

Lion (*Panthera leo ssp.*) in European Upper Paleolithic

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1.Intro

Osteological remains of the so - called cave - lion (*Panthera leo spelea*) are common in Upper Palaeolithic archaeological sites across Europe , even though in lower frequencies. Available data point to a monotonous anatomical representation: metapodials and phalanges or teeth. This animal may have assumed a cultural (or symbolic) meaning for the communities , considering representations in some of the most important painted caves of Europe and representation in small figurines . The Solutrean remains recovered in Vale Boi follow the same trend. The bones represented are one phalange and four metacarpals. Regarding this anatomical representation, authors wish to interpret the circumstances of the presence of such remains into the archaeological assemblage , exploring the cultural meaning and social status of the species and the anatomical parts represented.

2.Vale Boi

The actual Atlantic coastline. Three *loci* have been excavated: Rockshelter, Slope and Terrace. Stratigraphy revealed Pleistocene occupations dated from Gravettian to late Magdalenian at the three *loci* . The Solutrean layers are dated from ca. 25 ka Cal BP to 20.3 ka Cal BP (Cascalheira et al. 2017). They have held a faunal assemblage where red deer, horse and rabbit are the most common species. Marine resources were also consumed, mainly limpets (Cascalheira et al. 2017). The five lion bones studied come from Solutrean layers of the Terrace area.



General view of Vale Boi excavation in Terrace locus.



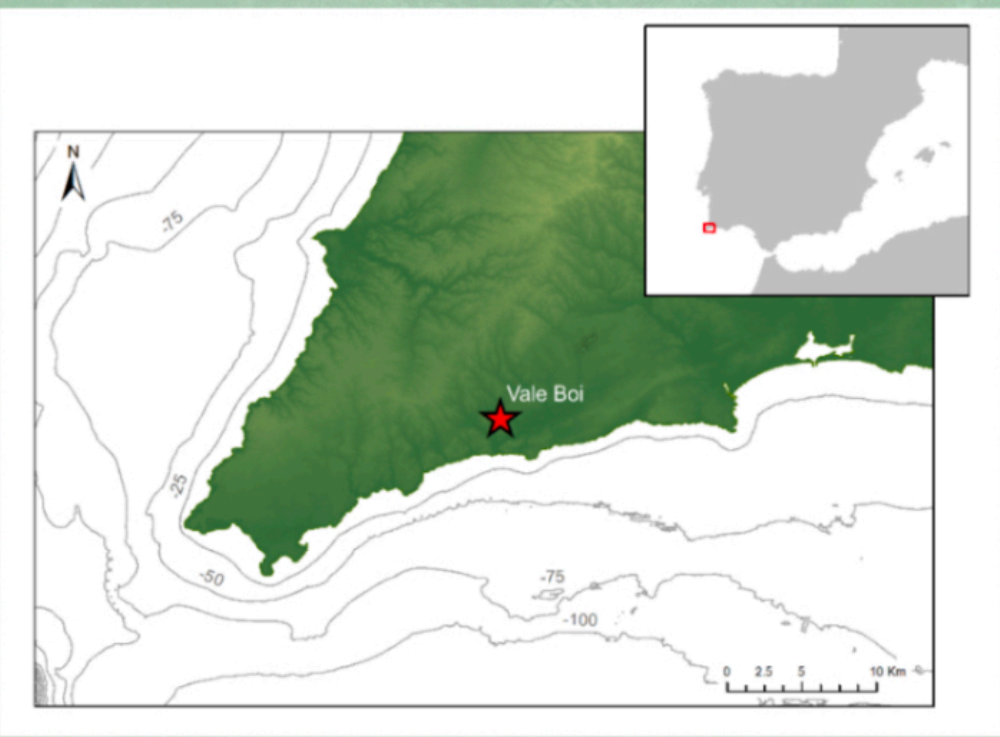
Lion Bones recovered in Vale Boi. Anterior view.



Lion bones recovered. Lateral view.

	Element	Portion	Side	Loci	Square
A	2 nd metacarpal	Nearly complete	Left	Terrace	K18
B	3 rd metacarpal	Proximal half	Left	Terrace	J19
C	4 th metacarpal	Nearly complete	Left	Terrace	
D	5 th metacarpal	Distal half	Left	Terrace	J20
E	1 st phalange	Complete		Terrace	J20

Table 1- Description and location of the lion bones.



Location of Vale Boi

3.Lion Bones

Lion bones were mixed with the other faunal remains and artifacts. Faunal remains were generally very fragmented because they went through a complex process of bone grease rendering (Tinna 2014). However, the lion set do not show any signs of being used for grease rendering.

Bones were observed at the microscope and no cut marks, or any other anthropogenic signs were observed. They are weathered, fractures are dry breaks, 2nd and 3rd metacarpals have concretions and have iron precipitation staining from the sediments. Metacarpals belong to the left side and show the same age development, suggesting that they belong to the same animal. According to excavation records, metacarpals and 1st phalange come from a restricted area from the Terrace, suggesting they were originally articulated. No other bones or teeth have been found so far.

4.Discussion

Data suggest that a single portion of the left front paw is present in the Solutrean of Vale Boi. Spatial analysis also suggests that this portion was originally articulated, probably with soft tissues attached. Literature is consensual that the use of lion fur usually implies specific cut marks (e. g. Cueto, et al. 2016), that we did not find in any of these lion bones. This leads us to refute the hypothesis of skinning. We hypothesize that this portion of a lion's left paw was used as a symbolic object.



Figure of the Löwenmensch from Stadel (Würtemberg)



SCAN ME for the references

4.1 Symbolic meaning of Lion

Cave lions have a symbolic meaning since Aurignacian communities in Central Europe. They were represented in the walls of Grotte Chauvet (Aurignacien) (Robert-Lamblin 2005) and Grotte Cosquer (Gravettian) (Valladas et al. 2017). It was also represented by the mammoth ivory figurines of the Löwenmensch from Hohlenstein-Stadel and Hohle Fels both from Aurignacian (Conrad 2003). The same symbolic meaning could have been developed in the Solutrean context of Southern Iberia.

4.2 Meaning of the Lion bones in Vale Boi

Access to lion bones from Vale Boi can be explained by:
a) Exchange between Iberian communities as a hunting trophy (see also Bicho et al. 2012).
b) Remains collected from a carcass in the wild. Paws are composed by labile articulations. Bones from these articulations are more easily detached from a decomposing carcass than from permanent articulation. These bones can easily be collected by humans in the wild and used as symbolic objects representing the whole animal (*Pars pro toto* principle) holding the charisma, strength and hunting efficiency of the lion.

5.Conclusion

The lion set is composed of four metacarpals from a left front limb and a 1st phalange that was recovered close to the metacarpals. All metacarpals most likely belong to the same animal and were probably originally articulated. No anthropogenic manipulation was observed. Regarding the cultural value of cave lion to hunter communities, we assume that this portion of the left paw had a symbolic meaning to the Solutrean people occupying Vale Boi. Regardless of how it was obtained , this left paw represented the whole animal holding his charisma, strength, and hunting power.

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