

New Neandertal fossils and first data of Middle Paleolithic bird and carnivore exploitation in the Cantabrian Region

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The site of Axlor is located on the northwest slope of the Urrestei mountain (Dima, Biscay, Basque Country). Axlor was discovered in 1932 by the Basque prehistorian J.M. Barandiarán. The first archaeological excavations took place in 1967, and encompassed a total of eight field seasons until 1974 [1]. These excavations revealed a sequence of nine layers (I-IX), in which Middle Paleolithic lithic assemblages were found in levels III to VIII. Ultra-filtered dates obtained from red deer with anthropogenic marks from level IV have yielded results that go beyond the radiocarbon limit [2]. In levels III-V the faunal assemblage is dominated by red deer, large bovinds, Iberian wild goats and, to a lesser extent, horses [3]. There are clear differences in terms of the technological characteristics, percentage of ungulate taxa consumed, and type of occupation of the cave between the upper Quina Mousterian levels (III-VI) and the lower Levallois Mousterian levels (VII-VIII) of the sequence [4]. The current human fossil record known for Axlor is limited to five Neandertal dental remains with a maxilla fragment from the same individual (a young adult) which were recovered from level III-IV [5], though only three of them are curated at the Arkeologi Museoa. In 2005, the re-assessment of the whole Barandiarán collection (coordinated by J.E. González Urquijo) resulted in the recognition of three additional human remains: two teeth and a cranial fragment. Additionally, some other remains were isolated by P. Castaños as potentially human. More recently, we have reassessed the whole faunal collection from Barandiarán's excavation of the site of Axlor. This review has resulted in: 1) the identification of an additional human remain among the faunal remains, 2) the positive identification of a cranial remain among the elements isolated by P. Castaños, and 3) finding the first evidence of bird and carnivore exploitation by Neandertals in the Cantabrian region. All the human fossil remains were studied macroscopically and were micro-CT scanned. The faunal remains were studied using an Olympus SZX10 (stereoscopic zoom microscope) to examine the surface modification on bone remains. The following taphonomic parameters were studied: physical alterations, biological alterations and fracturation type. The evidence of bird and carnivore exploitation comprises cut-marks in two golden eagle remains (a femur in level IV and a tibiotarsus in level V), one raven (an ulna in level IV), one wolf (a radius in level V) and one dhole remain (a femur in level III). Neandertals at Axlor exploited at least a golden eagle and a dhole for dietary purposes. Neandertals were top predators who basically relied on middle-to large-sized ungulates for dietary purposes, but there is growing evidence that supports their consumption of plants, leporids, tortoises, marine resources, carnivores and birds. The Iberian Peninsula has provided the most abundant record of bird exploitation for meat in Europe, starting in the Middle Pleistocene. However, the bird and carnivore exploitation record was hitherto limited to the Mediterranean area of the Iberian Peninsula. Regarding the unpublished human remains found during Barandiarán's excavations, they comprise an adult tooth, two deciduous teeth and two cranial fragments besides the already published three teeth (upper P4, M1 with a maxilla fragment and upper M3 -most probably level IV-) [5]. The new adult tooth is a complete lower right incisor with a marked tuberculum dentale that was found in level V. The two deciduous teeth comprise an upper left first deciduous incisor found in level V and a left upper deciduous second molar found in level IV. The two cranial fragments comprise a larger (c. 6 x 4.5 cm) parietal fragment which was found in level VIII and a smaller occipital fragment from level III. With the new findings, Axlor is currently the site with the largest amount of human fossil remains in the easternmost Cantabrian region.

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