



Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

Breaking the waves: Human use of marine bivalves in a microtidal range coast during the Upper Pleistocene and the Early Holocene, Vestíbulo chamber, Nerja Cave (Málaga, southern Spain)



Jesús F. Jordá Pardo ^{a,*}, J. Emili Aura Tortosa ^b, Bárbara Avezuela Aristu ^a,
Esteban Álvarez-Fernández ^c, Alfonso García-Pérez ^d, Adolfo Maestro ^e

^a Laboratorio de Estudios Paleolíticos, Departamento de Prehistoria y Arqueología, Facultad de Geografía e Historia, Universidad Nacional de Educación a Distancia, Paseo Senda del Rey 7, E-28040 Madrid, Spain

^b Department of Prehistoria i Arqueologia, Universitat de València, Avda. Blasco Ibáñez 28, E-46101 València, Spain

^c Departamento de Prehistoria, Historia Antigua y Arqueología, Facultad de Geografía e Historia, Universidad de Salamanca, Calle Cerrada de Serranos s/n, E-37002 Salamanca, Spain

^d Departamento de Estadística, Investigación Operativa y Cálculo Numérico, Facultad de Ciencias, Universidad Nacional de Educación a Distancia, Paseo Senda del Rey 9, E-28040 Madrid, Spain

^e Departamento de Investigación y Recursos Geológicos, Instituto Geológico y Minero de España, Calle Calera, 1, Tres Cantos, E-28760 Madrid, Spain

A B S T R A C T

Keywords:

Molluscs
Bivalves
Shell midden
Upper Palaeolithic
Upper Pleistocene
Southern Iberia

This paper presents the results obtained from the study of the bivalves recovered during the archaeological excavations in the Vestíbulo chamber of Nerja Cave (Málaga, southern Spain) carried out by Professor Francisco Jordá Cerdá between 1983 and 1987. These excavations recovered the archaeological record of the sequence from the Gravettian to the Neolithic. The mollusc remains from the Vestíbulo chamber of Nerja Cave record constitute an extraordinary collection, composed of more than 136000 specimens which correspond to more than 78 kg. In this work, only marine bivalves were studied. The bivalve remains are more than 124000 specimens, corresponding to more than 65 kg from 31 taxa. More than 115000 of these specimens (59 kg) are derived from the shell midden dated to GS 1. The archaeological record of Nerja Cave is distinguished by the abundant presence of human-provided marine and continental molluscs with a high presence of bivalves. Marine bivalves increased clearly from the LGM to the mid-Holocene, and the human inhabitants of the cave accumulated an important shell midden in the contact between MIS 2 and MIS 1.

© 2016 Elsevier Ltd and INQUA. All rights reserved.

1. Introduction

One of the remarkable features of the prehistory of the Western Mediterranean is the consumption of marine resources during the Upper Pleistocene. Their exploitation is associated, at least, with two populations (Neanderthals and anatomically modern humans) and shows an uneven path, according to the morphology of the continental margin and the effects of the sea level rise, upon the preservation of archaeological sites.

In southern Europe, there are references to the use of marine resources prior to MIS 8, but most are from post-MIS 6, concentrated mainly between MIS 2 and 1 (Erlandson, 2001; Cleyet-Merle and Madelaine, 2005; Ramos and Cantillo, 2009; Álvarez-Fernández, 2010; Jordá et al., 2010; Colonese et al., 2011; Brown et al. 2011; Marean, 2014; Aura et al., 2013; Álvarez-Fernández, 2015). Most of the Western Mediterranean sites are caves and rock shelters, located on the same coastline, or only a few kilometers apart. The identification of mollusc remains is the most common reference, although the presence of other marine resources is also cited. This work is a contribution to the knowledge of marine molluscs, in particular bivalves, from one of the most emblematic South Western Europe prehistoric sites: Nerja Cave.

* Corresponding author.

E-mail addresses: jjorda@geo.uned.es (J.F. Jordá Pardo), emilio.aura@uv.es (J.E. Aura Tortosa), barbara@bec.uned.es (B. Avezuela Aristu), estebalfer@hotmail.com (E. Álvarez-Fernández), agar-per@ccia.uned.es (A. García-Pérez), a.maestro@igme.es (A. Maestro).