

# Topological and architectonic study of the cave houses in La Romana, Alicante (Spain)

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**ABSTRACT:** The research presented in this document studies the excavated architecture of a geographically delimited area in the towns of La Romana and Monóvar in Alicante (Spain). The objective of the study is to identify and locate the cave houses in the study area so as to document and characterise them. A geological, topological and architectonic study of the constructed elements of six case studies is carried out establishing a comparative analysis with other known cave houses of the Iberian Peninsula. In addition, in one of the caves, an assessment of the current hygrothermal comfort conditions has been carried out over a period of one month. The data obtained highlights the good thermal behaviour of the underground architecture.

## 1 INTRODUCTION

Excavated architecture has always been associated with the Mediterranean basin countries because it is in this area where this habitat has developed most (Jessen 1955).

According to a study by Urdiales Viedma in 1963 (Urdiales 1987) on the distribution of families inhabiting caves in Spain, the province with the highest percentage of inhabited caves is Granada, followed by Murcia and Alicante. It seems as though this area of the Peninsula could have been the focal hub of the excavated cave culture.

Throughout the 19th Century and the first half of the 20th Century, cave houses spread across a large part of the Peninsula, coinciding with phases of mass immigration to the cities. It concerned, mainly, a very poor population in need of economical accommodation. In this case the cave houses were very affordable because it was the family itself that excavated their own home. This allowed them to adapt their home to the needs of the family and to add excavated rooms if their families grew in size.

In La Romana there was a demographic increase from the end of the 1800's to 1900 (Cavanilles 1795, National Statistics Institute), which indicates that that area witnessed the same phenomenon of an increase in population as occurred in other areas with cave districts.

In the province of Alicante there are references for cave constructions at the end of the 18th Century and beginning of the 19th Century. It is possible that the most ancient artificial caves of the province are Les Coves de les Finestres in Alfafara (Seijo 1973).

The research presented here studies the excavated architecture of a geographically delimited area in the towns of La Romana and Monóvar, in the Vinalopó Medio Region of Alicante.

This project identifies and locates the cave houses in the study area so as to document and characterise them. In addition a geological, topological and architectonic study is carried out, as well as an analysis of the current hygrothermal comfort conditions.

## 2 METHODOLOGY OF THE STUDY

### 2.1 Identification and location of the cave houses

These houses do not appear in the land registry databases as such, but instead they appear as agricultural or non-productive rural land. The location of the caves has been determined through photographic inspection of aerial photographs from the Geographic Information System of Agricultural Plots (SIGPAC), exploring the area with the help of rural land registry plans and based on the information provided by the inhabitants of the area.

Nine cave house cores with a total of 76 caves have been located and documented (Fig. 1): N1 Les Covetes (8 caves), N2 Camino Polseguera (8c.), N3 Cuevas de San Antón (9c.), N4 La Romaneta (2c.), N5 Cases del Pastor (Falcons) (5c.), N6 Falcons (13c.), N7 Los Canicios (12c.), N8 Fuente Loca (8c.), N9 Los Beltranés (11c.).