

## ***Prehistoric traces and pathways inside of the Ojo Guareña caves (Burgos, Spain)***

*A.I. Ortega Martínez<sup>1,2,3\*</sup>, A. Benito-Calvo<sup>1,2</sup>, F. Ruiz García<sup>2</sup>, M.A. Martín Merino<sup>2</sup>, Juan Sebastian Galaz<sup>2</sup>, T. Karampaglidis<sup>1</sup>,*

1 Centro Nacional de Investigación sobre la Evolución Humana - CENIEH. Paseo Sierra de Atapuerca s/n, 09002-Burgos, Spain.

2 Grupo Espeleológico Edelweiss. Excma. Diputación Provincial, 09071-Burgos, Spain.

3 Fundación Atapuerca, Carretera de Logroño, 44 - 09198 Ibeas de Juarros, Burgos, Spain.

\* [anaisabel.ortega60@gmail.com](mailto:anaisabel.ortega60@gmail.com)

### **Abstract:**

Ojo Guareña Caves is one of the more interesting and biggest cave systems in Spain, which forms part of the Cultural and Natural Heritage. Their 110 km of length and fourteen entrances provide a wide range of endokarstic morphologies. In addition, this complex contains an impressive record of human activities (Ortega et al. 2013). The diversity and variety of entrances, rooms, passages and shafts, offers a wide spectrum of possibilities to the reconnaissance and occupation of the space. This complex contains an impressive record of human activities, with more than 80 sites, identifying living areas, rock art or burials, as well as other trace of transit by the inside of these caverns that shows the tracks of human activities in karst landscape from at least the Middle Paleolithic to the Middle Ages.

In relation with the transit inside of the cave, stand out the site of " Galerías de las Huellas", with more than a thousand the human footprints exposed on the floor surface (a soft sand-clay), discovered in 1969 by the Grupo Espeleológico Edelweiss (Ortega et al. 2014). The documentation of the footprints have been obtained by new 3D laser scanner methods and GIS techniques (Benito calvo et al. 2013), shows at least 17 tracks belonging to 8-9 individuals in both passages. The prehistoric men responsible for these footprints left on a back and forth pathway as a result of the exploratory trip to the inside of complex, which currently be accessed from Palomera cave, a 1,250m westwards. We do not know for sure the dating of these footprints and tracks, because it is not possible to date the "footprints". The existence of several charcoal marks in the passages of this sector suggests the presence and transit of human in the past. A charcoal of Otilio maze dated in the 1970's suggests a human presence in this area have been dated back to  $15600 \pm 230$  BP years. Recent dates of different charcoals of hearths and marks in wall of this sector, also show a new presence human in the Early Neolithic and the Chalcolithic, making it difficult to recognize to the human group who explored this sector of the cave. But this problem open the range of possibilities of identify the construction of the dark landscape as traces of the ancestors, through reconnaissance this cave function in the time.

**Key words:** Laser Scanner, GIS, human footprints, Ojo Guareña cave landscape, Traces.

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