

UNDERSTANDING PALEOLITHIC HUMAN COASTAL ADAPTATIONS IN SOUTHWESTERN IBERIAN PENINSULA (PALEOCOAST PROJECT).

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ABSTRACT

The geological and geomorphological formations in the Atlantic shore of Southern Portugal in Algarve are characterized by karstic formations. Karstic features, such as natural caves and shelters, have long been seen as an attractive ecological and geological landscape to early human occupation during the Pleistocene and Early Holocene. The project PaleoCoast, Paleolithic Human Coastal Adaptations in Southwestern Iberian Peninsula, aims to locate and identify coastal karst formation, and assess its speleological and geological characterization, and archaeological potential. This poster introduces the PaleoCoast research project, including research scope, goals and methods, and an overview on the preliminary results from the pilot study conducted in 2017.

INTRODUCTION

The geological and geomorphological formations in the Atlantic shore of Southern Portugal in Algarve are characterized by karstic formations (e.g. Machado & Machado 1948). During the last decades, archaeological investigation in this region has shown that prehistoric human populations occupied this territory from the Late Pleistocene to the Early Holocene (e.g. Bicho 2004, Gomes & Silva 1987). The project PaleoCoast aims to locate and identify coastal karst formation, and assess its speleological and geological characterization, and archaeological potential. From the archaeological perspective, the research scope is focused on studying human ecological adaptations in the coastal environment of Southwestern Iberia during the Paleolithic.

The PaleoCoast is a parallel project under the research umbrella and in integration with two broader projects: 1) the “ProPEA – Património Espeleológico do Algarve” (Algarve’s Speleological Heritage), coordinated by F. Tátá Regala; and the 2) “Carta Arqueológica do Concelho de Vila do Bispo” (Archaeological mapping), coordinated by R. Soares. Integrated in both projects, the PaleoCoast is geographically focused on the coast territory of the Vila do Bispo, Raposeira, Budens and Sagres (Vila do Bispo municipality) on the SW tip of Algarve, including archaeological survey on both maritime and karst formations across the shore.

Project field work started with a pilot study of two weeks in June 2017, aiming to:

- Develop specific training for scientific diving applied to archaeological survey;
- Identification of non-submerged cave galleries, which might contain preserved archaeological deposits;
- Documentation and preliminary classification (based on visual deposit preservation, presence of artifacts on surface, or any other archaeological evidence) for all identified caves,
- GIS mapping of all archaeological and speleological sites,
- Preliminary results and evaluation of the project objectives for the next years, based on the identification of the sedimentary deposits that show high archaeological potential.

METHODS

This project is characterized by a multidisciplinary approach, and research methods included the elaboration of a speleological potential chart overlaying and articulating different factors such as geology, geomorphology, hydrodynamic, karst formations and other geologic features. Combining terrestrial (i.e. shore) and underwater archaeological work, the field work in 2017 was focused on high intensive survey was focused on two main geological settings where Jurassic limestone formations are present: 1) the coastal and 2) the valleys perpendicular to the coast. Underwater survey was characterized by two phases: a) visual prospecting (*boat survey*) along the coastal limestone cliffs for the location of terrestrial and submerged cave entrances, and b) diving, using the adequate scientific diving gear and techniques, in all identified submerged caves.

RESULTS AND FUTURE WORK

According to the main scope and goals of the project, the pilot study shows very interesting results. Based on geological mapping, exploration diving was also carried in two main areas: 1) Ponta da Torre and Zambujal, from Praia do Zavial to Praia das Furnas, and 2) Martinhal, from Praia dos Rebolinhos to Praia do Barranco. Preliminary results show the presence of internal karstic development, and further exploration needs to be conducted, although archaeological remains were not found. From the terrestrial survey, results show the presence of caves and rockshelters in most of the selected areas as shown in figure 1. From the preserved sedimentary deposits, archaeological artifacts were identified in four sites, likely assigned to the Upper Paleolithic and Neolithic occupation, although no diagnostic artifact for each more precise techno-culture (i.e. *fossil-directure*) were identified. Preliminary results from this phase will be used as major data to develop the second phase of the project, which will be focused on the high-resolution excavation of the most promising archaeological sites.



Figure 1. GIS mapping including survey tracking on the left (orange – terrestrial survey, yellow- underwater survey, green – boat visual survey) and identified sites on the right.

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