

EL MIRÓN CAVE (RAMALES, CANTABRIA, SPAIN) DATE LIST V: MIDDLE PALEOLITHIC AND LOWER MAGDALENIAN

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ABSTRACT. This fifth date list for the long cultural sequence in El Mirón Cave (Cantabria, Spain) reports on new radiocarbon assays for the Middle Paleolithic and Lower Magdalenian levels, ranging from about >45 to 15 uncalibrated kyr.

KEYWORDS: caves, bone dating, Magdalenian, Spain.

THE NEW DATES

In order better to date the deepest deposits excavated in the cave of El Mirón and to try to clarify apparent inconsistencies among the many dates for the Cantabrian Lower Magdalenian levels at the rear of the cave vestibule, six samples of medium-size mammal bones (red deer and ibex) from secure proveniences were submitted for dating after paleontological identification. The Oxford University Radiocarbon Accelerator laboratory was used. One sample [from a probably Gravettian-age layer (128)—previously dated by accelerator mass spectrometry (AMS) on charcoal at Geochron Labs to 27.6 uncal kyr] failed due to insufficient collagen preservation. The other dates are from Level 130 ($n = 2$) and one each from three Lower Magdalenian levels (116, 114, and 110—all previously dated by Oxford, Geochron, and/or Georgia). The results are presented in Table 1. Information on the site and the other ¹⁴C dates can be found in earlier articles in *Radiocarbon* (Straus and González Morales 2003, 2007, 2010; Straus et al. 2015) and in Straus and González Morales (2012). The dates now total 89, one of the largest numbers for any single site in Iberia.

It appears that the previous Geochron AMS assay on charcoal from the massive (~1.5 m) colluvial-alluvial Level 130 underestimated the age of this deposit. This horizon yielded small numbers of lithic debris, two notches, scattered charcoal flecks, and faunal remains—many of which were accumulated by carnivores (A B Marín, personal communication, 2016). The OxA-33515 and -33516 dates are in line with a recent trend to push back the age of late Middle Paleolithic (presumably Neanderthal) occupations in Iberia with the application of ultrafiltration on bone samples (Maroto et al. 2012; Wood et al. 2013).

The sample for OxA-33961 was taken from the same square (T7), subsquare (b), level (116), and spit (35) where we had recovered a short, single-bevel base, unilaterally grooved antler point that resembles the Lussac-Angles *sagaie*-type defined in western France (González Morales and Straus 2005: Figure 5.3). This artifact type is considered to be a temporal diagnostic of the early Middle Magdalenian in France, dating to around 16,500 cal kyr (Sauvet et al. 2008; Sauvet 2014), while at El Mirón it seems to date to about 18,800 cal kyr. Nonetheless, G Sauvet has tried to relate the El Mirón level in question with the French phase. In fact, the Lussac-Angles “fossil director” has recently been shown in a thorough analysis to be very poorly dated in France, with the best current estimate being a range between about 14,700–13,800 BP (Delage 2012), while the El Mirón example is now indirectly (but closely) dated to 15,510 BP—well before this range. This would suggest either independent invention of these kinds of projectile points in the two regions at different times, little validity of this type as a temporal marker in

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Table 1 Radiocarbon dates from El Mirón Cave (Ramales, Cantabria, Spain); cal BP dates calibrated with the software OxCal v 4.2 (Bronk Ramsey and Lee 2013) and IntCal13 calibration curve data (Reimer et al. 2013).

OxA	Period	Square	Level	Spit	¹⁴ C date BP (±1σ)	cal BP (±1σ)	δ ¹³ C (‰)	δ ¹⁵ N (‰)	C:N
33515	MP	X10a	130	34	>45,000	—	-19.66	—	—
33516	MP	X10a	130	26	48,200 ± 3300	—	-20.31	—	—
33961	LM	T7b	116	35	15,510 ± 90	18,800–18,940	-20.17	3.0	3.3
33960	LM	U7b	114	24	16,760 ± 90	19,870–20,080	-20.26	2.6	3.3
33965	LM	U7b	110	16	15,660 ± 80	19,020–18,890	-20.37	2.8	3.4

Note: MP = Middle Paleolithic; LM = Lower Magdalenian.

Cantabria, or downward migration of the El Mirón item from an overlying level. The assay coincides with another date for Level 116 from 3 m to the west in the vestibule rear excavation area (15,220 ± 100 uncal BP; GX-23416). Level 116 in adjacent square T8 yielded a fragmentary, striation-engraved scapula very similar to a whole engraved scapula with a striation-engraved red deer hind head from Level 17 in the outer vestibule excavation area indirectly dated to ~15,500 uncal kyr (González Morales et al. 2006). These engraved scapulae are absolutely diagnostic of the regionally distinctive Lower Magdalenian in Cantabria that predates a Middle Magdalenian phase characterized by the appearance of artifacts typical of the Middle Magdalenian of the French Pyrenees (*contours découpés*).

The sample for OxA-33960 in square U7 is nearly identical to GX-28209 (16,460 ± 50 BP), which is from the same Level 114 in a nearby (downslope) square (T10) at the western end of the vestibule rear excavation area. The fact that the new date for Level 114 is older than dates for Level 116 could possibly be due in part to a level-correlation problem during excavation on the west versus east sides of a mass of large rocks (a possible anthropic wall) that extended south-north along the boundary between the U and T rows of squares and into the south section of the excavation area in these levels.

OxA-33965 lies between a pair of “old” and a pair of “young” dates for Level 110, again suggesting level-correlation problems (underestimation of the double slope down toward the west and north) and/or subtle prehistoric disturbances, including hearth construction and trampling. The level has two previous dates of 16.5 and 16.1 uncal kyr in the east and two others of 14.8 uncal kyr in the square immediately north of the location of the OxA-33965 date, which was from the center of the excavation area. Despite the microstratigraphic and possible disturbance problems in the vestibule rear excavation area, it is clear that the classic Cantabrian Lower Magdalenian dates in El Mirón dates between about 16 and 14.5 uncal kyr. It is preceded by a distinct Initial Magdalenian that began ~17 uncal kyr, while the presence of a classic Middle Magdalenian (with *contours découpés*, for example) in the site remains elusive or at best ill defined, since Levels 108–107 in the vestibule rear and Levels 14–13 in the vestibule front lack diagnostic artifacts, though dating between about 14.8 to an estimated 13.5 uncal kyr.

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