

ANNUAL REPORT: VALE BOI ARCHEOLOGICAL PROJECT: INVESTIGATING THE EARLIEST ANATOMICALLY MODERN HUMAN OCCUPATION IN SOUTHERN IBERIA (PORTUGAL) 2018 FIELD SCHOOL

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General view of the excavation of Vale Boi

The Vale Boi Archaeological Project 2018 Field School is part of a long term project which main objective is to investigate the emergence and development of complex human cognition during the transition from Neanderthals to early Modern Humans in Southwestern Europe, and to ascertain the impact that changes in coastal ecology, including sea level and coast lines, and rapid climatic shifts might have had in this particular moment of the human past.

The emergence of modern cognition, possibly stemming from the early inclusion of marine resources in the diet (known to be critical in the development and expansion of the human brain and retinal quality), seems to have been the key for the success of Anatomically Modern Humans (AMH) as the dominant and only surviving human species. In SW Iberia, Neanderthals may have lived longer than anywhere else possibly due to the early adaptation to a broad spectrum diet including a wide range of terrestrial and marine resources, next to the early development of some other so called modern cognitive traits such as symbolic behavior with body ornaments and the use of pigments.

The relevant question is to know if the marine resources were, in fact, the trigger for the development of complex cognition in both species. Therefore, the secondary goal of this project is to investigate the impact of marine dietary resources in the emergence and development of human cognition in the transition from Neanderthals to early modern humans in Southwestern Europe.

This project will improve knowledge on the changing coastal ecology and its relation to the emergence of modern human cognition. It will also provide information on preservation conditions, investigative methods and development of new equipment, interpretation of

terrestrial and underwater archaeological, geological and paleoenvironmental evidence for the appearance of complex human cognition, based on the development of new interdisciplinary and international research. It focus on the transition between Neanderthal and Anatomical Modern Humans in an area where very little is known - the SW coast of Portugal.

The Vale Boi Field School is a fundamental piece within the long term project. The 2018 field provided key elements for the earliest phases of the human occupation of anatomically modern humans in the region. The IFR student's contribution both in the field and in the laboratory were key to the development of knowledge for this archaeological horizon. Their work provided direct data from humans occupations in Vale Boi likely dated between 25 and 33 thousand years ago. We were able to recover lithic stone artifacts that characterized both the chronology and the daily activities of our local ancestors. The organic materials excavated during the field work were also very diverse, including bones and shells from a diversity of species that include red deer, aurochs, wild boar, horse, and rabbit as terrestrial prey, as well as limpets, mussels, clams and cockles gathered from the local shore, located to no more than 10 to 15 kms away at the time of occupation 30 thousand years ago. The remains attest the importance of a mixed diet that included both terrestrial and marine elements, increasing without any doubts the quality of life of those past hunter-gatherers.

The student's activities included excavation work as well as laboratorial research. They fully participated in the daily excavation, learning and applying all the methods that include some high-tech equipment and techniques. They also had the opportunity to participate in washing, sorting, photographing and preliminary analyses of Stone Age artifacts and faunal remains, followed by the cataloging and organization of the archaeological artefacts and organic remains in the lab. Again, they used a battery of standard and new developed technologies for the analytical procedures in the lab.

In the next few months, the team will finalized some of the analyses and will present the results in international congresses, such as the Annual meetings of the Society for American Archaeology and the Paleoanthropological Society, both to take place in Albuquerque, New Mexico in April of 2019. We also expect to be able to submit a paper on the 2017-2018 results to the new Journal of Paleolithic Archaeology in early 2019.