# The Aurignacian campsite at Chainça, and its relevance for the earliest Upper Paleolithic settlement of the Rio Maior vicinity

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A B S T R A C T As the only open-air Aurignacian site excavated in Portugal during the last two decades, the residential campsite of Chainça (Rio Maior) is an important addition to the sparse archaeological record of the earliest Upper Paleolithic in western Iberia. Aurignacian hunter-gatherers occupied the flat, well-drained surface of a small floodplain, in a location with access to many lower valley resources while gearing up and retooling. The site is spatially distinct from the lithic workshop sites at Vale de Porcos, and exhibits significantly different assemblage organization. In addition to manufacturing large blades, thick flakes, and carinations on chert, knappers at Chainça recycled/resharpened chert tools and worked quartz and quartzite despite an apparent abundance of chert. These assemblage characteristics coupled with coarse intrasite spatial patterns indicate that Aurignacian foragers efficiently exploited raw materials in the context of a settlement strategy that emphasized high residential mobility.

R E S U M O Sendo o único sítio aurignacense de ar livre escavado em Portugal nas duas últimas décadas, o acampamento residencial de Chainça (Rio Maior) constitui um importante complemento para o escasso registo arqueológico do início do Paleolítico Superior no Ocidente da Península Ibérica. Foi ocupada a superfície plana e bem drenada de uma pequena planície de cheia, numa posição que permitia o acesso aos vários recursos da parte mais baixa do vale, bem como o talhe de vários instrumentos para posterior uso e a recuperação/reparação de alguns instrumentos deteriorados. O sítio distingue-se, em termos espaciais, das oficinas de talhe aurignacenses de Vale de Porcos, revelando uma significativa diferença na organização do conjunto. Em complemento da manufactura de grandes lâminas, lascas espessas e peças carenadas em sílex, os talhadores de Chainça reciclavam/reafiavam os instrumentos de sílex e trabalhavam o quartzo e o quartzito, apesar de uma aparente abundância de sílex nas proximidades. Este conjunto de características, juntamente com os indícios de organização espacial intra-sítio, sugerem que os caçadores-recolectores aurignacenses exploravam eficientemente a matéria-prima no contexto de uma estratégia de povoamento de mobilidade residencial elevada.

The Upper Paleolithic site of Chainça, located approximately 850 meters southwest of the town of Azinheira (Rio Maior), was discovered in May of 1991 during a comprehensive archaeological survey of the Rio Maior drainage. The open-air locality was systematically sampled from 1991-1993 in order to assess the geological and archaeological context of artifact occurrences, and to obtain a large and representative lithic assemblage. Only five Aurignacian assemblages are known from Portugal, the majority of which were excavated prior to 1970 (Zilhão, 1997). As the only open-air Aurignacian site discovered in Estremadura since 1953, Chainça provides significant insight for understanding the earliest Upper Paleolithic settlement of western Iberia.

## Geology and depositional history

The site of Chainça occupies a low depositional terrace on the east side of an intermittent stream that feeds the Rio Maior. In recent years, the streambed has been dry virtually year-round due to the lowered water table resulting from eucalyptus forestry and sand quarrying activities but, according to landowners, as recently as 16 years ago (1984) the stream flowed throughout the wet fall and winter months. During these periods of sustained rainfall, the water table of the drainage rose to intersect the bed of the stream, which was also fed by significant lateral interflow. Dissolved primary minerals flushed through the terrace sediments during interflow often precipitated on larger pebbles and artifacts, forming mineral concretions. These alluvial concretions were useful for determining that plow disturbed artifacts originated from the reddish yellow to strong brown terrace sediments. Fortunately for larger scale landform preservation concerns, the stream was probably intermittent or seasonal throughout the Late Pleistocene, with very little lateral cutting/filling or major geomorphologic change. Indeed, most landforms near Azinheira/Rio Maior have been relatively stable since the Early Upper Paleolithic, as evidenced by the numerous Gravettian sites recovered from surface or near surface contexts in the valley, with only the lower reaches of the Rio Maior experiencing significant reworking of a sizable Holocene floodplain (Thacker, 1996a).

The cultural occupation level at Chainça is located between 4 and 12 centimeters below the top of reddish yellow silty sand sediments that comprise the Late Pleistocene terrace (T1). A generalized topographic cross section is displayed in Fig. 2. Vertical building of the terrace continued after Aurignacian occupation of the site, mostly through intermittent low energy over bank flooding. The low energy character of aggradations was

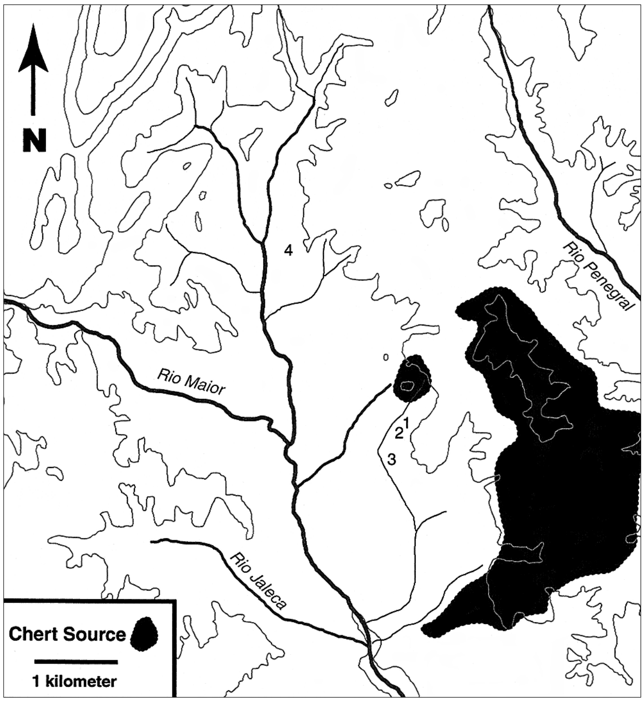


Fig. 1 Aurignacian open-air sites in the Rio Maior vicinity.
**1** Vale de Porcos I (Heleno, 1952-1953); **2** Vale de Porcos II (GEPP, 1975); **3** Chainça (Thacker, 1991-1993); **4** Vascas (Heleno, 1952-1953).

confirmed through particle size and sorting data, and a lack of evidence for artifact size sorting: nearly half of the chert artifacts from Chainça have a diameter of less than 3 centimeters. The top of the terrace sediments was easily identified during fieldwork, as the interface with overlying colluvial and aeolian white sands was usually quite abrupt, except on the eastern limit of the terrace. The contact is generally conformable, given its level and consistent nature over an extensive area along the east margin of the stream. While it is possible that some minor scouring or erosion of the terrace's uppermost surface occurred, site burial continued through colluvial processes fairly soon after aggradations ceased. About 25 000 years ago, sheet wash from the hill slopes to the east of the site began depositing moderately sorted white sands on the terrace surface. Today almost a meter of white sands covers the cultural level along the eastern limit of the site, while virtually no sand sediments veneer the western edge or front of the terrace tread and riser.

Other post depositional processes impacting Chainça include a number of modern land use and earth-moving events. Based on aerial photographic evidence, the terrace was cleared for forestry and a new power line route about 1987. At this time the entire terrace was shallow-plowed to a depth of about 65 centimeters. During power line installation, several earthmoving vehicles excavated parts of the terrace and a small section of the site for tower construction. In late 1995 or early 1996, the land plots immediately adjacent to the power line were deep plowed (greater than a meter depth) for eucalyptus forestry. Several tons of the extracted pine stumps and roots were dumped on the power line right-of-way, capping most of the site and preventing further destruction as well as archaeological investigation.

Modern plowing's impact on the cultural level is indicated in Fig. 2, along with a cross sectional representation of artifact density. This graphic comparison facilitates assessment of the impact of modern disturbance processes on site spatial organization. Artifact densities decrease significantly in relationship to the degree of exposure of the terrace sediments. Two post depositional processes are responsible for the erosion of the front of the terrace tread and could be responsible for this artifact density pattern. First, plowing of the land plots was perpendicular to the stream, and largely obliterated the terrace tread/riser intersection. Second, occasional stream scouring of the western edge of the terrace (and sediments plowed into the modern floodplain) may have transported artifacts away from the site. Thus judging from the geological history of the site, the eastern portion of the campsite is least likely to exhibit assemblage pat-

**Generalized Cross Section: Chainça (Rio Maior)**

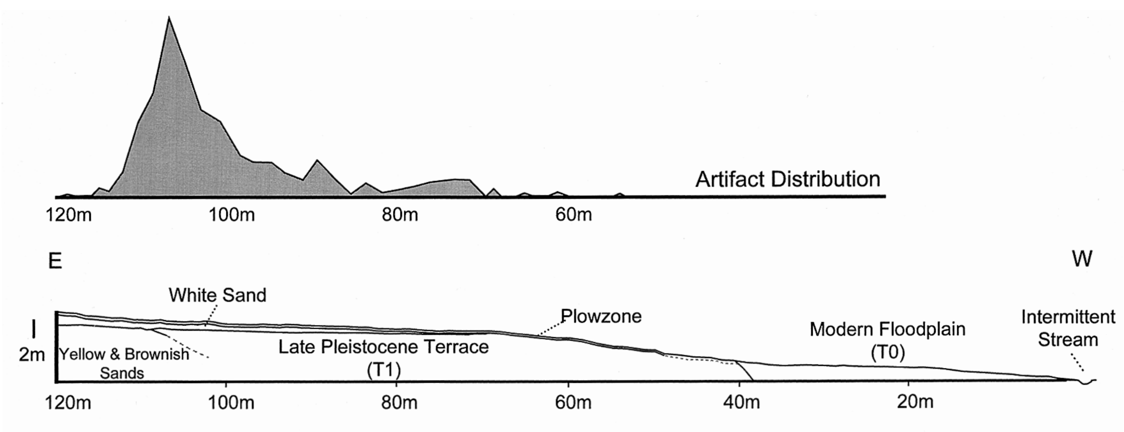


Fig. 2 Geological and Artifact Density Cross Section of Chainça (Rio Maior).

terning significantly altered through post-depositional processes. Artifact analysis, however, demonstrates that even the western concentration retains coarse spatial integrity.

Chainça's complex depositional history reveals that human hunter-gatherers occupied the flat, well-drained surface of a small floodplain, in a location with access to many lower valley resources. Cobbles of high quality Rio Maior chert could have been procured about 400 meters upstream, where the narrowing stream channel eroded chert-bearing gravel deposits of the Azinheira ridge. Perhaps more than coincidentally, the Aurignacian lithic workshop site of Vale de Porcos is located directly upstream on the margin of the chert deposit nearest to Chainça. There is general agreement among paleoenvironmental reconstructions for the Early Upper Paleolithic in Portugal that some temperate arboreal species were present in the sheltered lower valleys of Estremadura even during the Last Glacial Maximum (Almeida, 2000; Bicho, 1993; Cardoso, 1997; Marks et al., 1994; Straus, 1991, 1997, 1999; Thacker, 1996a; Zilhão, 1997). It is possible but, at present, only speculative that biotic and water resources in the immediate vicinity of Chainça made the specific location particularly attractive within the landscape context of the lower Rio Maior valley.

## Archaeological research design and methodology

Given the disturbed nature of the terrace deposits at Chainça, archaeological fieldwork focused on two primary objectives: locating any in situ archaeological deposits for comprehensive excavation/radiometric dating and obtaining a large and representative artifact assemblage. Both of these objectives necessitate a detailed understanding of post-depositional processes across the entire areal extent of the site.

Gridded systematic surface collections of the site yielded over 735 lithic artifacts (see Table 1), with the average artifact density of the present surface displayed in Figure 3. Several subsurface testing methods verified that surface artifact occurrence is representative of the horizontal extent of the site. Plowing disturbance was evident in several one-meter test excavation units on the site, thus a series of over 70 systematic shovel tests were excavated across the site, in areas of high and low surface artifact density. Shovel testing has been proven highly effective for sampling in plow zone contexts (Dancey, 1981; Shott, 1985; Hester et al., 1997), and in the case of Chainça, tests were completed to varying depths depending on the burial of the terrace surface. Finally a series of sand auger cores were completed on the hill slope to the east of the site, as well as parallel to the stream along the terrace (Stein, 1986; Schuldenrein, 1991; Waugh, 2000). These auger tests, along with three-meter interval systematic surface survey of the deep plowed plots to the north and south established that Chainça is not part of a large palimpsest, but is limited to the area illustrated in Figure 3. All excavated sediment was sieved through 2-millimeter screens, providing a useful check of the collection biases affecting the surface assemblages.

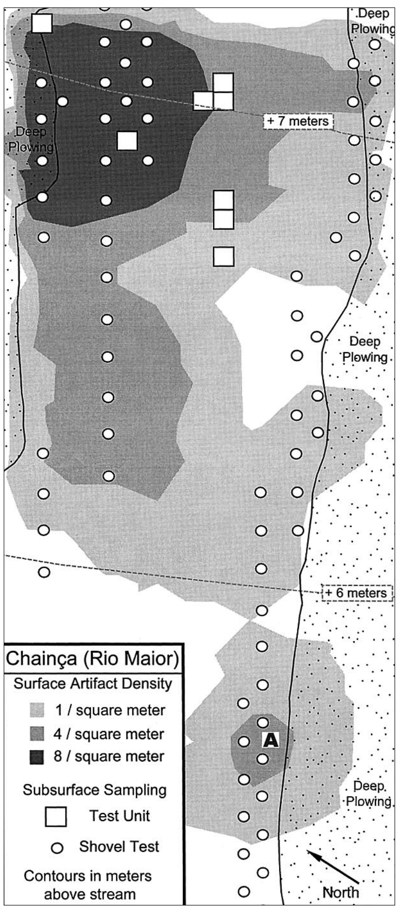


Fig. 3 Surface Artifact Density and Subsurface Sampling at Chainça (Rio Maior).

**TABLE 1 – Lithic Artifact Assemblage from Chainça (Rio Maior)**

| | *Systematic Surface Collection* | | | *Test Excavation Assemblage* | | | *Total Assemblage* | | |
|---|---|---|---|---|---|---|---|---|---|
| *Lithic Artifact Class* | *Chert* | *Quartz* | *Other* | *Chert* | *Quartz* | *Other* | *Chert* | *Quartz* | *Other* |
| Debris and Fragments | | | | | | | | | |
| Cortical | 77 | 2 | 0 | 92 | 0 | 1a | 169 | 2 | 1 |
| Non-Cortical | 424 | 3 | 0 | 1107 | 9 | 10b | 1531 | 12 | 10 |
| Debitage | | | | | | | | | |
| Complete Cortical Flakes | 74 | 6 | 2a | 146 | 0 | 1a | 220 | 6 | 3 |
| Complete Non-Cortical Flakes | 87 | 1 | 2c | 127 | 2 | 2d | 214 | 3 | 4 |
| Complete Blades | 11 | 0 | 0 | 22 | 0 | 1a | 33 | 0 | 1 |
| Complete Bladelets | 17 | 0 | 0 | 28 | 1 | 1a | 45 | 1 | 1 |
| Cores | 5 | 1 | 0 | 4 | 1 | 1a | 9 | 2 | 1 |
| Manufacturing/Rejuvenation Elements | 2 | 0 | 0 | 13 | 0 | 0 | 15 | 0 | 0 |
| *(includes core tablets, fronts, and scraper resharpening)* | | | | | | | | | |
| Tools | 17 | 3 | 2a | 37 | 2 | 1a | 54 | 5 | 3 |
| TOTAL | | | | | | | 2290 | 31 | 24 |

*Notes:* a= all quartzite; b = 8 quartzite, 1 rock crystal, 1 basalt; c = 1 quartzite, 1chalcedony; d = 2 chalcedony.

Subsurface testing yielded a total of 1585 artifacts, distributed across the site in a density pattern statistically inseparable from the surface distributions. No evidence of *in situ* deposits was recovered at Chainça, although artifacts were predominately recovered from pockets of reddish yellow to strong brown sands rather than the unconsolidated white sands. While the single plowing event apparently disturbed the absolute position of artifacts, it is clear that the lithic assemblage from Chainça was deposited within the upper levels of the terrace. No prehistoric artifacts were recovered from the hill slope auger cores and less than one half of one percent of artifact edges exhibit rolling damage, observations that eliminate the likelihood of down slope movement of artifacts onto the terrace during the Early Upper Paleolithic.

Archaeological investigations at Chainça were thus a mixed success. Systematic surface collection coupled with subsurface testing obtained a large and representative artifact assemblage sufficient for chronological designation of the site and coarse-grained intra-site spatial analysis. The horizontal extent of fieldwork established that the campsite at Chainça is nearly 250 meters distant and distinct from the previously known sites at Vale de Porcos. Unfortunately, no *in situ* archaeological deposits or materials appropriate for absolute dating techniques were recovered during investigations at Chainça.

## Aurignacian lithic technology and site function

Given the depositional history of the site, artifact analysis at Chainça included assessing the evidence for post-depositional processes biasing the representativeness of the recovered assemblage. During technological and typological studies, observations on artifact size and edge damage due to rolling, plowing, or other transport process were recorded. Less than one percent of the lithic assemblage exhibits rounded or dull edges, and most of these pieces may have been weathered during the periodic saturation of terrace sediments rather than rolled through transport. About

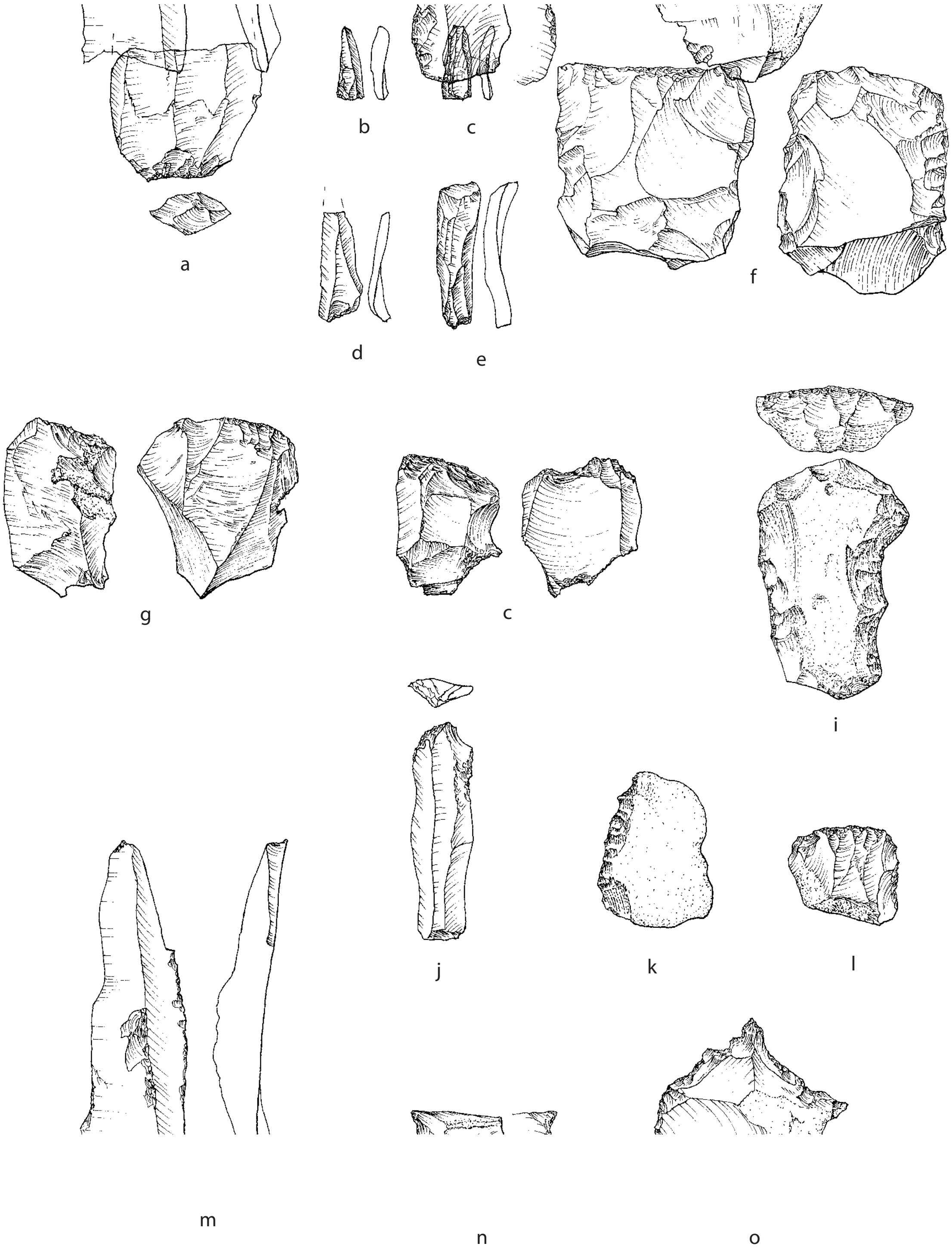


Fig. 4 Lithic artifacts from Chainça (Rio Maior). **a** - abraded and facetted large blade platform; **b** - **e** twisted bladelets from carinated cores; **f** - multiple platform small flake core; **g** - carinated endscraper; **h** - atypical carinated endscraper; **i** - endscraper on flake; **j**- atypical endscraper; **k** - sidescraper (on quartz); **l** - unguiform endscraper;
**m** - burin on oblique truncation; **n** - multiple tool:sidescraper-perforator; **o** - multiple tool: perforator-endscraper
Illustrations by Katherine Monigal.

8,7 percent of artifacts had illuvial concretions specked with manganese adhering to flaked surfaces, confirming field observations on the stratigraphic location of the occupation level.

Technological organization at Chainça centered on the production of large blades, twisted bladelets, and retouched tools on thick flakes and chunks. It is probably misleading to consider these separate reduction trajectories, as the assemblage evidences a concern for the conservation of raw material or, at least, a very efficient and flexible technological strategy. For example, retouched tools occur on cortical flakes and large fragments resulting from the preliminary preparation of large blade cores. Bladelet cores occur on identical thick flakes and chunks as those selected for retouch. The relative scarcity of formal cores at Chainça, an assemblage characteristic markedly different from Vale de Porcos, results from this intensive use of available lithic material for a variety of end products.

The large blade component distinguishes the Chainça assemblage as Aurignacian, as later Upper Paleolithic periods in Portugal do not exhibit the frequencies or formal dimensions of blades. As described in Table 1, the blade to flake ratio is nearly 1:7. Most of the recovered blades are broken, as whole blades were transported off site by the knappers. The blades discarded at Chainça averaged a length of 68,4 millimeters (+ 31,0 mm) and a width of 21,2 millimeters (+ 5,59 mm). Slightly more than a third of the blades exhibited faceted or dihedral platforms, with over half possessing a distinctive abraded platform front (see Figure 4.a). These size dimensions and platform preparations fall well within the range of variability described from Vale de Porcos by Zilhão (see Figure 4.7 and Table 4.8, 1997).

Retouched tools are mostly on thick flakes or fragments, with nearly 40% exhibiting inverse retouch. Endscrapers outnumber burins, particularly when carinations are considered scraping tools. Burins on truncation outnumber dihedral forms. Figure 4 also illustrates some carinated tools and cores from Chainça, and characteristic examples of twisted bladelets. As Almeida and others have shown, carination is not chronologically meaningful in the Portuguese Upper Paleolithic (Almeida, 2000, Marks and Almeida, 1996), especially in comparison to many other regions of Europe (but see discussion in Blades, 1999). No complete Dufour bladelets were recovered, but at least one retouched fragment and an inversely retouched bladelet could be fragments of Dufour bladelets. No backing was identified in the assemblage, eliminating a Late Upper Paleolithic attribution for this bladelet component of the assemblage.

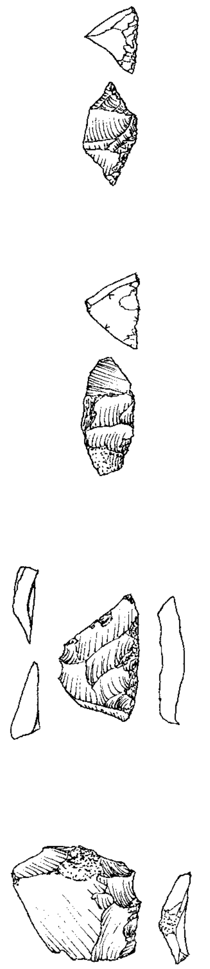

Fig. 5 Scraper Resharpening Removals from Chainça (Rio Maior).
Actual size. Illustrations by Katherine Monigal.

Almeida (2000) convincingly demonstrated that carinations were not desired tool forms and should be considered cores in the later Aurignacian V or Terminal Gravettian assemblages of Portuguese Estremadura. The assemblage at Chainça supports the carinations-as-cores hypothesis in that twisted bladelets were retouched and transported off site, but paradoxically some carinations show evidence of use. Further, several small pieces recovered from Chainça represent carinated scraper edge resharpening (see Figure 5). A total of eleven resharpening fragments were identified based on retouch form, edge angle, and edge damage that resulted from use prior to removal. These resharpening elements were usually struck from the same plane of removal as the retouch, in contrast to the core rejuvenation removals (tablets and fronts), which were removed laterally. In sum, carination at Chainça appears to be BOTH a reduction technique for producing bladelet blanks for retouch and a flexible tool form for scraping use.

Despite a plentiful supply of chert and extensive primary reduction of chert cobbles, the Chainça lithic assemblage contains retouched tools on quartz and quartzite. In addition, a number of chert tools were fashioned on cortical flakes or discarded after significant use lives, and resharpening debris from chert artifacts is evident. These observations are indications that Chainça was not only a workshop location for lithic core preforming and initial reduction (as Vale de Porcos appears to be), but that tools were used and discarded on site. Aurignacian technological organization was very flexible while efficiently reducing raw material, even when conservation of chert was not a geographic necessity. Given this evidence and current models of hunter-gatherer lithic strategies (for example, Kuhn, 1994, 1995), Chainça represents a short-term residential campsite organized around gearing up and retooling activities, an interpretation confirmed by intrasite spatial patterning.

## Intrasite spatial organization at Chainça

Technological organization is not the only line of inquiry useful for interpreting the activities present at Chainça and characterizing site function. A number of preliminary intra-site spatial patterns complement assemblage analysis, and support the hypothesis that Chainça was more complex than a workshop site. Analysis of assemblage class distributions across the site yielded unexpected results given the geological reconstructions discussed above. The small density peak to on the western edge of the site (labeled "A" in Figure 3) was more exposed to plowing and erosional processes in comparison to the dense and presumably better preserved concentration to the east. The dense eastern scatter did contain relative concentrations of cores, tools, blades, and bladelets, along with three large burned cobbles (greater than 12 centimeters in diameter). These cobbles are certainly manuports given the geological context, and probably are remnants from a plow-disturbed hearth feature.

In contrast, the smaller western concentration ("A") contained a slightly higher (but statistically insignificant) number of bladelets, several core manufacturing/rejuvenation pieces, and a significant absence of formal cores. The assemblage is size-biased, containing a higher frequency of smaller pieces than the rest of the site. This size differential and lack of cores did not result from exposure and scouring, which should remove the smaller elements and bias the assemblage in the reverse direction (larger pieces). If the scatter was artificially created through plow transport of artifacts from the denser eastern edge, the assemblage should exhibit similar class (relative) frequencies across the entire site. Thus despite being in a disturbed context, Chainça exhibits some coarse-grained behavioral patterning. A wide range of reduction and use activities were performed on the eastern half of the site, possibly focused around a hearth feature. Certain smaller elements, most notably retouched tools and bladelets were manufactured or transported and discarded during activities on the floodplain near the streambed.

## The Aurignacian of the Rio Maior vicinity: comparisons and discussion

Three other Aurignacian assemblages are known from the Rio Maior vicinity, Vascas and Vale de Porcos, both excavated by Heleno in 1952-53, and Vale de Porcos II, excavated by Grupo para o Estudo do Paleolítico Português (GEPP) in 1975 during a project aimed at relocating Heleno's sites. These assemblages are technologically similar to Chainça, yet important differences stem from the quality of assemblage data. Zilhão's comprehensive reanalysis demonstrated that Heleno's collections from Vascas and Vale de Porcos represent a systematic sorting of recovered pieces, as most non-retouched pieces were discarded during fieldwork and thus are absent from analysis. Broad interpretation of Heleno's Aurignacian assemblages has been problematic because of these collection biases. For example, the quality and number of tools cannot be assessed relative to the assemblage size, and site function is necessarily more conjecture than analysis.

Zilhão's reports of the GEPP excavations at Vale de Porcos II (Zilhão, 1989, 1997) provide strong arguments for interpreting the site as a lithic workshop location. Important differences between Chainça and both Heleno's and the Vale de Porcos II assemblages complicate the picture of Aurignacian hunter-gatherer settlement in the vicinity. Chainça contains a much larger tool assemblage and higher relative tool frequencies than Vale de Porcos II, which is the only other systematically recovered site for comparison. Tool class ratios vary significantly between Vascas, Vale de Porcos I, and Chainça, especially in terms of burins, perforators, multiple tools, and worked quartz and quartzite.

Two possible scenarios emerge from this regional assemblage comparison. Chainça may represent a campsite while Vale de Porcos is a workshop location. In this scenario, Aurignacian knappers produced sites similar to Vale de Porcos prior to transporting cores and tools to sites like Chainça for further reduction and use. The other possibility is that interassemblage variation results from differences in site occupation duration, scheduling of activities, or similar dynamic processes that create stochastic lithic assemblage variability, an increasingly recognized problem for interpreting the Aurignacian in France (White, 1982; Blades, 1999). Additional comparable assemblages are needed to define the spectrum of Portuguese Aurignacian interassemblage variability before further resolution of this problem is possible.

## The significance of Chainça for Portuguese Upper Paleolithic archaeology

Chainça adds new data to the slowly emerging picture of Earliest Upper Paleolithic settlement in Portugal. Aurignacian foragers established a short-term campsite on the narrow, sheltered floodplain for a variety of gearing up and subsistence activities. Despite the disturbed archaeological context, Chainça corroborates Zilhão's general model of Aurignacian lithic technological organization derived from the Vale de Porcos and Vascas assemblages, while adding important detail. Thick, cortical flakes resulting from the preparation of large blade cores were retouched into tools and carinated pieces, while carination at Chainça is both a flexible core strategy and a method for producing tool edges when needed. The resharpening removals and other small fragments recovered in the sieving process are significant for site and assemblage interpretation, as they confirm the campsite (rather than workshop) nature of the assemblage, and demonstrate an overall concern for conservation of lithic raw material even within a few hundred meters of a chert source. If Chainça is representative of initial Upper Paleolithic technological organization, Aurignacian settlement strategies in Portuguese Estremadura emphasized high residential mobility.

While archaeological investigations at Chainça provide useful data for developing models of Early Upper Paleolithic technological organization and site function/settlement strategies, the sparse Aurignacian record of Portuguese Estremadura remains problematic. The artifact collections from Vascas, Vale de Porcos, and the cave sites of Salemas and Escoural are insufficient for challenging or strengthening current hypotheses concerning the earliest Upper Paleolithic in western Iberia. Future research in Estremadura must focus on sampling additional Aurignacian-aged landforms and sediments from both open air and cave contexts, with the goal of locating absolute-dateable Aurignacian assemblages. In the Rio Maior vicinity it is increasingly evident that geological post-depositional processes have destroyed most landforms of this age through erosion. If Marks' settlement model (2000) is correct, such Early Upper Paleolithic assemblages will remain rare despite systematic identification and investigation of appropriately aged deposits. In any case, placing sites like Chainça into a broader chronological and cultural context must await future discoveries.

**TABLE 2 – Chainça Lithic Tool Typology**

| | *Chert* | *Quartz* | *Other* | *Total* |
|---|---|---|---|---|
| Simple Endscraper [1] | 2 | | | 2 |
| Atypical Endscraper [2] | 2 | 1 | | 3 |
| Ogival Endscraper [4] | 1 | | | 1 |
| Endscraper on Retouched Flake or Blade [5] | 1 | | | 1 |
| Endscraper on Flake [8] | 1 | | | 1 |
| Unguiform Endscraper [10] | 1 | | | 1 |
| Carinated Endscraper [11] | 1 | | | 1 |
| Atypical Carinated Endscraper [12] | 3 | 1 | | 4 |
| Thick-Nosed Endscraper [13] | 2 | | | 2 |
| Thin-Nosed Endscraper [14] | 1 | | | 1 |
| Multiple Tool: Perforator-Endscraper [21] | 1 | | | 1 |
| Perforator [23] | 1 | | | 1 |
| Microperforator [26] | 1 | | | 1 |
| Straight Dihedral Burin [27] | 1 | | | 1 |
| Angle Dihedral Burin [29] | 1 | | | 1 |
| Multiple Dihedral Burin [31] | 1 | | | 1 |
| Burin on Straight Truncation [34] | 3 | | | 3 |
| Burin on Oblique Truncation [35] | 2 | | | 2 |
| Burin on Convex Truncation [37] | 1 | | | 1 |
| Plan Burin [44] | 1 | | | 1 |
| Notch [74] | 7 | | | 7 |
| Denticulate [75] | 5 | | 1 | 6 |
| Splintered Piece [76] | 2 | | | 2 |
| Sidescraper [77] | 1 | | | 1 |
| Multiple Tool: Sidescraper - Perforator | 1 | | | 1 |
| Truncated Bladelet [84] | 1 | | | 1 |
| Retouched Flake | 2 | 2 | 1 | 5 |
| Retouched Blade | 2 | | | 2 |
| Retouched Bladelet | 1 | | | 1 |
| Retouched Fragment | 4 | | 1 | 5 |
| Varia [92] | 1 | | | 1 |
| TOTAL | 54 | 5 | 3 | 62 |
| | (.871) | (.081) | (.048) | |

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