Séminaire International de Paléontologie, Évolution, Paléoécosystèmes et Paléoprimatologie
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Sima del Elefante: Evidence of the first settlement in Europe

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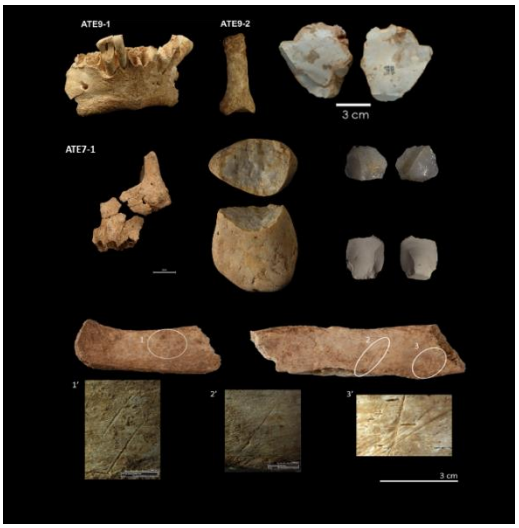

The Sierra de Atapuerca, located 15 km from the city of Burgos (Spain), is a site of great significance for the study of the earliest hominin settlements in Europe. This karst system hosts an exceptional assemblage of archaeological sites, with sedimentary deposits spanning from the Early Pleistocene to the Holocene. Its extensive fossil and archaeological record provide crucial insights into the presence and evolutionary history of various human species over time.

Currently, excavations are being conducted in four main sectors: Trinchera del Ferrocarril, Cueva Mayor, El Mirador, and the open-air sites.

In the Trinchera del Ferrocarril sector, several sites have been identified, including Sima del Elefante, Galería, Gran Dolina, Penal, and Cueva Fantasma. Among them, Sima del Elefante contains the oldest archaeological layers, dating back approximately 1.2 to 1.4 million years (Carbonell *et al.*, 2008, 2024; Huguet, 2007; Huguet *et al.*, 2017, 2025; Parés *et al*., 2006; Rosas *et al*., 2006).

At levels TE14 to TE07, human remains have been recovered, including specimens ATE9-1 (Bermúdez de Castro *et al*., 2011; Huguet *et al.*, 2017) and ATE7-1 (Huguet *et al*., 2025). Additionally, faunal remains exhibiting anthropic modifications (Huguet, 2007; Huguet *et al*., 2017) have been documented in association with a lithic industry (de Lombera-Hermida *et al*., 2015; Ollé *et al.*, 2013). Studies on the faunal assemblage from level TE09 reveal a high degree of taxonomic diversity, distinguishing three major groups: avian remains (Marqueta *et al*., 2022), ungulates, and carnivores (Boada, 2022; Huguet, 2007; Huguet *et al.,* 2017). The studies carried out on this faunal assemblage suggest different sedimentation processes for each of these groups.

In this talk, we will present the results of the taphonomic analysis of the modifications observed in the faunal remains, attributed to the agents involved in the accumulation processes. Furthermore, we will discuss the possible functionality of the cave during the sedimentation of level TE09 at Sima del Elefante.