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Age at death of a Late Middle Pleistocene Neandertal mandible from the Coupe-Gorge cave (Montmaurin, France)

*Âge au décès d'une mandibule néandertalienne du Pléistocène moyen supérieur
de la grotte de Coupe-Gorge (Montmaurin, France)*

**Nuno Branco, Dany Coutinho Nogueira, Julie Arnaud, Rosa Ramos Gaspar,
Cláudia Umbelino et Amélie Vialet**

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Age at death of a Late Middle Pleistocene Neandertal mandible from the Coupe-Gorge cave (Montmaurin, France)

Âge au décès d'une mandibule néandertalienne du Pléistocène moyen supérieur de la grotte de Coupe-Gorge (Montmaurin, France)

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- 1 In 1950, in Coupe-Gorge cave in Montmaurin (France), at a stratigraphic level dated to the Late Middle Pleistocene (~150ky) a fragmentary mandibular symphysis was discovered. We examined the fossil to estimate its age at death and assessed its taxonomical classification based on mandibular morphology.
- 2 A μ -CT scan was performed on the fossil to study its dental development (the 2 permanent central incisors are included). One reference collection composed of 8 Neandertals was selected, for which there is only one associated μ -CT scan belonging to the Roc de Marsal specimen (retrieved from NESPOS). Another sample, consisting of 24 subadult recent *Homo sapiens* from the Coimbra Identified Collections and 7 individuals from the New Mexico Decedent Image Database, was selected. Using the TIVMI software, we assessed the teeth of the left side of the mandible. We combined AlQahtani's London Atlas in tandem with the modified Moorrees and Bengston's stages for dental development (2010) to estimate the ages at death in the individuals comprising our work. At a later stage, we assessed Neandertal mandibular morphology, focusing on the most well-known traits commonly ascribed to Neandertals. We described the observed features, referring to previous works when necessary, and performed a morphological analysis on the height and breadth of the symphysis. The London Atlas was shown to be suitable for the recent *Homo sapiens* sample, and it also proved reliable for providing age ranges for the Neandertals, although some cases of overestimation were observed. The age at death in the Coupe-Gorge individual was

estimated to be between 3.5 and 4.5 years, falling within the values observed in recent *Homo sapiens*

and encompassing previous estimates. The morphological assessment led us to attribute the specimen to the *Homo neanderthalensis* taxa, and we observed that the traits that define adult Neandertals emerge and develop gradually from early infancy.

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