

Title: Was fire use a cultural trait of the Gravettian? New micro-archaeological data from Fuente del Salín cave (Val de San Vicente, Cantabria)

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Postdepositional processes. **a)** Photomicrograph in PPL-XPL. Displacement of the sediment as a result of bioturbation. **b)** Photomicrograph in XPL, MM-2.1, Level 2. Infilling of a bone with calcium carbonate. **c-d)** Photomicrographs showing different geogenic processes related to the hydrogeological regime. **c)** Photomicrograph in XPL. Bone partly replaced by calcium carbonate in Level 2. **d)** Photomicrograph in XPL. Coating of secondary clays product of water percolation in Level 1. **e-f)** Histotaphonomic features in bone remains **e)** Photomicrograph in PPL depicting a bone fragment with advanced microbial degradation (arrow 2). The arrow 1 indicates an in situ fracture of the bone, probably caused by trampling. **f)** Photomicrograph in XPL. Iron oxide staining on the edge and interior of a bone fragment as a possible result of bacterial activity (arrow 1). Additionally, a biomineralization process of organic nanofibers (fungi) above the bone (arrow 2). **g)** Photomicrograph in XPL. Shell with incipient dissolution. **h)** Photomicrograph in PPL. Bone with advanced post depositional dissolution (arrows).

