ARCHAEOMETRIC STUDY OF SHELLS OF HELICIDAE FROM THE EDERA CAVE (NORTHEASTERN ITALY)*

L. BONIZZONI,† S. BRUNI,‡ A. GIROD‡ and V. GUGLIELMI†

1Dipartimento di Chimica Inorganica, Metallorganica e Analitica, Università degli Studi di Milano, via G. Venezian 21, 20133 Milano, Italy
2Laboratorio di Malacologia Applicata, via Savona 94/a, 20144 Milano, Italy

The Edera Cave, near Aurisina in the Trieste Karst, retains a stratigraphy that extends from the Mesolithic to the modern era. At Sauvetterian layers, many specimens of Helix cincta are present, which are considerably crushed, and a small percentage of which are also blackened. Chemical analyses show that the blackened specimens were exposed to a temperature of between 500 and 550°C, and suggest that many others were destroyed by fire at temperatures of above 700°C. Consequently, only a part of the Helix cincta shells is assumed to be the residue of human meals, since several factors render plausible an accidental combustion of shells already present in the ground before the lighting of Mesolithic hearths.

KEYWORDS: HELICIDAE; EDERA CAVE; MESOLITHIC; ALIMENTATION; FOURIER TRANSFORM INFRARED SPECTROSCOPY; X-RAY DIFFRACTION

INTRODUCTION

The Edera Cave, near Aurisina in the Trieste Karst, has been the subject of many contributions, which since 1970 (Marzolini 1970) have embraced several aspects of archaeology and related disciplines, such as geoarchaeology, palaeobotany and archaeozoology.

The most recent works refer to the research conducted under the direction of P. Biagi and B. Voytek, which was resumed in 1990 and terminated in 2001. The stratigraphy (Table 1) extends throughout the Holocene, from the Mesolithic (layers 3, 3a, 3b, 3c and 3d) to the Bronze Age (layer 1b) and the modern era (layer 1a) (Boschian and Pitti 1984; Biagi et al. 1993; Biagi and Voytek 1994; Spataro 1997–8; Biagi and Spataro 1999–2000a,b; Boschian and Montagnari-Kokelj 2000; Boschin and Riedel 2000; Delfino and Brasini 2000; Nisbet 2000; Biagi 2003; Biagi et al. in press). For the description and further details of the stratigraphic sequence, the reader is referred to the specific bibliography (Biagi et al. 1993, Biagi 2003; Biagi et al. in press).

The main radiocarbon dates (Table 1) are taken from previous publications (Biagi 2003; Biagi et al. in press) and subsequent updates (Nisbet 2005 pers. comm.; Voytek 2006 pers. comm.). Important information on the location of structures, hearths and ash heaps may be obtained above all from the excavation notebooks (Voytek 1992–2001). In the above-mentioned bibliography, some references to marine molluscs and land snails may be found. Finally, there exists a quantitative and spatial analysis on the contents of land snails of the

*Received 29 May 2007; accepted 21 December 2007
†Corresponding author: tel. +39 0250314393; fax +39 0250314405; e-mail silvia.bruni@unimi.it
‡Corresponding author: tel. +39 024239888; fax +39 02700432874; e-mail fraberto.girod@fastwebnet.it
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