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Lithic and osseous artifacts from the Lower Magdalenian human burial deposit in El Mirón cave, Cantabria, Spain

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ABSTRACT

This paper presents a preliminary summary of lithic and osseous artifacts recovered from El Mirón Level 504, whose ochre-stained sediments were associated with a Lower Magdalenian human burial. The lithic artifacts were concentrated to the south of the human remains. Debris indicate that manufacture was focused on late-stage bladelet reduction, which followed preparatory flake or blade removals. The lithic industry is rich in bladelet tools and other Lower Magdalenian diagnostic artifacts that were made on very high-quality flints. Osseous artifacts—principally antler *sagaies*—are highly fragmented, but their attributes are consistent with others known from El Mirón. Lithic and osseous artifacts are typical of the Lower Magdalenian of Cantabria. These artifacts were recovered from a level with significant micro-stratigraphic variation associated with cultural and natural formation processes, leaving unknown how extensively these materials were spatially and/or temporally displaced from their primary discard locations as part of Level 504 deposition. Interpreted as a single unit and compared with those from the underlying Level 505, these burial area materials testify to spatial continuity with the similarly rich Lower Magdalenian occupations identified in the El Mirón mid- and outer-vestibule into the vestibule rear. The artifacts found in Level 504 provide additional evidence that confirm the site's importance as a major Lower Magdalenian residential site in the montane zone of the Cantabrian region.

1. Introduction

El Mirón is a prominent cave located on the western cliff side of Monte Pando in the upper portion of the Asón river valley, outside the town of Ramales de la Victoria (González Morales and Straus, 2005). The site was a location of repeated, functionally complex occupations during the Lower Cantabrian Magdalenian (LCM) period (c. 16–14,500 uncal. BP) (González Morales and Straus, 2005; Straus and González Morales, 2003, 2007, 2009, 2012). LCM deposits are distributed throughout the cave vestibule; these layers are generally thick, dark "chocolate" brown, highly organic deposits of silty clayey loam with limestone *éboulis*, water-worn cobbles, highly fragmented faunal remains (principally red deer and ibex), osseous artifacts, charcoal and ash hearths associated with anvils and fire-cracked rocks, lenses of yellow and red ochers, portable art objects, and high concentrations of lithic materials (Nakazawa et al., 2009; Straus and González Morales, 2012; Straus et al., 2008). The Mirón LCM human burial was discovered in the vestibule rear in a small area (c. 2.5 m^2 for the area with concentrated human remains within a total area of c. 4 m^2) behind a large, engraved block (Straus et al., 2011) (Fig. 1). Straus et al. (in this issue), discuss the "Red Lady's" discovery in detail, including its stratigraphic position, radiocarbon dates, and relationship to other Magdalenian units and materials in El Mirón. The human remains were recovered from a depression—both natural and artificial—and principally from Level 504, with a few being labeled "Level 505 or 506" because of the essential continuity of the sediment matrix between Levels 504 and 505. The burial pit had been dug into Level 505 and then filled with mixed sediments, with what is called Level 504 being fundamentally defined by the presence of abundant red ochre. The red ochre-stained sediments of Level 504 were discontinuous in the southern sector of the area (X and Y6/5), in part because of the presence of rodent burrows, but also because this area was peripheral to the burial *per se*. The stained sediments that both covered and surrounded the human remains contained many lithic and osseous artifacts typical of the LCM at the site, thus,

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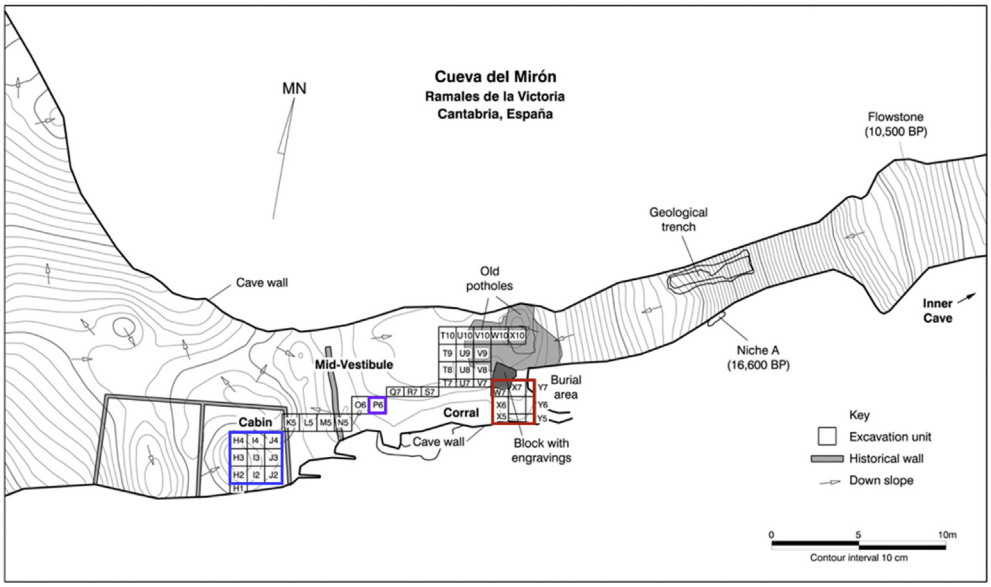

Fig. 1. Plan of El Mirón cave vestibule showing excavated areas. Lower Magdalenian contexts compared are highlighted: outer vestibule Level 15 (blue, located in the "Cabin"), mid-vestibule Level 312 (purple, square P6 in the mid-vestibule area), and rear vestibule Level 504 (red, marked "Burial area"). Cartography by Eduardo Torres, modified by L. Straus, R. Stauber, and L. Fontes.

it is not possible to affirm whether any of the items recovered were "offerings" or "grave goods", although this would seem unlikely. However, because the deposit was first mixed by the digging of the burial pit and was later locally disturbed by rodent burrows, the possibility that some artifacts *might* have been deliberately placed alongside human bones remains plausible (although only 18 lithic artifacts, including ten flakes, two blades, one bladelet, two angular debris, and three tools—a denticulate, truncation, and perforator—had ochre traces and none are "out of the ordinary"). This paper demonstrates that: 1) osseous industries recovered from Level 504 are typical of LCM assemblages; 2) the abundant lithic artifacts indicate multiple manufacture stages using very high-quality flints, and are consistent with inter- and intra-site variability known for the LCM period; and 3) the rich LCM horizon extends to the rear of the El Mirón vestibule. In addition, the lithic assemblage of the burial layer (504) is compared with that of the immediately underlying level (505), with which it was partially mixed when the burial was made.

2. Methodology

Lithic materials less than one linear centimeter in size (except small bladelet tools, which were all individually analyzed) were classified and analyzed collectively as cortical and non-cortical trimming flakes and shatter. Lithic artifacts over 1 cm were analyzed using a combination of individual flake and aggregate methods that recorded various qualitative and quantitative data, including length, width, thickness, weight, patination, burning, and traces of use. All materials were classified using a debris typology that distinguished microdebitage (<1 cm); cortical vs. non-cortical and fragmentary flakes, blades (≥2 cm length), and bladelets (<2 cm); microburins; platform renewal flakes; splintered pieces; uni- and bi-directional crested bladelets; cortical and non-cortical chunks; and various categories of flake, blade, bladelet and mixed cores (following Straus et al., 2008). Raw materials were determined for lithic debris greater than 1 cm in size and for all formals tools using an *ad hoc* reference collection created during 17 years of excavations at El Mirón. This collection includes a total of 66 types of flints, limestones, quartzites, quartzes, calcites, mudstones, and other (rare) materials present at the site. All tools were classified using the de Sonneville-Bordes and Perrot (1954, 1955, 1956a, 1956b) Upper Paleolithic tool typology, which was modified to include "Juyo facies" bladelets as type 90 (instead of traditional Dufour bladelets), a standard typological modification for the Vasco-Cantabrian region, following González Echegaray (1985).

Osseous industries included needle fragments, a perforated tooth, a few perforated shells (described in detail by Gutiérrez-Zugasti (in this issue)), and several fragmentary antler *sagaies*. Bone points were classified as to their portion; base type; cross-section style, including presence/absence of grooves presumably for microlith insertion; and presence/absence of engraved "decorations", which were described, if present. Metric variables (length, width, thickness) were also recorded.

3. Lithic industry

3.1. Lithic materials and densities

The lithic industry from El Mirón Level 504 is a total of 33,600 artifacts: 969 formal tools, 80 cores, 5610 debitage, and 26,941 microdebitage. The overall densities of lithic artifacts in relation to the human remains recovered from Level 504, as well as the lithic contents of underlying Level 505 are presented by sub-square in Fig. 2. Human remains from Level 504 are mostly concentrated in squares X7 and Y7, in the thickest (c.20 cm) portion of the wedge-shaped deposit; only seven elements were recovered from X or Y6 and no remains from the Red Lady were recovered from X/Y5 or W7 (see Geiling and Marín-Arroyo, in this issue). Lithic artifacts were most densely concentrated in X and Y 6/5 (c. 9 cm thick), to the south of the human remains.

Microdebitage, which constitute 80% of the Level 504 lithic assemblage, strongly influence the overall lithic density plots (Figs. 2–4). Larger lithic artifacts, summarized by artifact type in Figs. 3 and 4, confirm the major concentration shown in Fig. 2 in