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# Middle Paleolithic bone retouchers in Southeastern France: Variability and functionality



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## ABSTRACT

Diversity in the used bone found in the European Middle Paleolithic is very low, but bone retouchers are the most abundant and the most common. This paper focuses on the detailed study of numerous bone retouchers found in nine Middle Paleolithic sites bordering the French Massif Central in Southeastern France. Multidisciplinary and recent data on chronology and biostratigraphy on the archaeological sequences and the great number of bone retouchers have permitted a meaningful comparative regional analysis. Their occurrences and characteristics allow us to speculate about the skills and choices of the knappers using these bone tools, for instance deliberate selection or opportunistic choices within the butchery remains, as well as commenting on the length of time and the way that sites were occupied. Furthermore, in most of the studied layers we observed a strong disparity between the abundance of bone retouchers and the number of retouched lithic products presents, raising questions about their function and their role within the stone tool reduction sequence (primary retouching, resharpener stone tool cutting-edges, producing marginal and micro-retouch or in some cases semi-Quina retouch). Results are compared with a large European database, allowing us to discuss the characteristics of the bone retouchers in the Neanderthal world.

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## 1. Introduction

With the exception of some rare specialized elements from Châtelperronian, Uluzzian, or earlier Mousterian layers (e.g. Baffier and Julien, 1990; d'Errico et al., 2003, 2012a; Soressi et al., 2013), there is no great diversity in the range of used bone found in the European Middle Paleolithic. Bone retouchers are the most numerous. Retouchers are bone or dental fragments bearing diagnostic features resulting from their use in lithic tool-making. These include "deep, short, sub-parallel, closely clustered grooves, V-shaped in cross section" (Chase, 1990). The first records of bone retouchers occur in Leguay (1877), Daleau (1883) and Henri-Martin (1906, 1907, 1907–1910) who noted their occurrence in the faunal assemblage from the site known as La Quina (Charente, France).

Henri-Martin described them as bone pieces exhibiting use wear consisting mainly of striations at their extremities and he discussed several hypotheses regarding their function (Beaudoin et al., 1906). Recently, Patou-Mathis and Schwab (2002) provided a broader definition for bone retouchers as "fragments of teeth, long bones, phalanges or ribs of big mammals, which present on their exteriors one or more impressed areas, related to crushing marks, and/or cupules, and/or striations, made by impact against a sharp and hard artifact."

Few bone retouchers are known in Lower or Lower to Middle Paleolithic assemblages in Europe, where they are generally described within the faunal assemblages. Examples include Box-grove (MIS 13; Smith, 2013); Caune de l'Arago (MIS 12; Moigne, 1996); Gran Dolina – TD10 (MIS 10–9; Rosell et al., 2011); Orgnac 3 (MIS 9; Sam, 2009; Moncel et al., 2012); Cagny-l'Épinette (MIS 9; Lamotte and Tuffreau, 2001); Bolomor Cave (MIS 9; Blasco et al., 2013); Biache-Saint-Vaast (MIS 7; Auguste, 2002) and Le Lazaret (MIS 6; Valensi, 1994). For the Middle Paleolithic, many more sites have yielded bone retouchers, some in much larger amounts. Their

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numbers and the degree to which each was used vary across the sites in which they occur in France, or elsewhere. They have been recovered from excavations at La Quina (Henri-Martin, 1906, 1907, 1907-1910; Vincent, 1993; Valensi, 2002a,b; Malerba and

Giacobini, 2002) and Artenac in Charente (Armand and Delagnes, 1998); Jonzac in Charente-Maritime (Beauval, 2004; Jaubert et al., 2008); grotte Vaufray, Combe-Grenal (Vincent, 1993) and La Micoque (Langlois, 2004) in Dordogne; Noisetier cave in Hautes-



**Fig. 1.** Location of the principal Middle Paleolithic sites on the edges of the Rhône valley (adapted from Tessier, in Daujeard et al., 2011).

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