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Session: S6-B: Traceology in the 21st Century: Contributions to Archaeological Science and the Human Journey

For oral presentation

**Current research on the function of *Homo antecessor*'s stone tool assemblage (Gran Dolina- TD6, Atapuerca, Spain). A new insight from a multi-technique approach**

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Excavations carried out during the recent years at Gran Dolina site (Sierra de Atapuerca, Burgos, Spain) considerably increased the stone tool assemblage retrieved from Unit TD6 (Mosquera et al. 2018). Dated to 0.9 Ma, the excavation of TD6 have provided with detailed and fresh data of a unique and well-preserved Early Pleistocene home base, key to shed light on the behaviour of the first European populations (Saladié et al. 2021) and their lithic technology.

In this talk, we present an ongoing investigation about the functionality of the *Homo antecessor*'s toolkit which involves, for the first time, an integrative study of two technological categories. On one hand, we have studied the non-flaked assemblage, that includes a large group of quartzite and sandstone cobbles and pebbles transported by hominins to the cave. Our analysis has focused on the identification of the percussive traces that could revealed the activities beyond stone flaking performed at TD6. On the other, we revised the flaked assemblage (including flake and retouched artefacts). After an initial assessment of the latter, our analysis has prioritised the study of quartzite and quartz flaked tools from the new collections that showed a better preservation for functional analysis. Methodologically, the microscopic analysis was carried out applying a multi-technique approach encompassing Optical, 3D Digital and Scanning Electron Microscopy, and Energy-dispersive X-ray spectroscopy for a basic elementary characterisation.

Results obtained in this new study, coupled with preliminary data and new experiments currently undertaken, will enable to expand our knowledge on the variety of subsistence activities carried out in the TD6 hominin occupation. Our work will additionally allow to update hypotheses pointed in previous studies (Carbonell et al. 1999), in which butchery activities were considered predominant. New data inform about an intense tool usage and widen the type of activities recognised, including transversal actions on a variety of materials, and reveal that pounding activities had also a significant role within the daily life behavioural activities of *H. antecessor*.

**Keywords:** Early Pleistocene, Gran Dolina-TD6, use-wear analysis, home base, *Homo antecessor*

## References

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