

Our results reveals that despite of the wider variability of trigonid crests types at the EDJ compared to the OES, the correlation in the morphology of the inner and the outer surface of the lower molars is high. Furthermore and in accordance with previous works (e.g. Bermúdez de Castro et al., 2003; Martínón-Torres et al., 2013), we highlight a more primitive dental conformation in Gran Dolina TD6 hominins in comparison with more derived features in the European Middle Pleistocene hominins from Sima de los Huesos.

To the light of our microCT study, we present some evolutionary interpretations of the relationship among the Early and Middle Pleistocene hominins of Europe, where the divergence of the features -primitive or derived- is considered regarding to *H. sapiens* and *H. neanderthalensis* trigonid and talonid crest expression.

ORAL

10. CROWN FORMATION TIMES IN HOMO ANTECESSOR MOLARS (GRAN DOLINA-TD6, SIERRA DE ATAPUERCA, SPAIN)

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Human remains from Atapuerca-Gran Dolina TD6 level represent at least 11 individuals that are dated to approximately 0.9 million years. These fossils were recovered in different seasons since 1994 and were the base to name a new human species, *Homo antecessor*. There are several publications regarding the morphological features of this hominin, including teeth. However, information available about *Homo antecessor* dental development is scarce, and those studies did not employed histological variables. Here, we studied the crown formation times of *Homo antecessor* lower molars. Our results are compared with molar crown formation times in other hominin species and great apes obtained from the literature. We studied seven *Homo antecessor* molars that are as-

signed to three individuals: two lower molars (one M1 and one M3) and five upper molars (three M1, one M2 and one M3). Environmental scanning electron microscope (ESEM) was used to estimate the imbricational enamel formation time and microtomography (microCT) was used to estimate the appositional enamel formation time.

Crown formation times of *Homo antecessor* molars fit within the variability of other hominin species.

Molar crown formation times are relatively stable throughout hominid evolution at least from the last common ancestor with chimpanzees, regardless dental morphological differences. Thus, differences in the eruption times might be mostly based on differences in the root extension rates.

ORAL

11. THE UNGULATES FROM GRAN DOLINA LEVEL TD8 AT ATAPUERCA: EVOLUTION, BIOSTRATIGRAPHY, BIOGEOGRAPHY

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The locality of Gran Dolina at Atapuerca records the Early-Middle Pleistocene boundary, an extraordinary sequence of fossiliferous levels straddling this boundary, archaeological levels and the level TD6, which yielded over a hundred remains of *Homo antecessor*. These levels are dated by an array of dating techniques and palaeomagnetism situates the Brunhes-Matuyama boundary in the top of level TD7. Level TD8 is the first Middle Pleistocene fossiliferous level.

Ongoing research results in increased data on the ungulates that lived around the Early-Middle Pleistocene transition and new hypotheses on their evolution. Here we present the ungulate association of TD8 in this context and compare it to those of other localities of more or less similar age. The TD8 ungulates are similar to those of lower levels at Gran Dolina, but differ from those from many other European early Middle Pleistocene localities. TD8 is peculiar in retaining a species of the giant deer genus *Eucladoceros* and a small rhinoceros. Such a small rhinoceros is common in the late Early Pleistocene and some believe it to be related to *Stephanorhinus etruscus*,