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Neandertal subsistence strategies during the Quina Mousterian at Roc de Marsal (France)

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ABSTRACT

Recent excavations at the cave site of Roc de Marsal (in the Dordogne region of SW France) have yielded several Mousterian assemblages rich in well-preserved faunal remains. The Layer 4 faunal assemblage, associated with a rich Quina Mousterian occupation, provides an opportunity to investigate Neandertal prey selection, transport decisions and reindeer carcass processing strategies. One of the most striking characteristics of the Roc de Marsal Layer 4 faunal assemblage is an apparent lack of spongy parts that cannot be explained by taphonomic processes or carnivore activities. Limb elements were selectively transported to the site, where they underwent considerable further processing, resulting in a notably high degree of fragmentation of almost all elements. Comparison of reindeer carcass processing strategies employed by Neandertals during the Quina Mousterian with those identified for the later periods of the Upper Palaeolithic gives rise to some unexpected interpretations of Neandertal consumption behaviours. We show that this kind of intensive fragmentation is associated with bone grease rendering in ethnographic and Upper Palaeolithic contexts, in most such cases with the aid of fire. However, evidence of fire is remarkably scarce in Roc de Marsal Layer 4. Layer 4 could reflect a systematic Neandertal practice of sucking and chewing on the spongy portions of bones in order to extract as much of the highly nutritious bone grease as possible. Additionally, Roc de Marsal Layer 4 shows examples of use of animal resources for non-alimentary purposes by Neandertals. The abundance of cutmarks on the anterior surfaces of reindeer metapodials seems to indicate the acquisition of tendons, and bones were frequently used as retouchers.

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1. Introduction

Among research on Neandertal behaviour, a prominent question has for long concerned the nature of their subsistence activities, specifically the manner in which they exploited prey

species (e.g. Binford, 1984, 1989; Chase, 1989; Jaubert et al., 1990; Stiner, 1994; Gaudzinski, 1995; Gaudzinski and Roebroeks, 2000; Speth and Tchernov 2001; Costamagno et al., 2006; Rendu et al., 2012). Moreover, how the subsistence strategies of Neandertals and modern humans might have differed remains a key issue. In this contribution, we discuss processing strategies of reindeer carcasses employed by Neandertals and modern humans in southwestern France, through the acquisition of new zooarchaeological data for the Mousterian site of Roc de Marsal and their comparison with data previously acquired for the Upper Palaeolithic. Roc de Marsal deposits include several levels associated with a Quina Mousterian lithic industry that delivered very well preserved faunal remains, heavily dominated by reindeer *Rangifer tarandus*. The richest of these is Layer 4. The large sample size and excellent preservation of the faunal remains from Layer 4 allows detailed investigation of Neandertal food acquisition and consumption behaviour.

2. The Site of Roc de Marsal

The cave of Roc de Marsal is situated in a low cliff along the upper edge of a dry tributary valley of the Vézère River, close to its confluence with the Dordogne River. It is a relatively small cave, but includes a flat terrace from which one has a clear view up and down the valley below (Figs. 1 and 2). The site was first excavated by Jean Lafille from 1953 until his death in 1971 and it is best known for the discovery of the remains of a Neandertal child in 1961 (Lafille, 1961; Bordes and Lafille, 1962; Turq, 1989; Sandgathe et al., 2011a).

More recently (2004 through 2010) excavations by a multi-disciplinary team have resulted in a new stratigraphic sequence, a better understanding of site formation processes, the discovery of large lithic and faunal assemblages, and a series of absolute dates (Guérin et al., 2012, in this issue). Excavation methodology included 3D-point provenancing of all lithic and faunal items that were larger than 25 mm, while smaller lithic and faunal items were recovered via wet-screening of the sediment through 5 mm and 2 mm meshes (for more details, see Dibble et al., 1995).

The deposits include 13 distinct strata (Table 1), although the basal strata (Layers 13 through 10) are either sterile or nearly so and the uppermost stratum (Layer 1) is of Holocene age. Layers 9 through 2 are Late Pleistocene in age and contain significant concentrations of Middle Palaeolithic lithic and faunal remains:

- Layers 9 through 7 are placed by recent TL dates around MIS 4 (Guérin et al., 2012, in this issue). These layers yielded lithic assemblages dominated by high frequencies of Levallois components and lower frequencies of retouched pieces. Layer 7 also has an Asinipodian component (diminutive Levallois products first identified at Pech de l'Azé IV) (Bordes, 1975; Turq, 1979, 1980, 1985, 1988, 1992; Antignac, 1998; Thiébaud, 2003; Dibble and McPherron, 2006; Turq et al., 2008). Layers 9 and 7 are also notable for a significant number of very well preserved combustion features (Sandgathe et al., 2011b; Aldeias et al., 2012; Goldberg et al., 2013).

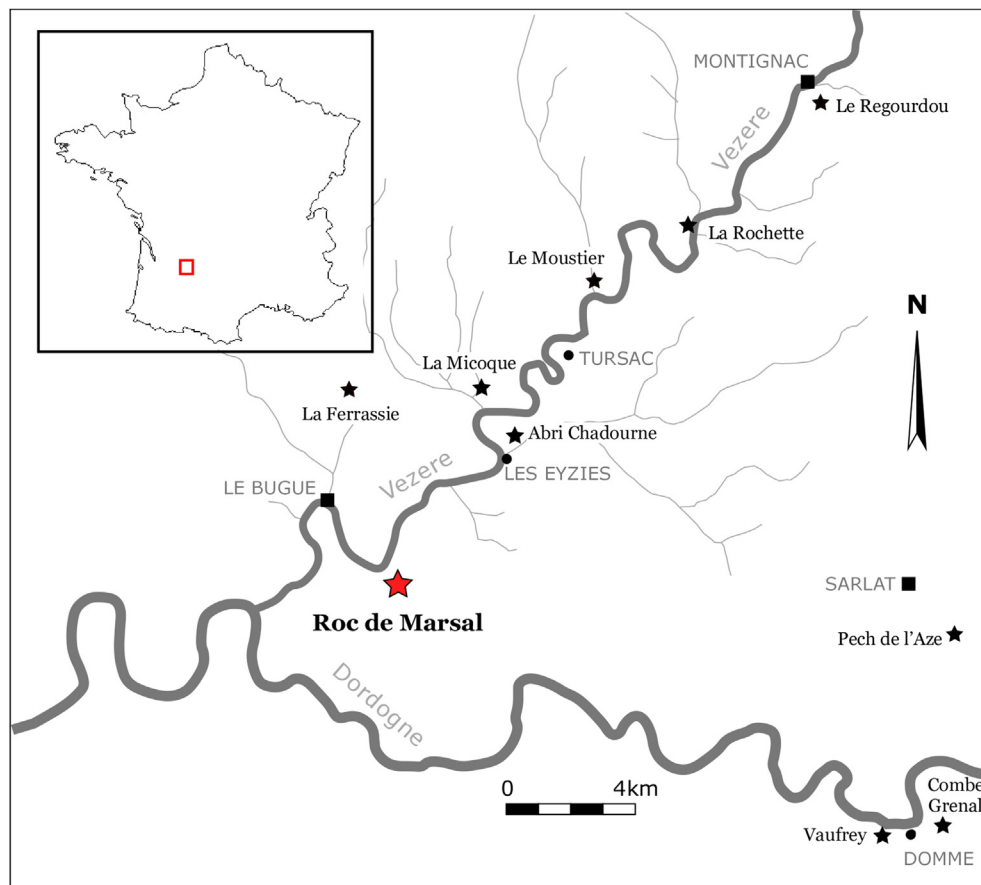


Fig. 1. Location of Roc de Marsal and some of the main Mousterian sites of the region.

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