CAMPANA PICOS '85. VEGA HUERTA (Western Massif of the Picos de Europa – León)

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RESUMEN

En el presente articulo se dan a conocer las exploraciones realizadas por la Sección de Espeleología Geológicas del 15 al 30 de Agosto de 1985 en la zona de Vega Huerta, Macizo Occidental de Picos de Europa.

Esta campaña se realizó conjuntamente con la S.E.lngenieros Industriales de Madrid y el Y.U.C.P.C. de la Universidad de York.

De 1 e las numerosas cavidades exploradas, dos merecen especial atención, la I-45 con -267 m y la I45 con -130 m, ambas situadas en la vertical de la M-2 que con -975 m se convierte en la más profunda de esta zona (terminada de explorar en 1987 por SEII y YUCPC).

ABSTRACT

The present article, deals with the exploring activities of Sección de Espeleología Geológicas between August 15th and August 30th 1985, developed in the area of Vega Huerta, Western Massif of Picos de Europa.

This campaign was made by a joint team of S.E. Ingenieros Industriales and Y.U.C.P.C. of the York University.

Two of the many explored caves are worth of special attention, i.e., I-41 (267 m deep) and I1-45 (130 m deep), both located above M-2, which its 975 depth is the deepest one in the area (its exploration was ended in 1987 by SEII and YUCPC).

I. GEOGRAPHICAL LOCATION & ACCESS

The area of study is in the Western Massif of the Picos of Europa, to the south of Peña Santa de Castilla (2.596 m) and in the surrounding area of Vega Huerta. It's bordered to the north by Peña Santa de Castilla, to the south by Punta Extremera (2.134 m), Cuetalbo (2.163 m) and the Jous del Caballo, to the east by the Canal de Capozo and to the west by the Canal de la Duernona (SEll, 1985).

Access to this area can be made by turning off the road between Cangas de Onis and Riano to Soto de Sajambre. From this village, a track leads up to Vegabano, where our basecamp is located (Fig. 1).

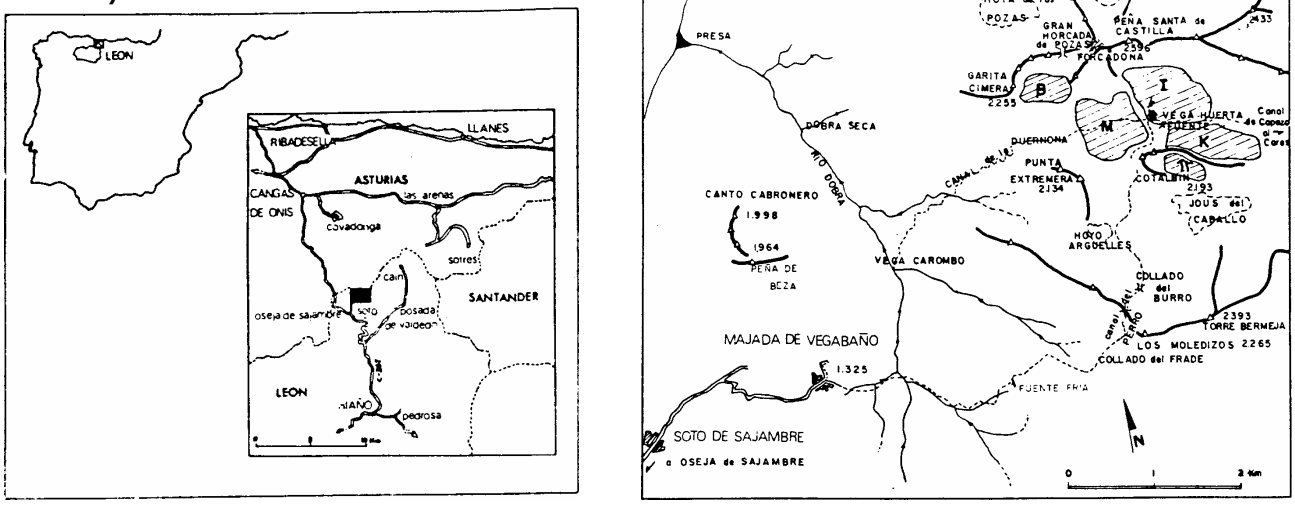


Fig. l.– Left, general geographical setting. Right, location and access to the zone, divided into sectors of interest, for efficient exploration.

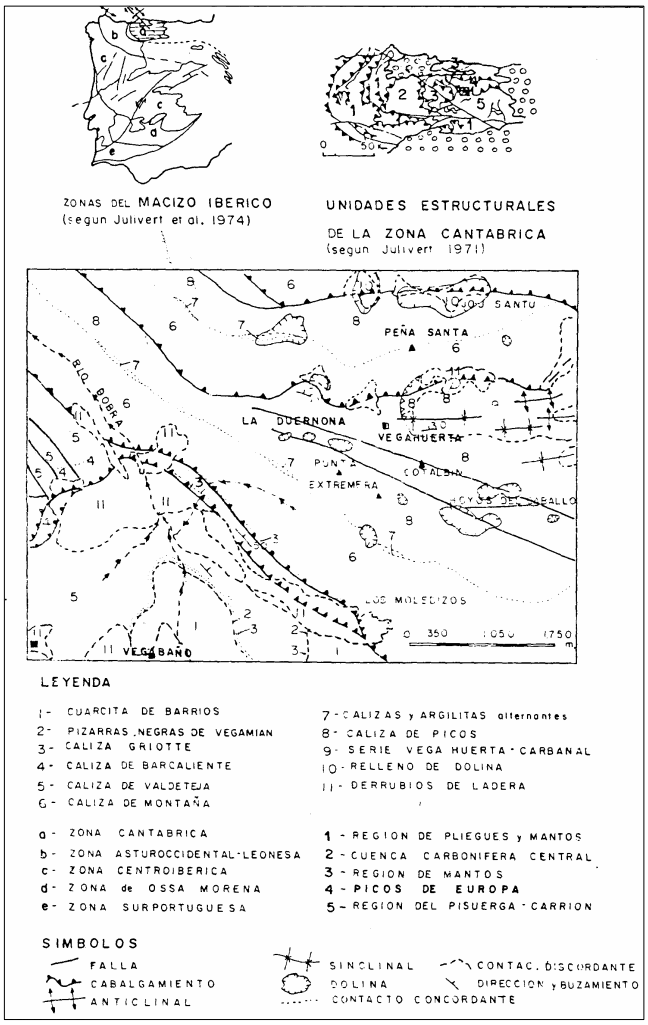


Fig. 2.- Setting and geological map of the zone of study.

From there walk along the path, passing through the forest up to the Collado del Frode. After this the way continues along the base of Los Moledizos across a large scree slope, that passes up through the Canal del Perro, taking us to Collado del Burro.

From here continue across the high plateau along the Camino del Burro to arrive at Vega Huerta, where top camp is located. The ascent takes approximately 2½ to 3 hours depending on the load.

II. GEOLOGICAL SITUATION

The Picos de Europa massif constitutes a unit located in the most easterly part of the Cantabrian Zone within the Iberian Peninsula (LOTZE, 1945; JULIVERT et al., 1971; SANCHEZ and TRUYOLS, 1983).

The general structure of this unit displays a tectonic model characterized by a series of overthrust sheets, repeating the Carboniferous Series, causing the important building up of calcareous materials characteristic of this unit (FARIAS, 1982) -see Fig. 2-.

In the studied sector, the series includes from the Ordovicico up to the Upper Carboniferous (Fig. 3).

The oldest materials, represented by quartzites of the *Barrios de Luna Formation*, are found around Vegabaño. On this one site the Carbonierous Series begins with the *Pizarras Negras (Black Shales) de Vegamián Formation* of Tournaisian age. Above that are situated the thinly bedded, red, nodular bands of the *Griotte Limestone*, of Visian–lower-Namurian age (TRUYOLS et al., 1980). The carbonate series continues with the *Caliza de Montaña* (Mountain Limestone), within which are two different formations (WAGNER et al., 1971): the black thinly bedded limestones are located in the base, laminated and with chert bands of the *Barcaliente*

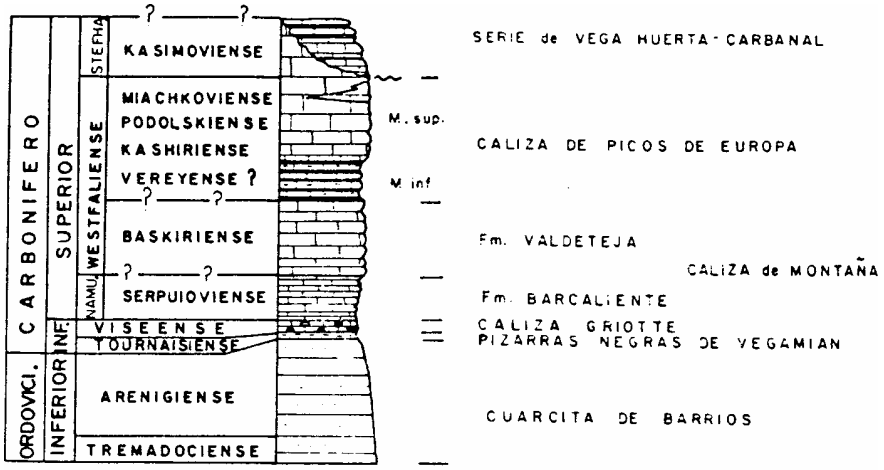


Fig. 3.- Column stratigraphy of the zone (according to FARIAS, 1982, modified).

***Formation*. These pass gradually to the massive grey limestones, white at the top, sometimes with fossils, corresponding to the *Valdeteja Formation*. The total thickness of this unit surpasses 500 m, comprissing the Serpukhorian-Bashkirian ages (TRUYOLS et al., 1980). Sometimes these two formations do not appear clearly differentiated, as happens specifically in the zone of work.**

The *Caliza de Picos Formation (Picos Limestones)* **with a thickness of 600 m rests on the previous unit (MAAS, 1974), in which the members can be clearly distinguished:**

a) The lower one formed by about 150 m of dark, thinly bedded bioclastic limestones, sometimes with abundant chert and shales, presenting a variety of important lateral facies.

b) On the thinly bedded levels rest the red crinoidal limestones of a few metres, that give rise to the upper member, made up of massive, pink or white and fossiliferous limestones.

According to MAAS (1974), the age of the formation varies form the upper-Vereiskian–lower-Kashirskian to the lower-Kasimovian. TRUYOLS et al. (l980) in the eastern sector attributes it a lower-Kashirskian to upper-Mynchkovskian age.

Discordantly, upon the previous formation and more towards the east upon the *Mountain Limestones*, leans the *Vega Huerta-Carbana Formationl*, which with a minimum thickness of 200 m is made up of a series of thinly bedded, black, bioclastic limestones with shale bands and olistostromic deposits (comparable to the *Lebeña Formation* in the most eastern part. MAAS, 1974). For this formation, the minimum accepted age is Kasimovian.

Tectonics

The region displays a structural model characterised by the abundance of thrust-sheets and down faults (Fig. 4). These processes of compression, originating in the Hercinican orogeny, are associated at its start, with the sedimentation of the *Vega Huerta-Carbanal Formation*.

These fracture surfaces, with which folds (little developed and of small scale), and slight secondary displacement are associated, arrange themselves sub-parallel to the stratigraphy of the naturalised deposits, exploiting levels like the *Griotte Limestones* or the *Barcaliente Formation*, and sometimes the thinly bedded member of the *Picos de Europa Formation*. In the native, these surfaces ascend quickly, cutting to levels successively higher (FARIAS, 1982).

The matter of finding Kasimovian material included in the thust sheets, seems to indicate that, in this one area, the culminating movements of the Hercinican deformation happed at a later stage than in the rest of the Cantabrian Zone, wher the [estefanienses deposits are subsequent to the emplacement of the mantles. This seems to agree with the fact of finding the Manto de Ponga and the Pisuerga-Carrión region over-thrust by the Frontal Unit of the Picos de Europa.

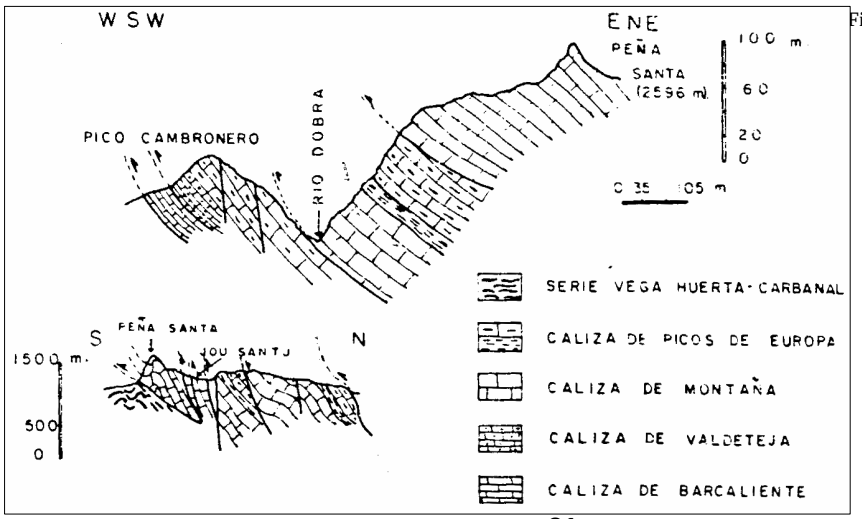
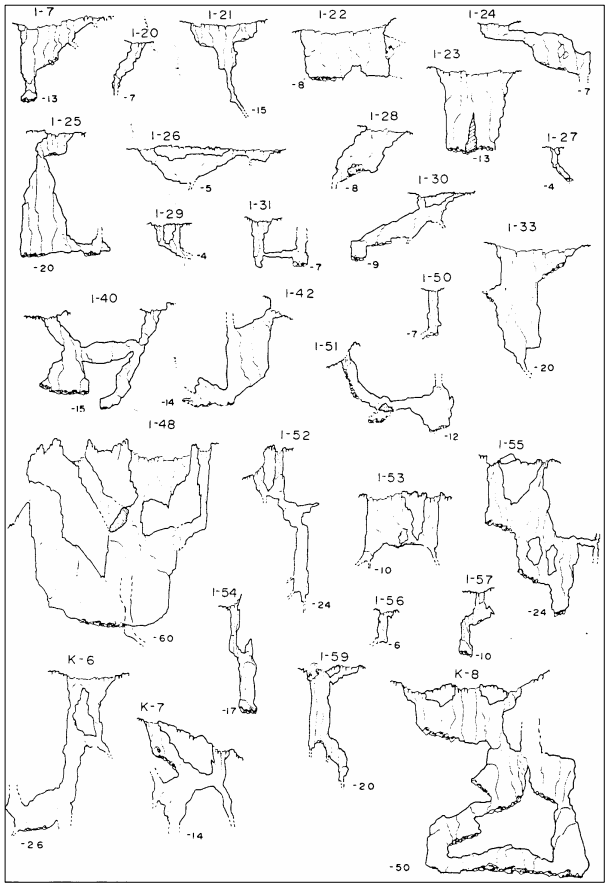


Fig. 4.- Cortes geological transverse to the main structure, in which it is possible to observe the great power of calcareous materials accumulated.

III. CAVES EXPLORED



Eploration was jointly made with members of SEII of Madrid and the YUCPC of Yourk. Previously these groups had divided the zone into sectors, designating a letter to each one. Of these, exploration was carried out in I, ß, M and K-areas.

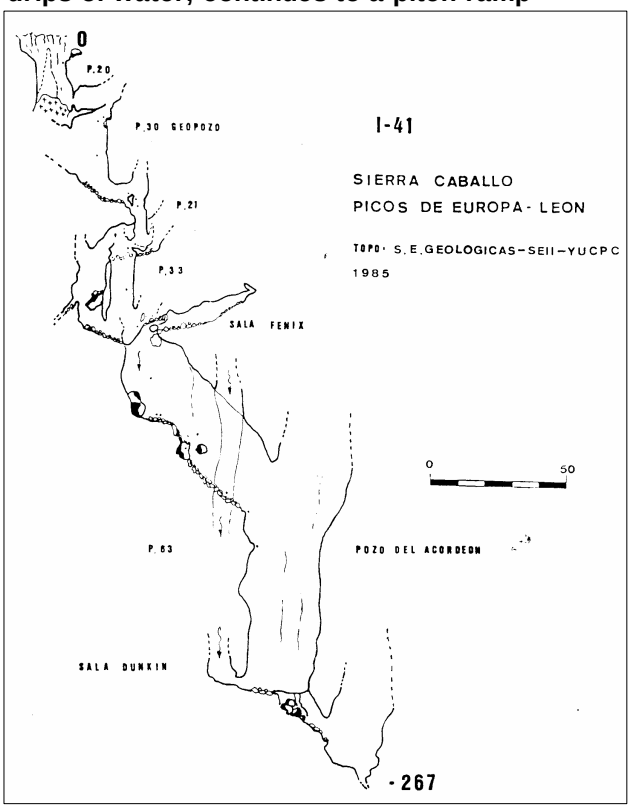
Most of the caves found are situated in the *Picos Limestones* (with the exception of I45 an I41 which surface in the *Vega Huerta- Carbanal Formation*), where the exokarstic processes (lapiaces, shake holes, dolines, etc.) appear strongly developed.

The sketches of pots found are shown, being mainly of little depth, as well as the surveys of the two significantly developed caves, whose importance takes root in the depth of M2 (-975 m in 1987) with a difference in height between their entrances of more than 100 m, the reason why if its connection were found, the system would surpass 1000 m depth.

I41 (-267 m)

Its mouth of large dimensions opens on the eastern slope of a small ridge that rises from Vega Huerta and ascends towards the north until reaching the Peña Santa face, located approximately ten minutes from Top Camp.

The pot is characterised by the presence of free hanging pitches, of large dimensions, that follow one after the other. After descending 10 m down the entrance pitch, one lands on snow that plugs the bottom. It continues via a rift that opens up in the wall of the entrance shaft and leads to the head of Geopozo, a P30 that finishes in a small chamber. After this a P21 and a P33 follow one another, which has another parallel shaft with a water fall. Later, reaching a chaotic area in which a ramp leads us, on one hand, to Phoenix Chamber, in which a fault plane can be seen clearly and on the other hand to an enormous pitch with a large number of unstable blocks at the pitch head, thus hand-lines should be rigged along the right-hand side. This pitch of about 30 m, [fracionado a la mitad] and with abundant drips of water, continues to a pitch-ramp

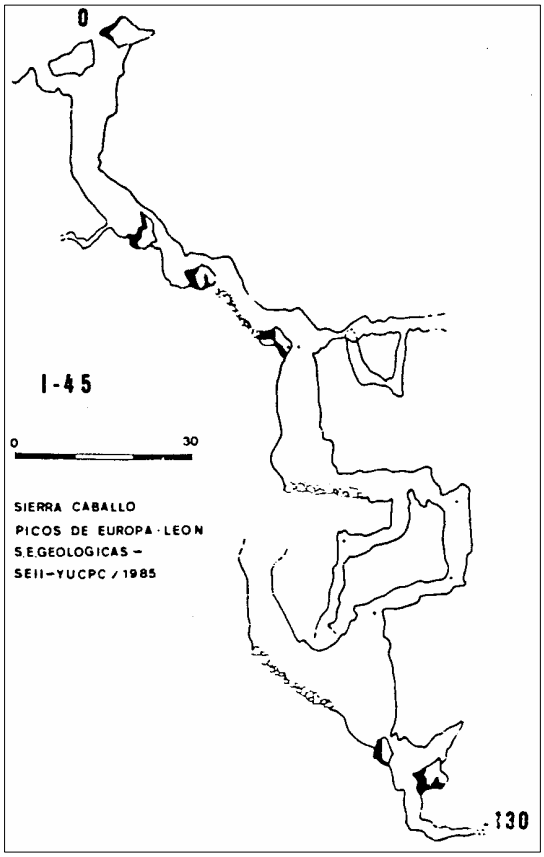


of about 40 m, very dangerous given the instability of blocks and stones that appear. This ends, on one hand, in a very dangerous lateral pitch due to the boulder ramp and with a water fall, and on the other hand in an enormous shaft of 63 m, that ends in the Dunkin Chamber, an oval chamber of about 30 × 60 m, from which one accesses the previous lateral pitch. After the chamber, descend for about 20 m through blocks and boulders to arrive at an area chocked by boulders preventing continuation at – 267 m (see survey).

I45 (-130 m)

This pot opens in the same hillside as the previous one at about seven minutes walking distance and with a vertical distance of about 40-50 m.

Descending the P15 gains access to a narrow rift that presents two routes. The first which appears to take a certain flow of water, ends its exploration in a narrow vertical rift that was not forced. By the other route, a series of pitches of little magnitude takes us to the level of -130 m where it becomes impenetrable (see survey).



Of the various entrances it possesses, descend through the top one, descending through a gallery with blocks before arriving at a P15, crossing to the other side of the gallery to a chaotic, labyrinthine area with great draught.

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