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**New Acheulean and Mousterian sites from the T4 terrace of the Lower Tejo River (western Iberia)**

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**Abstract:**

Since the 19th Century, the sedimentary terraces of Lower Tejo River have been recognized as one of the best archives for the Lower and Middle Palaeolithic industries of western Iberia. In the 1940s, evidence for archaic human occupation was related to the Q3 and Q4 terrace levels, defined by the Geological Services team. Since 2008, a maximum of six sedimentary terrace levels (T1 to T6, from older to younger) were identified, incised below a culminant basin-fill unit (corresponding to the ancestral Tejo River before drainage network entrenchment) and above the modern alluvial plain: T1, at +111 m; T2, +83 m; T3, +61 m; T4, at +34 m, with Acheulean in the basal and middle levels and Mousterian in the uppermost levels; T5, +18 m, with Mousterian industries through the entire fluvial sequence; T6, +10 m, with Mousterian industries in the lower deposits. The Q3 and Q4 terrace levels now correspond to T4 and T5. Terraces T6, T5 and the upper division of T4 are well dated by Luminescence. The upper division of T4, dated as c. 310 ka (base), to 155 ka (top), has several stratigraphic levels with Lower Palaeolithic industries at the middle and lower levels and Middle Palaeolithic industries at the top. The lower division of T4, consisting of gravels, has a probable age range of c. 310 ka to 340 ka or 460 ka (?) and contains very rare and crude quartzite artefacts. No evidence of archaic human occupations was yet found from the three older terraces. However, since in Spain evidence of archaic human occupation goes back to 1.6 Ma, the most probable explanation must be related to the limited surveying of these terraces. Furthermore, the archaeological data from T4 (Acheulean and Mousterian industries) is poorly known and systematized.

Here, we present new Lower and Middle Palaeolithic sites, resulting from the surveys related to both preventive and research projects that, together with already existent data, enrich the dataset and allow refinement of the Acheulean-Mousterian transition in western Iberia. These new contexts are located in the sectors I and IV of the Lower Tejo (Portuguese sector of the Tejo/Tagus River). In sector I (further upstream), this evidence, which is all from the right margin, consists of Mousterian occupation and is covered by the Carregueira Formation (aeolian sands) in which Late Upper Palaeolithic to Neolithic remains are preserved, sometimes with features such as hearths. Sector II (from Arneiro to Gavião) and sector III (from Gavião to Arripiado) have not yielded relevant new evidence. In sector IV (from Arripiado to Vila Franca de Xira) all three new contexts are in the left margin and correspond to the Acheulean. One consists of two superimposed levels of lithic implements within the Acheulean of Alpiarça, the other is a layer in a remnant of the base of T4, just above the thick basal gravel and the third is an occupation in the base of the T4. This new evidence, together with previous data, provides fundamental data that provides a refined framework for the Lower and Middle Palaeolithic in western Iberia.