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Neanderthal and animal karstic occupations from southern Belgium and south-eastern France: Regional or common features?

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ABSTRACT

Karstic systems have preserved abundant archaeological records with well-represented faunal remains due to their sedimentological and topographical features. These particular localities were intensely exploited and occupied by Neanderthal groups. We focus here on Middle Palaeolithic settlements from the Last Glacial Period (MIS 5d-3), which is characterized by marked climatic variability with colder episodes alternating with more temperate periods. The Ardèche region in south-eastern France and the Meuse Basin in Belgium have recently been the focus of regional studies combining archaeological, geological and chronological data in order to bring to light human land-use and subsistence strategies. These two areas comprise multiple rock shelters and caves with Neanderthal occupations dating from MIS 5d to 3. As well as the obvious traces of occupation by Neanderthals, most sites provide evidence of carnivore occupations (e.g., cave bears, cave hyenas or wolves). Each of these habitation sites presents a specific topography and type of occupation and most of them reveal behavioural homogeneity within their sequences.

By comparing data from faunal accumulations in these two related areas, separated by a distance of about one thousand kilometres, we attempt to gain a better understanding of the driving forces behind Neanderthal and animal occupations of karstic networks. Do regional land-use patterns exist in different European karstic localities or can we perceive common features related to the geography and topography of the sites?

1. Introduction

Karstic systems, due to their topographical features, often contain abundant archaeological records, including well-preserved faunal remains and thus represent ideal settings for studying the human management of a specific type of landscape. These systems were used by a great variety of inhabitants: Hominins, such as Neanderthals, as well as small, medium and large carnivores or even ungulates, and especially small bovids. The latter are known to visit caves to seek shelter during bad weather or for other reasons, such as looking for salt outcrops, and can die naturally inside, trapped by snowdrifts or by falling into pits (Couturier, 1962; Blant et al., 2012; Griggo, 2015).

Distinctions between types of human occupation and land-use patterns are accessible through regional studies, by taking into consideration the covered territory (climate, biotopes, mineral resources, etc.), as well as the faunal and lithic data from each site (Gamble, 1998; Patou-Mathis, 2000; Szmidt, 2003; Valensi and Psathi, 2004; Burke, 2006a; Daujeard and Moncel, 2010; Delagnes and Rendu, 2011; among many others). By way of example, the study of the use of karstic landscapes by Neanderthals on a regional scale has been previously investigated: in south-eastern France (Daujeard and Moncel, 2010), in Swabian Jura (Conard et al., 2012; Kitagawa et al., 2012), in Western Crimea (Patou-Mathis, 2000; Burke, 2006b) or in the north-western Caucasus (Hoffecker and Cleghorn, 2000), among others. All these regional studies have

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yielded valuable data on Neanderthal ecology and mobility patterns, reflecting the planned exploitation of seasonally available resources, as well as more opportunistic behaviours represented by the procurement of mainly local raw materials within a reduced territory.

The goal of this study is to compare two karstic areas 1000 km apart, which both include various rock shelters and caves with Middle Palaeolithic occupations dating from the Early Glacial to the Middle Pleniglacial Period (MIS 5d-3) (Fig. 1).

Our geographical areas are the south-eastern Massif Central region in France and the Meuse Basin in Belgium (Fig. 2). They are both karstic areas and have been the focus of recent regional studies combining archaeological, geological and chronological data (Daujeard and Moncel, 2010; Di Modica, 2010; Toussaint et al., 2011a; Pirson et al., 2012; Moncel et al., 2015). Our comparison of cave and shelter occupations by Neanderthals and various animals is mainly based on faunal collections from a sample of sites for each of the two regions, compared with the cultural features of each assemblage.

By comparing data from faunal accumulations in these two related areas, we attempt to gain a better understanding of the driving forces behind Neanderthal and animal occupations of karstic networks. Do regional land-use patterns exist in the different karstic localities in Northern and Southern Europe or can we perceive common features related to the geography and topography of the sites?

2. Site presentation

2.1. Chronological and environmental frameworks

2.1.1. General overview

Radiometric dating and biostratigraphy provide a chronological timespan for the selected sites (Fig. 1). On the one hand, some of these sites are related to the Early Glacial Period (MIS 5 d-a): Unit 5 of Scladina Cave (Pirson et al., 2014a), Layer CV-2 of Walou Cave (Pirson, 2011) for Belgium, as well as the lower levels of Abri du Maras, Abri des Pêcheurs and Barasses II for France (Masaoudi et al., 1994; Moncel and Michel, 2000; Richard et al., 2015). On the other hand, most of the series relate to the end of the Lower Pleniglacial and to the Middle Pleniglacial (MIS 4-3). This is the case in Belgium for Layer CI-8 of Walou Cave (Pirson, 2011), Layer II of Trou de l'Abîme in Couvin (Toussaint et al., 2010), Unit 1A of Scladina Cave (Pirson et al., 2012), as well as the Spy Neanderthals and part of the Spy Cave cultural sequence (Di Modica et al., 2013; Semal et al., 2013a). In France, Le Figuier, level 4 of Abri du Maras and the

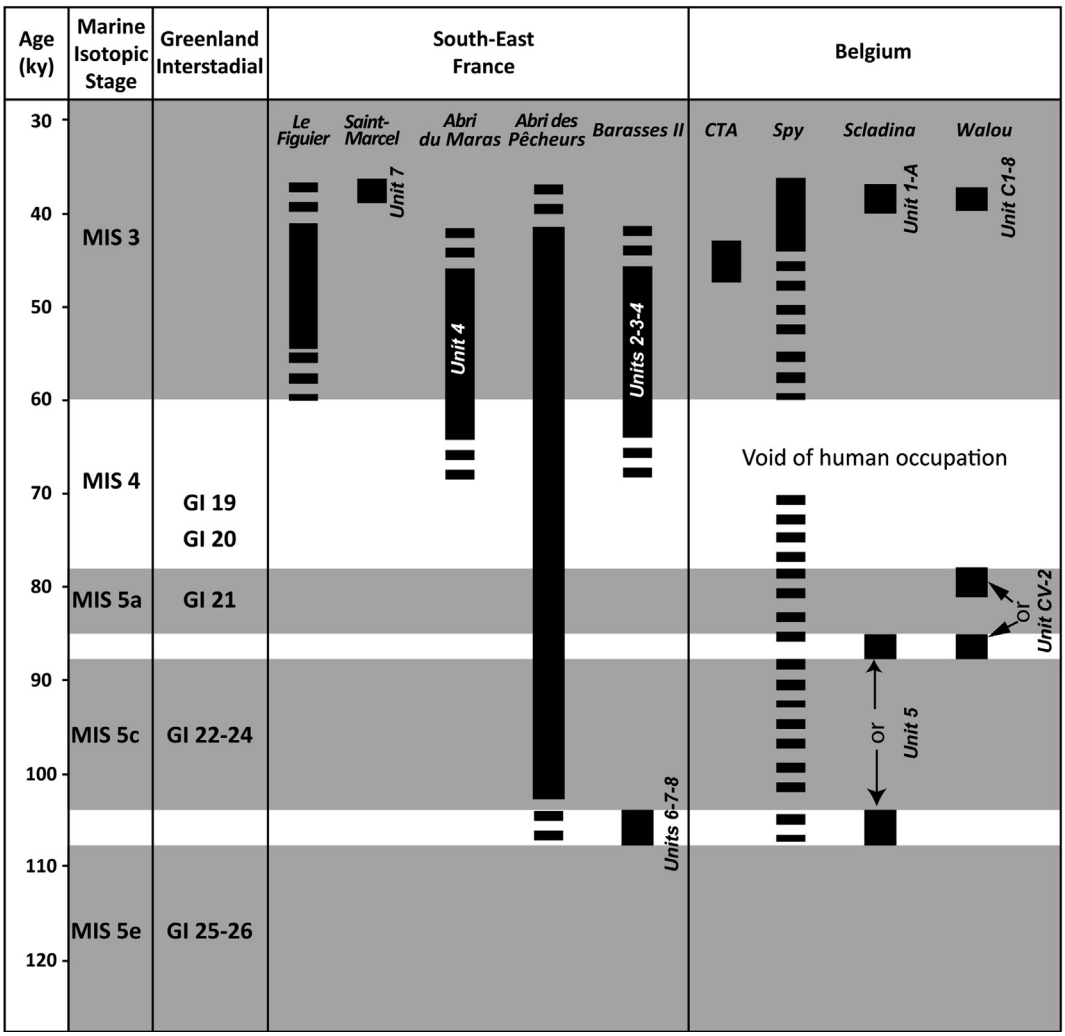

Fig. 1. Chronological timespans of the various studied levels positioned according the Greenland ice core chronology (GI) (from Rasmussen et al., 2006, 2014). Discontinuities in sedimentation and occupations over time are not taken into account in this scheme (CTA: Trou de l'Abîme in Couvin).

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