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# Bone tools for the deceased: Approaches to the worked osseous assemblage from the Bronze Age funerary cave of Biniadris (Menorca, Spain)

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ABSTRACT

Around 3400 years ago, extraordinary funerary practices and rituals were practiced at Biniadris Cave, located on the side of a cliff face on the island of Menorca (Spain). Both women and men of different ages were buried inside this natural cavern measuring approximately 10m2. Thanks to the preliminary fieldwork carried out during 2014, a wide range of personal objects comprising personal objects and clothing came to light in addition to the human bones. At present, among them, there is an assemblage of fourteen V-perforated buttons, at least eleven of which are made from bone and at least three from wild boar tusk. All these items display a great uniformity in their morphology in terms of what could be seen when they were worn. There is, however, no standardization regarding the width and placement of the perforations. Following microscopic analysis, it is clear that these were personal objects used over the long-term and placed with the dead as dress accessories during the funeral ritual itself. Furthermore, the use of ochre as an additional decorative element was observed, covering most of the surface of these buttons.



## 1. Introduction

Hundreds of caves feature in the natural landscape of the island of Menorca (Spain). Of special note are the caves that witnesses social and symbolic rituals within their walls (Armentano et al., 2012; Simón et al., 2012). An extraordinary example is the funerary territory of Calescoves, placed within the municipality of Alaior. Here, several excavations and research work have been carried out since the decade of 1960s (Veny, 1982). Around one hundred of cavities have been discovered, including the cave of Biniadris, located some 2 km far from the coastline. Biniadris, together with the caves of Mussol, Cárritx and Pas, is distinguished for the impressive conservation and pattern of very particular funerary rituals discovered within them (Fig. 1). The main aim of this paper is to present the results obtained after the first field-works at the site of Biniadris, within the framework of a research project supported by the Rubió i Tudurí Foundation, of Menorca.

The first work at Biniadris Cave did not take place untill 2013, when a group of speleologists leaded by Pere Arnau entered the cave through a monumental megalithic entrance and explored the grotto. Initially, they thought it was a cave previously known as Cova des Gegant (Veny, 1982). However, they soon realized that had discovered a new archaeological site scarcely 5 m away from the entrance of the cave found by C. Veny. Hence the initial confusion.

Access to Biniadris Cave is hard to reach given its location on a vertical cliff, similarly to the previously mentioned cave sites of Mussol, Cárritx and Pas. Thus, and in order to reach the entrance and carry out an excavation, it was necessary to build a 10-m high scaffolding structure (Fig. 2). Nonetheless, the burial area in the central inner area within the cave proved to have been desecrated at least once sometime in the past. Despite this fact, the rest of the cave seems to have remained unaltered since the last ritual practises took place inside the cavity around 3400 years ago.

Biniadris Cave is an exceptional site. Firstly, the archaeological record displays extraordinary preservation. Second the variety and high quality of the material culture deposited with the dead is outstanding. The first archaeological season, from June to July 2015, brought to light a wide range of materials from human and animals bones, wood, textiles and organic remains, hard osseous and metal objects, etc. Most of them were unearthed during excavation,

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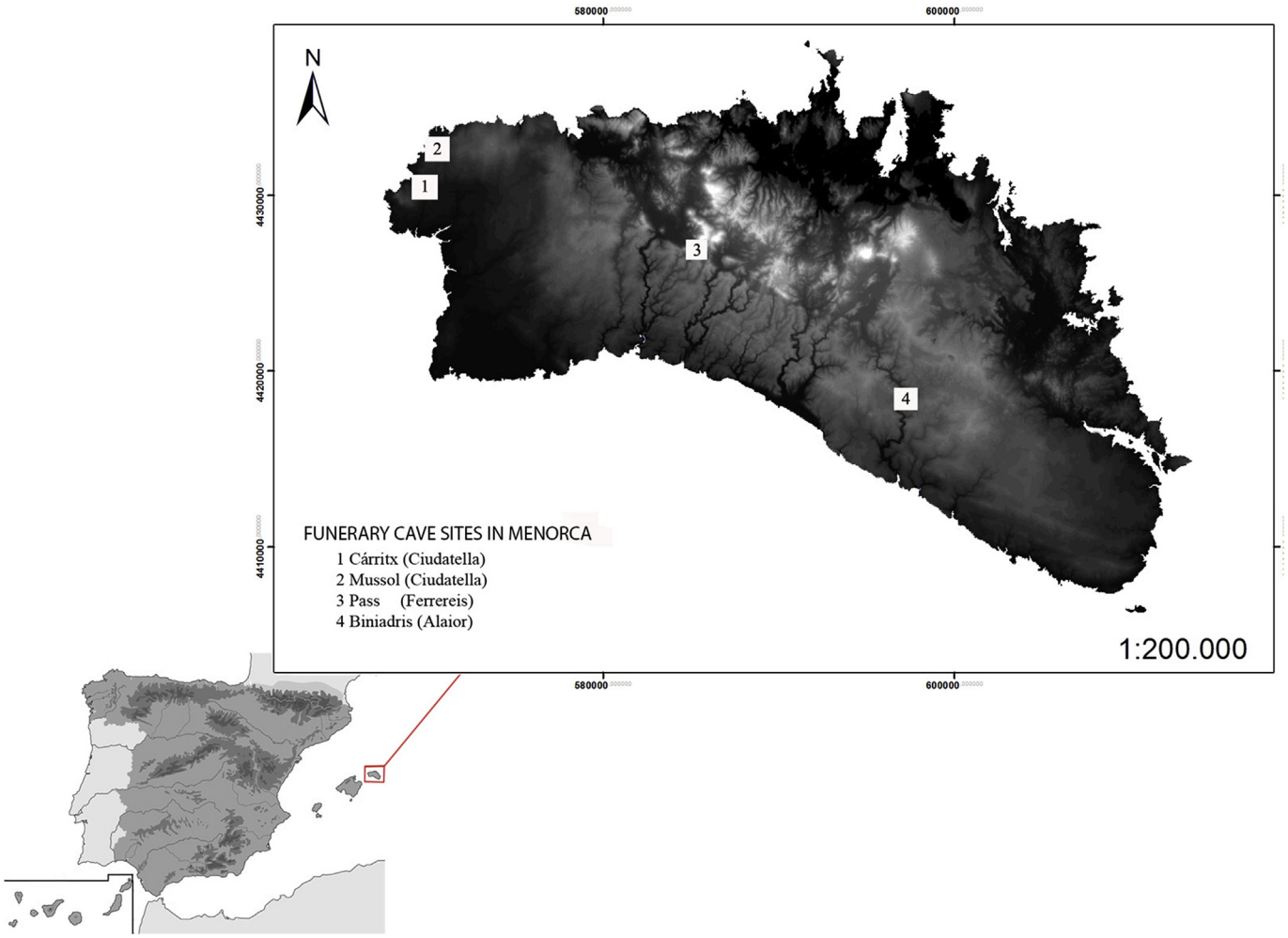


**Fig. 1.** Funerary cave sites in the island of Menorca, Spain.

although some others were recovered thanks to the careful flotation of 100% of the sediment from the cave. At present, all these objects are being analysed by a large international research team. This article, therefore, only presents some preliminary results.

## 2. Biniadris Cave: a unique archaeological record

### 2.1. Geography and geology

The Biniadris Cave site is located on the eastern edge of the ravine with the same name. Together with others ravines called as Lloc Nou des Fasser and Sant Domingo, this ravine leads into the archaeological area of Calescoves, in the central part of the island. Theses cliffs are located in the central part of an area known as Migjorn, where the tabular Upper Miocene formations are raised due to the existance of several faults and geological processes that took place during Pliocene-Pleistocene epochs (Pomar et al., 2002).

Biniadris is a natural cave which has been scarcely modified by human activity. The cave seems to be an endokarstic formation which appears as an aperture hanging on the upper rock wall, without water circulation or much human modification. Its origins may be connected to a moment when both the phreatic level and the level of the stream bed where at a similar height where the cave is placed today (Trias, 2004).

The cave was formed by various geologic working on a rudstone formation. Analysis carried out using a binocular microscope have shown the presence of different fossil remains comprising red algae (Rhodophyta), bivalves, echinoids, foraminifera and some quartz lithoclasts. Some macrofossil remains have also been documented, including Pecten and a shark tooth fragment.

### 2.2. Inner structure and context of Biniadris Cave

The cave is located 10 m from the ground on brow of an overhanging cliff, making it difficult to access since prehistoric times (Fig. 3). When the caves in use, the local population might have reached the entrance of this funerary and ritual place by two different ways. Firstly, people might have used ropes to lower themselves down from the upper part of the cliff. The second option might have been by building some wooden scaffolding structure from the bottom of the cliff. Neither the first nor the second system would have allowed them to reach the cave easily, specially if they were burdened with the bodies of their deceased.

Regarding the entrance to the cave, the first thing that strikes observer is an impressive cyclopean stone gate made from large stone slabs reminicient the entrance to some of the megaliths that we can still be seen today in the Iberian Peninsula and elsewhere in Europe as well. The people who built it tried to camouflage it with the brow of the rock cliff in what was perhaps an attempt to avoid the tomb being robbed. The tomb builders used a dry stone method

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