THE MESOLITHIC – NEOLITHIC TRANSITION ON THE SOUTH-WESTERN PORTUGUESE COAST:

Preliminary Data on the Shellmidden of Paço Velho 2

Helena REIS

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Helena REIS

Abstract
The Portuguese south-western coast was a pivotal point of social interactions between hunter-gatherers and Neolithic communities (~6 500-4 000 BC). Despite being located between two central areas on the debate of the neolithisation process in Portugal, the south-western coast and the Mira valley have occupied a peripheral place on the investigation. The present investigation research was developed under a master thesis study which aim was to analyse the territory of those communities, as well as searching for their settlement patterns. The identification of a new Mesolithic site on this region, Paço Velho 2, reveals some characteristic details of the lives of the last hunter-gathers communities of the southern Portugal.

Keywords
Neolithisation, Portuguese south-western coast, Mira river landscape.

Introduction
The area under study is located on the south-western coast of Portugal (Alentejo Litoral), more restrictively on the municipality of Odemira, comprising the lowest part of the Mira valley. Geomorphologically, the archaeological sites are located on the “Planície Litoral Ocidental” which consists on a thin zone constituted by smooth slopes. This geomorphological unit covers the Palaeozoic bedrock and is covered by very thin sands and small pebble stones (Feio, 1984: 11-14).

Between 6 000 and 4 000 cal BC, this area has been the place of cultural changes and transformations that have been investigated during the 1970’s and 1980’s based, mainly, on the sites that have absolute chronometry. Two sites have been dated as Late Mesolithic: Fiais (Gonzaléz Morales, Arnaud, 1990; Lubell et al., 2007) and Montes de Baixo (Silva, Soares, 1997). One site, Medo Tojeiro, has been dated as Early Neolithic1 (Silva et al., 1985; Lubell et al., 2007) (figure 1).

In the frame of an on-going project2, we conducted archaeological surveys following the criteria connected to the known settlement patterns of Mesolithic and Neolithic sites on this region. Apart from identifying new sites, we revisited the known ones in order to verify their actual state of conservation and to identify probable geological sources of the lithic artefacts. At the end of the surveys, within this chronological range of time, we had identified the Mesolithic shell midden of

1. Besides Medo Tojeiro, there are also two other sites excavated and attributed to Early Neolithic (Água da Moita and Praia das Galés: Soares, 1997), without any published absolute date.
2. “The Mesolithic and Early Neolithic Settlement on the Valley of Mira, and its regional context”, under the responsibility of Helena Reis and Professor Mariana Diniz.
Paço Velho 2 and the Neolithic / Calcolithic site of Paço Velho 6. Concerning the state of conservation, we concluded that some of the old known sites are endangered. Because of their location, mainly on the cliffs near the beaches, they are exposed to natural erosion and human factors.

1 - The site of Paço Velho 2 and its place in the landscape

The site of Paço Velho 2 is located near the Ribeira de Seixe, on a smooth hill, at an altitude of about 64 m, at approx. 4.5 km from the ancient coast line (figure 1). The site has a very good visual dominance over the landscape and it is located very close to a water source. The geological background consists of Plio-Pleistocene sands (Pereira, 1987: 75). Despite the poor visibility of the soil in some places, we were able to identify numerous shell remains, highly concentrated in some areas, but mixed on the soil surface. The identified species clearly testify of the exploitation of the littoral coast near the site (Patella sp., Mytilus sp. and Thais haemastoma) and the estuary area of the nearby riverine environment (Cerastoderma edule, Ruditapes decussata, Ostrea edulis and Crassostrea angulate).

3. We thank to our colleague Joel Rodrigues for the information about this new site.
4. Municipality of Odemira, CMP: 568; coordinates: 37,437825 N-8,759783 W.
5. These values were calculated based on Dias, 2004.
The archaeological materials recovered were essentially flint bladelets (mostly unretouched), debitage waste, a bladelet core, some tools (a trapeze and a scraper) and an artefact made of siliceous schist (punch?) (Figure 2).

The lithic raw materials found on Paço Velho 2 can now be attributed to two major sources. The local availability of quartzite, quartz and siliceous schist is represented on flakes and knapping waste. On the other hand, the siliceous rocks found on Paço Velho can all be classified as flint. The probable source of this flint is the region of Cape S. Vicent (approximately 50km of distance) (personal communication of geologist Nuno Pimentel), although no chemical analysis on the flint samples was performed. Other probable flint sources are recorded in the geological map near the town of S. Teotónio (approximately 9 km from Paço Velho 2), but they have not been found yet. The available data and its archaeological context do not allow us to define if Paço Velho 2 was a base establishment or a logistical one.

Chronologically, Paço Velho 2 can be ascribed to the second half of the 6th millennium BC, taking into account a radiocarbon date recently obtained (Table 1).

<table>
<thead>
<tr>
<th>Provenience</th>
<th>Sample</th>
<th>Lab. Reference</th>
<th>Age BP ±60</th>
<th>Calibrated Age (cal BC) 1σ</th>
<th>Calibrated Age (cal BC) 2σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>Marine shells</td>
<td>Sac - 2847</td>
<td>6,930</td>
<td>5,464-5,350</td>
<td>5,518-5,288</td>
</tr>
</tbody>
</table>

Table 1 - Paço Velho 2: 14C date. The calibration of the radiocarbon date was made using the Marine 13 calibration curve (Reimer et al., 2013) and the program Calib 7.0.0 (Stuiver, Reimer, 1993). The correction for the oceanic reservoir effect was based on Soares and Dias, 2006 (ΔR = 95 ± 15 years 14C).

The discussion of this date brings some relevant issues – first of all, the context of the recovered sample. The dated shells were recovered from the surface of a restricted area on the site. Nevertheless, the sample can be originated from different archaeological contexts. The date (5,518-5,288 cal BC) cannot be correlated with an initial or a final occupational moment of this site.

Although the contexts for some dates are not very clear, and despite the different interpretations (Carvalho, 2010), we can suggest that Neolithic groups at Vale Pincel (Soares, Silva, 1981), Vidigal (?) (Straus, Vierra, 1990), Medo Tojeiro (?) (Silva et al., 1985), Rocha das Gaivotas (Carvalho, Valente, 2005), Cabranosa and Padrão (Carvalho, 2008) are already in scene in this region and at that time opposing to the still occupied Mesolithic sites like Samouqueira 1 (Soares et al., 2005-2007) and Fiais (Lubell et al., 2007). This situation and the fact that no ceramic fragments were found suggest that Paço Velho 2 might represent a place occupied by the last hunter-gatherers of the region.

By looking at the settlement patterns on the region under study, we can point out that the Late Mesolithic sites stand near the important water courses (Fiais: González Morales, Arnaud, 1990; Montes de Baixo: Silva, Soares, 1997; Paço Velho 2) and that the Neolithic sites are located more closely to the coast line and the small water courses (Medo Tojeiro: Silva et al., 1985; Praia das Galés, Água da Moita: Soares, 1997).

2 - Final Remarks

The identification of Paço Velho 2 contributes to a better understanding of the South-western coast cultural landscape on the beginning of the Holocene. Placing this site on a landscape that is shared by different cultural groups may be not clear at the first sight, but some paths of investigation can now be appointed. We still need more chronological data to understand if there is contemporaneity between the sites, and so, if this truly is a shared landscape. Also more survey works are necessary to clarify the role of the big territorial unit (Mira river) on the lives of the hunter-gatherers and the Neolithic societies, since for now it remains unclear.
Figure 2 - Lithic materials from Paço Velho 2. 1: Bladelets' core on a metamorphic rock; 2-4: Flint bladelets; 5-7: Retouched flint bladelets; 8: Trapeze; 9: Flint scraper; 10: Quartzite flake; 11: Possible punch on silicious schist (drawings: H. Reis).
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