its notable altitude: 1400 m asl, in the heart of a territory that nowadays is one of the coldest areas of the Iberian Peninsula. Data from a local weather station offer an average annual temperature of 9.6 °C, with an annual precipitation of only 480 mm. The average temperature during the month of January is 1.9 °C, and monthly mean minimum values of −7 °C are not uncommon (data from Aragón's Statistical Institute).

Locally, the site appears (Fig. 2) next to a ravine that connects two different environments (Utrilla et al., 2004): the southern area is a steppe-like, semiarid terrain that is drained by a small tributary of the Mijares, a short river that drains directly to the Mediterranean. Barely ten kilometres to the northeast are the sources of the Guadalope, one of the main tributaries of the Ebro River from its right. Despite its prominent altitude, the Maestrazgo-Gúdar region is a well-known crossroads that has been frequented by prehistoric people at least since the Middle Palaeolithic to gain access from the Ebro Basin to the southern territories and vice versa. The most important prehistoric sites in the area, besides Las Callejuelas, are Los Toros de Cantavieja (Montes et al., 2006a,b), with Mousterian but also Magdalenian occupations, and Arenal de Fonseca, with Gravettian, Mesolithic and Neolithic archaeological levels (Domingo et al., 2010, 2012).

2.2. Stratigraphic features

The sedimentary fill of the site of Las Callejuelas is composed of a multitude of thin breccia-type layers, strongly cemented by carbonates, alternating with clay horizons that formed in a flooded environment. This feature complicated the archaeological labours: most of the bones had to been consolidated *in situ* to prevent breakage or other damage when removed from the sediment. The clasts that appear in the breccia-type levels did not seem to have been mobilised over a long distance: they presented granulometric

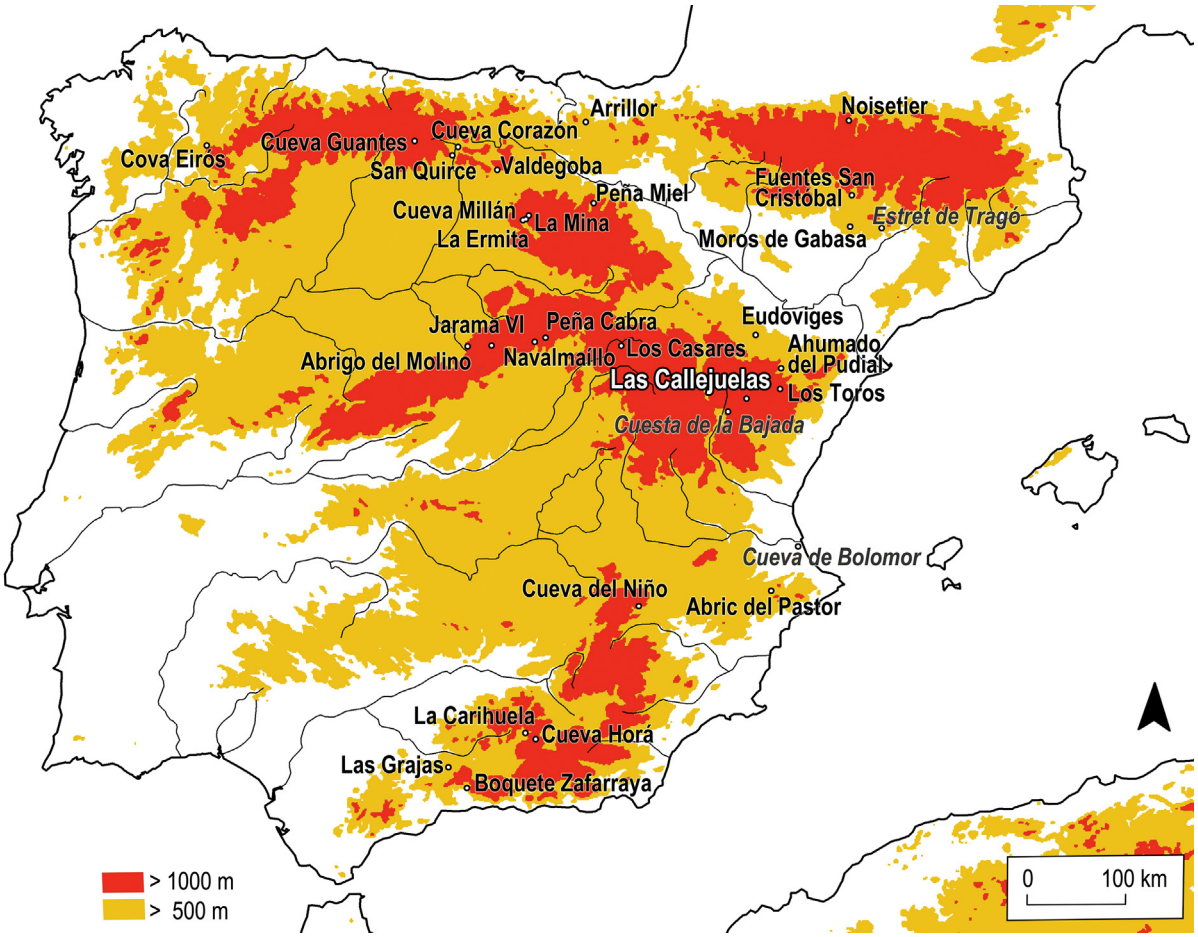

Fig. 1. Las Callejuelas and other Mousterian high-altitude sites cited on the paper. In the base map: red, >1000 m; orange, >500 m asl. In grey and italics, sites related to Las Callejuelas by their lithic industries. Cuesta de la Bajada is located at high altitude but is far older than the period studied here. Bolomor and Estret de Tragó are not located at high altitude but their industries are similar to Las Callejuelas. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

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