Paleoparasitology

Methodology and taphonomy applied to stratified excavations

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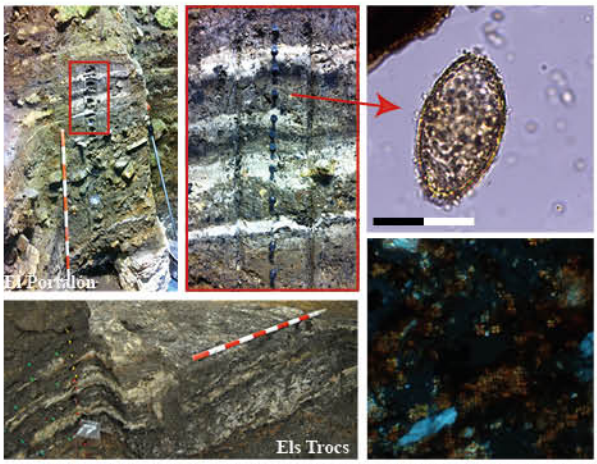
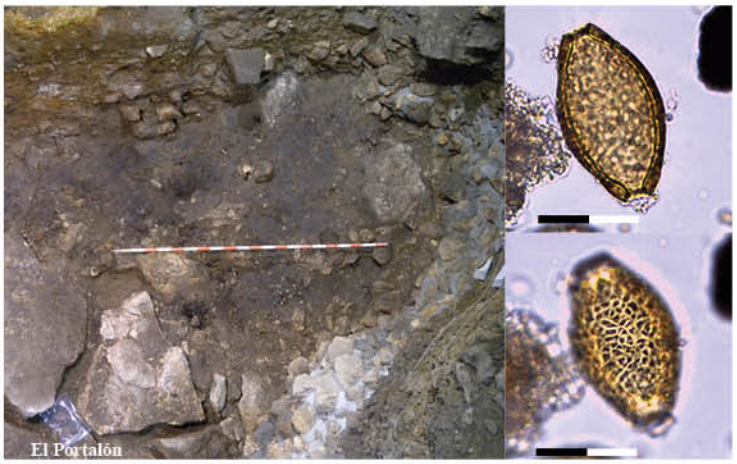
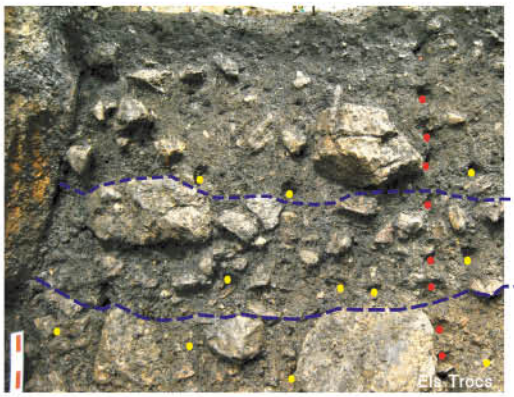
Paleoparasitology is a branch of paleopathology, the study of parasital fossil remains in an archaeological context (Araújo et *al.*, 1981 Reinhard & Araújo, 2007). Because they contain chitin, a long chain polymer of N-acetylglucosamine very resistant to taphonomic process, helminth eggs are the main carriers used in paleoparasitology (Wharton, 1980).
In the European context, diachronic palaeoparasitological analyses on the same deposits have been the subject of few works.
No field methodology has ever been used to understand the taphonomic phenomenum within a deposit or the most favourable sedimentary sampling context.
Through the examples of Els Trocs and El Portalón (Spain), we try to understand the sedimentary conditions in which verminous propagules have the best conservation rate thanks to samples distributed over different sedimentary environments marked by anthropic action, as well as samples in stratigraphic columns for comparison. The purpose of the study isn't about illness identification but about the helminth eggs recognition.

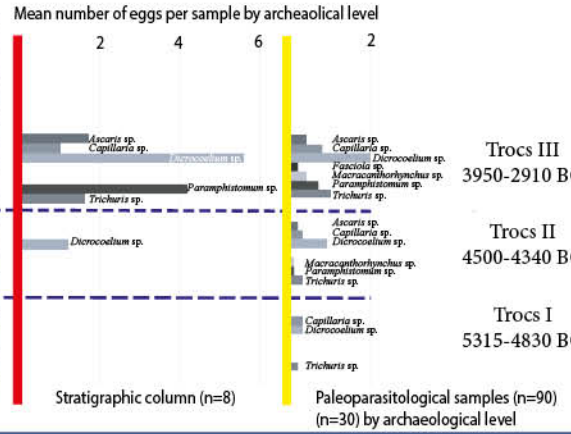


Of the two excavations analysed in the context of ash discharges from stabling containing notably spherulites as well as combustion structures, only one sample (n= 56) was positive for parasital detection. Moreover the structure of the eggs is so degraded that it is impossible to deepen the determination beyond the family of Trichuridae.



Sample collected in funerary context UE 79 (3000 BC), corresponds to the floor where the death people was deposited, as well as pottery and domestic animals, placed as offerings. The sample was taken outside the combustion zones, thus preserving the ornamentation and the size of *Capillaria* sp.





Stratigraphic column (red).
The first occuring, appears only from the second phase of occupation of the cave.
Five taxa could be recognized

Stratigraphic analyse (yellow).
Several genus are present from the first phase of occupation.
Seven different taxa could be identified

In 2017, K. Reinhard expressed his views on the lack of rigour existing in this discipline. In accordance with his work, all of our analyses follow one rule : a single occurrence of a taxon cannot validate a result.
A stratigraphic sampling column, even under ideal storage conditions, is not sufficient to account for the entire spectrum of parasites. Too much data is missing. It is therefore necessary to carry out a global sampling on all the EU to avoid a loss of information and interpretation errors and thus to be able to weight the results obtained. For future analysis, Carrying out samplings in as favourable contexts as possible will allow to shorten the labwork time.

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scale = 40 µm

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