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Late Holocene evolution of the River Bensafrim estuary, Lagos (Portugal) – Gearchaeological remarks concerning geomorphological changings

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1. The site

Lagos is a city in western Algarve situated on the right margin of the Ribeira de Bensafrim. Its dissymmetric estuary has two hills: one that supports the town of Lagos and the hill of Monte Molião, known for its archaeological site.

During the Late Iron Age the establishment was constrained to the top of that small hill Molião After that period, in Roman Age, people moved their location to the right river margin, founding what was then known as Laccobriga – Lagos.

2. Objectives and methodology

The main objective of this study is to understand the possible causes for the abandonment of Monte Molião and what were the reasons behind the foundation of the roman city of Laccobriga?

The data used were the results from the sedimentary analysis of cores in the alluvial plain of the Bensafrim valley, radiocarbon data, together with the previous excavation results and structure analysis.

3. First results:

(i) In the sedimentary record, the rate sand/clay as well as several statistical parameters and shells, show different energetic environments.

(ii) Radiocarbon data shows that the estuary remained open until 2800 cal BP, when a spit developed at the mouth of the estuary and a salt marsh begin to develop behind the sand barrier.

(iii) Remnants of fishing activities since the Iron Age found in the archaeological site highlight different strategies for the establishment around the estuary. Archeological data tells us that, the Iron Age fishing was mainly fluvial, while later shellfish remains point that in the roman period fishing activities were made in open sea.

(iv) The analyzed roman structures in the archaeological site of Monte Molião, show a clear sign of a violent seismic destruction probably related to the known 63 b.C. earthquake.

4. Conclusions

(i) It is proven that in the river Bensafrim the estuary changed from an open estuary before 2800 cal BP to a closed one. This could have forced the change of the fishing habits of the populations that depended on that river. We also believe that this could have contributed to the foundation of the roman city of Lagos on the right river margin.

(ii) The 63 b.C. earthquake was strong enough to alter the establishment strategy. Archaeological record shows us that in Monte Molião there was a period with no occupation between the second half of the first century b.C. and the beginning of the first century a.D..

(iii) This study not only highlights the importance of the estuary in the occupation History of Lagos city but also shows that this kind of multi-disciplinary investigations are fundamental to understand human establishment processes.

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