

BCRA



TRANSACTIONS

BRITISH CAVE RESEARCH ASSOCIATION

Volume 8

Number 2

June 1981



Cueva de Cellarón, Secadura

Matienzo

BRITISH CAVE RESEARCH ASSOCIATION

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All material should be accompanied by an abstract stating the essential results of the investigation for use by abstracting, library and other services.

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Speleological expeditions have a moral obligation to produce reports (contractual in the cases of recipients of awards from the Ghar Parau Foundation). These should be concise and cover the results of the expedition as soon as possible after the return from overseas, so that later expeditions are informed for their planning. Personal anecdotes should be kept to a minimum, but useful advice such as location of food supplies, medical services etc., should be included.

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Cover picture: The massive high level segment of
Cueva de Cellaron, Secadura : photo by J. Corrin

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CAVES AND CAVING IN MATIENZO

by L. D. J. Mills

ABSTRACT

The work of the British Speleological Expeditions to the enclosed depression of Matienzo in northern Spain during the years 1969 - 1980 is reviewed. The history of the exploration of over 45 kilometres of cave passage in 250 caves is outlined, as are the prospects for the future.

The attractions of the Northern Provinces of Spain are obvious to all who travel through them. Their population has been historically independent and has a warmth and friendliness which is very noticeable to foreign visitors. The cost of living has, until recently, been very low and certainly less than in Britain. With food and wine at low prices (equivalent of 3p per litre of wine in 1965) it is not difficult to see why caving clubs have looked there for new areas to explore. The northern provinces are called the Costa Verde (Green Coast) and this is an appropriate name when one sees the area with lush green vegetation in high summer. The north is influenced by the closeness of the Atlantic to the Cantabrian mountains stretching from the Spanish-French border near San Sebastian, through the provinces of Guipuzcoa, Vizcaya and Santander into the high peaks of the Picos de Europa and dying out in the west of Asturias. For much of its length the Cantabrians are formed of limestones and, with the high rainfall, it is not surprising that it has produced one of the finest karst areas in Europe.

In 1963, a small group from the Manchester University Speleological Society joined an Oxford University Caving Club expedition to an area near the twin lakes of Enol and Encina near Covadonga in the Picos de Europa. Exciting discoveries were made and the potential of Spain as a place for further exploration was assured for many years to come. Expeditions were organised by the society in 1965 to the same area and in 1968 to an area slightly to the west near Amieva. Although some interesting caves were discovered the really long and deep systems eluded us. The generosity and friendliness of the local people did not however, and led to many lasting relationships which have meant continued visits up to the present day. It was on one such visit that the area which is the subject of this paper was discovered.

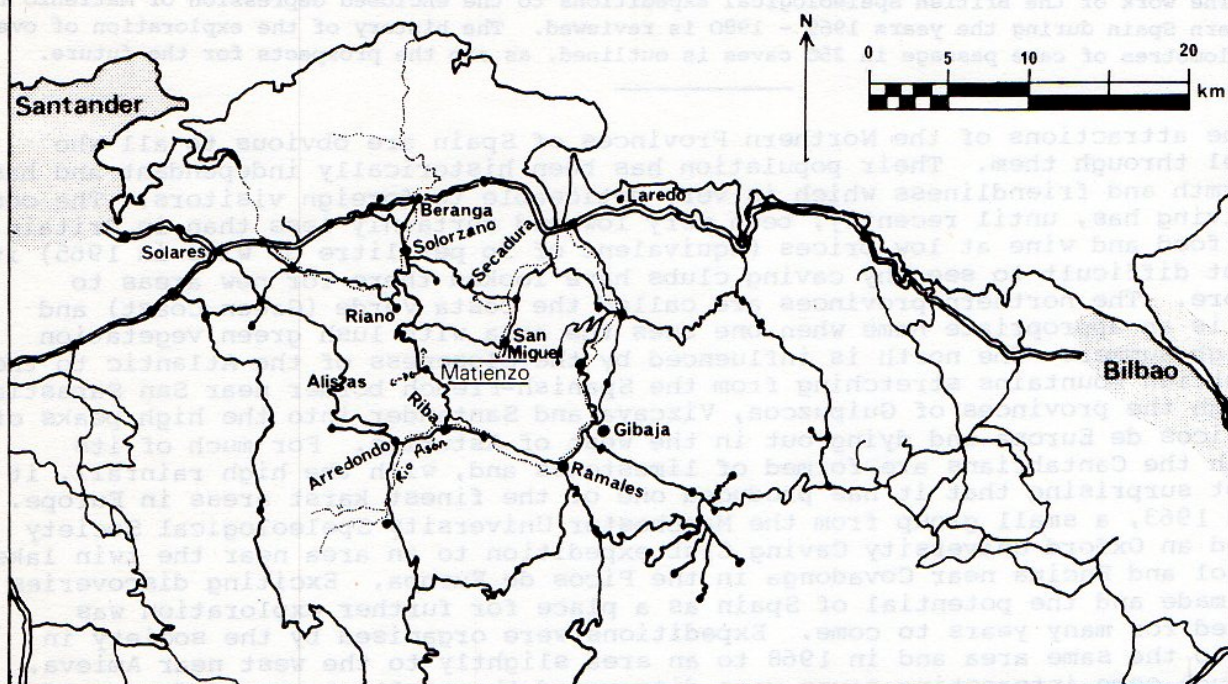
In 1969 a few members of the society decided to revisit Amieva but on the way explore other potential caving areas in the Cantabrians. So it was that one evening they motored down the impressive limestone gorge above Ramales de la Victoria in Santander province into the town itself. As night fell they made their way up to the pass of Puerto de Alisas and seeing the lights of Santander from this impressive vantage point decided it was just the place to camp for the night. As dawn broke at five next morning they were even more excited by the sight to their east. Here was a most impressive valley, half filled with white mist - the nearly horizontal bedding of the limestone standing out well in the shadows cast by the early morning sun. This angle of bedding was in sharp contrast to that of the more familiar Picos de Europa where angles of 70-80° were not uncommon. What made this mist-filled valley even more interesting was that to the north there was no mist and it soon became obvious that they were looking at a large enclosed depression surrounded by limestone ridges. It contained the village of Matienzo and had much of speleological interest. So began our visits to the valley which have continued almost yearly until the present.

Matienzo lies 25 km south east of Santander in the northern foothills of the Cantabrian mountains. (Fig. 1). The landscape is dominantly one of rolling scrub covered hills broken by the occasional limestone scar or lapiaz. The Matienzo valley is completely closed and forms an impressive karstic depression. (Plates 2, 3). The floor of the valley is almost level for about 3 km² but the total area of the depression enclosed by the surrounding ridges is 26.3 km². Local relief is nearly 800 m. The lowest point in the Matienzo valley is at an altitude of 147 m. and from here the underground drainage falls another 97 m. to the rising in the Secadura valley which is less than 15 km from the sea. Two passes lead out of the Matienzo valley at altitudes of 450 m and 347 m and the highest point on the rim is Mullir at 833 m. Practically the whole of the relief is in Cretaceous limestones. Three branches compose the Matienzo valley. The lowest to the north is known as Secada; it has a broad flat floor and is prone to flooding when the flow of the sinking river is too great for the cave into which

Santander Province
Northern Spain

Fig. 1.

Matienzo location map
showing selected roads,
rivers, towns and villages



it disappears. The western, Vega branch has a long, narrow, flat floor only slightly higher than Secada. Rather different is the Ozana branch to the south east, which is more broken and sloping down to the confluence. Matienzo village stands at the hub of the valley. It is a straggling farming community containing about one hundred houses, a school, church and seven bars. Three roads give easy access to the valley via the main passes from the north-east and south. While the valley floors are all cultivated and cropped, most of the hills are only grazed or left untouched because of the dense vegetation.

Owing to the influence of the Atlantic, the climate on these northern slopes of the Cantabrians is not typical of the rest of Spain - Matienzo receives an annual rainfall of around 1200 mm. In summer the afternoon temperatures frequently reach 25°C, but the valley acts as a cold air trap in the night and early morning causing the formation of mist which clears only slowly on windless days.

Within the Matienzo valley and its immediately surrounding area we have now discovered over 45 km of cave passage. Most of this is often 5 m or more high and wide. Many of these passages have been abandoned by the present day streams and hence are dry and relatively warm with a typical temperature of around 10°C. These factors combine to make most of the caving in the area relatively easy, and exploration, surveying, and photography proceed at a pace which might be envied in Britain. Although many of the caves explored are near horizontal some do contain vertical sections and several approach 200 m. in depth.

The river in Matienzo valley has a mean annual flow of around 0.5 cumecs although J. C. Fernandez Guterrez (1966) has reported an impressive flood in 1965 in which something like 600,000 cubic metres of water passed out of the main sink at Carcaveuso in 36 hours. This gives a mean flow of 5 cumecs over this period. Although such floods are not rare in summer we have been lucky in not experiencing them while underground.

HISTORY OF EXPLORATION

1969..... After our brief visit to the valley in 1969 we continued on to visit our friends in the Picos de Europa. On our return we decided to visit some of

the many caves containing prehistoric paintings to be found along the coast. The finest among these is probably the cave of Altamira. Now sadly closed it was at that time open to visitors. Among the publications for sale we were delighted to find a journal (Guitierrez 1966) detailing the Spanish exploration in the Matienzo valley in the early sixties. They had discovered and explored parts of the Risco cave system and several of the small feeders. Cueva del Agua (Pl.1, Fig.1 and Pl.4, Fig.1; also Fig.6) had been partially explored and many of the dry abandoned remnants such as Cofresnedo, the entrance of Cubio de la Reñada and Codisera had been investigated. From their accounts there appeared much potential remaining with sink to resurgence distances of 3.5 km and many questions marks on surveys. We read the book and vowed to return!

1970..... In 1970 a group of eleven M.U.S.S. members visited the area and spent two weeks exploring the most obvious caves. Descents were made of Loca 2, Cueva del Agua, Sima Cueva del Risco, Jiveros 1, 2 and 3, Comediantes and several other known caves. The strongly draughting entrance to Carcaveuso was discovered and the cave explored for a short distance to the main river but no way on could be found through the choke. Outside the valley near Riaño the entrance to Cueva Uzueka was looked at and the small caves nearby were explored.

1971..... The summer of 1971 saw an abortive attempt by a small group to return to the area. The vehicle broke down and only a few days were actually spent in Matienzo. The only notable discovery was the finding of a way through the choke in Carcaveuso. Unfortunately after 300 metres the river sumped and no way on was obvious.

1972..... In 1972 only two society members made the journey to Spain. They visited the resurgence for the Matienzo river in Secadura and considered it needed further investigation. The entrance to Cueva Riaño was found although their camping gas light proved inadequate for the exploration of the tight and strongly draughting entrance series!

1973..... Despite the obvious potential there seemed little club enthusiasm for an organised trip in 1973 and it was again a small group who returned in the summer of that year. Although only in the valley for three days this trip turned out to be very successful. The tight and rather unpleasant entrance series of Cueva Riaño was soon passed into a complicated series of large dry tunnels which were estimated to be 3 km in length. In Cubio de la Reñada the previously known cave was extended from 600 m to approximately 4 km (Fig.5, Plates 7 & 8). In both cases many passages were left unexplored and the potential seemed considerable. On their return to England it was not difficult to organise a larger party to visit the area in the next year.

1974..... In July 1974 probably the most successful of our expeditions arrived in Matienzo. The potential for exploration had by now attracted members of other clubs and K.C.C., B.S.C., and U.L.S.A. were now represented amongst our numbers. Early arrivals explored Cueva Tiva to a choke and surveyed Carcaveuso. When the main party arrived at the beginning of August, Cubio de la Reñada was surveyed and Cueva Onite discovered. This was soon connected to Cueva del Risco and the through trip completed. Torca de la Cabaña was found and explored and while Cueva del Agua was surveyed Cuevaona was dived by Geoff Yeadon and connected to it. Attention was then turned to the caves around Riaño. Most of Cueva Riaño was surveyed before the team was diverted to Cueva Uzueka where the entrance was engineered and partly surveyed in four trips. An easier entrance was found and this considerably eased exploration in later years. As the heavens opened in the last few days of the expedition, Cueva Mortiro was explored and Cubio de la Reñada detackled. In all 15 km of new passage had been explored and surveyed. The group returned to England well satisfied, but convinced that there was much work still to be done.

1975..... With this in mind a small group organised themselves so that they could visit the area from early spring to summer 1975. Although small this group were able, despite incredibly bad weather, to do much surveying and surface work. They discovered extensive passages in Cueva Tiva and made the connection with Risco. They completed the survey of this complex cave and its tributary feeders and brought the combined length to over 10 km. Cueva Coveron was located and its 2 km of passage surveyed. As other members of the 1975 expedition came out from England, attention was again given to Cueva Uzueka. At the time it seemed obvious that this and Cueva Riaño were connected and efforts were made to make this a reality. To this end a party went to the 1974 end of Pigs Trotters Chamber and pushed a low, wet crawl from which blew a very strong draught. This was soon extended into large passage and it became obvious that they were not in Cueva Riaño but heading away to the east. Further exploration that year extended the cave through Cross-over Crawl into Las Playas to the Astradome and eventually

into the enormous boulder chaos of Armageddon. (Fig. 4; Plates 5 and 7). Here the known end was to remain for another year. In Cubio de la Renada two successful dives had allowed Renada 2 to be surveyed and increased the caves length by over a kilometre. The divers had also penetrated the Nacimiento del Rio Clarin and after carrying scaling poles through the 12 m sump had explored more than 300 m of complicated passage on several levels. On our return the Matienzo 1975 report was produced and contains many of the surveys done during the previous years.

1976..... The 1976 expedition began with the first arrivals investigating a large depression which had been noted in previous years at the head of the Llueva Valley. Considerable digging at two strongly draughting holes had not produced any results and other possibilities were sought. A short crawl was investigated at the bottom of the depression and after a few hours digging they were able to gain access to the very impressive Cueva Llueva and meet the water last seen in the main sink of Carcaveuso in Matienzo valley. After some days of exploration they were disappointed to find that although over 2.5 km long, the cave sumped both up and downstream and progress was thus halted in the expected link up of the now Four Valley System. (Fig. 8; Plates 1 and 4). Some days later the Armageddon choke in Cueva Uzueka was pushed and after a short pitch the streamway regained. Reincarnation, as this passage was named, led to another kilometre of passage and ended in a further choke in Rocky Horror. (Plate 6; Fig. 1). The exploration party had placed 1 kg of fluorescein in the streamway at Duckhams sump and this was detected one week later at Secadura and also by activated charcoal detectors placed in Cueva Llueva. Uzueka and Llueva were now less than 300 m apart according to our surveys and the attempted connection of this Four Valley System was to dominate our activities for years to come. Near Secadura an interesting maze of a cave named by us Torca del Rayo de Sol was discovered and this also was to become more significant in future years.

1977..... The weather in Spain in 1977 was atrocious and for much of the time large parts of the valley were completely under water. This severely restricted the work programme and only small finds were made. The upstream and downstream sumps in Llueva were dived but little progress was made. A further dye test indicated that Cueva Uzueka entered Cueva Llueva beyond the upstream sump.

1978..... Possibly because of the weather in 1977, 1978 saw a reduction in the numbers of participants in the expedition of that year. Further progress was made through the Rocky Horror boulder choke and several possibilities opened up. The very impressive 30 m diameter Astradome aven was investigated using a weather balloon filled with helium and was found to be 101 m high. (Plate 7, Fig. 4). A new cave (Solviejo) partly explored by the Spaniards from Laredo Caving Club was extended, bottomed and finally joined up to form a 3.5 km system with Torca del Rayo de Sol. (Plate 8, Fig. 2). Torca de Mostajo was discovered and explored. Cueva de Cellarón was descended and its significance as part of the old high level route between Llueva and Secadura was realised. (Cover photo).

1979..... The 1979 expedition was able to borrow the 'Molephones' from Bob Machin and one of the priorities was to locate various points in Cueva Uzueka relative to the surface. In this they were very successful and found that the survey was remarkably accurate being only about 30 m out at Rocky Horror some 7 km into the cave. A by-pass to Armageddon was discovered and further progress made in the Rocky Horror choke. The weather was again not kind and curtailed further exploration in this area of the cave. Several smaller caves and pots were discovered and a dive by Phil Papard in the upstream sump of Llueva discovered the way on, though this was not pursued due to the lack of a support diver.

1980..... In 1980 this sump was passed by four divers and found to be 30 m long. After 140 m of boulder-filled passage the way on was choked, although there appeared to be possibilities for digging. This choke is now only 170 m from the downstream end of Uzueka. The upstream sump in Cubio de la Renada was passed again and the way on was found although some work is still needed. A new cave (Fuente de la Cuvia) near Riaño was explored for 735 m (Plate 8, Fig. 1) and another at Fresno pushed through a complicated maze for 300 m. Although various potholes had been explored in previous years, in 1980 real attention was given to the hills of Muela, Mullir and Cueto and over 50 shafts noted. Of these over half were descended, the deepest being a single drop of 152 m.

This then brings us to the present day. In eleven years of activity over 45 km of cave have been explored and over 250 caves located. This has produced a particularly clear picture of the underground development in the area.

FUTURE PROSPECTS

Each year has allowed us to answer more questions about the valley but there are still areas where our knowledge is uncertain.

Starting in the La Vega branch of the valley, the source of the main river which flows through the far reaches of Cubio de la Renada is still unknown. There are very few inlets to the system and the water flow at the end of the cave is much the same as at the entrance. Is this percolation water from under the Beralta-Alisas ridge? Or are there stream sinks further away which could account for the flow? There are certainly sinks in the Bustablado valley to the south but it seems unlikely that these are accounting for the Renada flow. The position of Arenal and its strong draught perhaps indicates some connection with the system beyond the present end of Renada. Future work here may help to answer the question. In Cueva del Agua the source of the inlet water is unknown and the past function of Rascavieja perched as it is above the present valley floor is enigmatic.

In the Ozana branch of the valley there are fewer problems as we have a particularly clear picture of the present day drainage. Only the past function of Codisera and the present destination of the water flow in Orillon are difficult to explain.

The high hills of Muela, Mullir and Cueto and their associated potholes have recently introduced a new phase to the exploration in the area and it seems certain that some exciting finds will be made.

In the La Secada branch of the valley lie some of the most interesting prospects. Carcaveuso has progressed only a few hundred metres towards Cueva Llueva and is still nearly a kilometre away. The cave itself does not give much hope for extension, but in the fields and woods above are several strongly draughting holes which may prove more worthwhile. The closeness of Rocky Horror in Uzueka to this end of the valley must not be forgotten. The possibilities for the link between Uzueka and Llueva are still high and this must remain a priority for the future. Downstream in Cueva Llueva could still be divable and other holes like Cellarón may drop into the old route from one valley to the other. The possibilities of completely unknown caves are also high. Four of the longest of our discoveries were all entered by digging out entrances which were originally less than body size! In 1981 it is hoped to be able to set up a three way 'Molephone' link between Uzueka, Llueva and the surface and this could enable the Four Valley link to be forged at last. The 1981 expedition like the previous three is being organised by J. Corrin and with prospects for further discoveries excellent, the area will undoubtedly be visited for many years to come.

ACKNOWLEDGEMENTS

Although the earlier expeditions consisted of solely M.U.S.S. members, other clubs have joined us in our activities since 1974. Most prominent amongst these were Kendal Caving Club and Bolton Speleo Club and other clubs have joined in the explorations more recently. These include B.C.C., C.P.C., C.D.G., D.C.C., E.P.C., N.M.C.C., P.C.C., P.P.C.P.C., S.M.C.P.C., U.L.S.A., W.R.C.P.C. Credit must be given to these clubs for their contributions over the years as it must to the following cavers: Frank Addis, John Alexander, Phil Berrie, Stan and Di Brown, Chris Cleary, John Cope, Juan Corrin, Tim Cuniffe, Stuart Davey, Barry Davies, Martin Delamere, Pat Devine, Nigel Dibben, John Dickenson, Eddy Edmundson, Bob Emmot, Dave Evans, Tony Fifield, Steve Foster, Andy Finch, Lenny Gee, Paul Gelling, Roger Graham, Dave Hanson, Pam Henson, Dave Howard, Andrew Jones, Wayne Kitchen, Howard and Debbie Limbert, Dave Linton, Lank Mills, Ian Morley, Chris Moys, Roy and Julie Mundy, John Naish, Phil Papard, Keith Plumb, Dave Rowlands, Dennis and Rhoda Rugg, Gail Searby, Pete Smith, Geoff Standring, Grodon Strefford, Ron Taylor, Dave Tringham, Alan Trevarethan, Joe Turner, Tony Waltham, Ian Williams, Tony Williams, Fred Winstanley, 'Squirrel' Wood, John Yeadon, Geoff Yeadon, Linnet, Graham O and Sweeney.

The Spanish Caving Authorities have, from the very beginning, taken an interest in our work. We have greatly appreciated the personal interest shown by J.C. Fernandez Guterrez and Jose Leon Garcia. Since our earliest days in Matienzo J.C. Fernandez Guterrez has often visited us during our summer camps. His intimate knowledge of the pre-1969 Spanish caving explorations and the geology of the area have often suggested to us new areas for exploration. Jose Leon Garcia, as Regional Committee Chairman based at the Museo de Prehistoria, Santander, has helped us by providing some of the necessary permits as has the President of the National Soc de Espeleogia in Madrid.

A number of active Spanish cavers have helped us during our stay, particularly Alfonso Pinto and Regino Rincon.

The mayor and villagers of Matienzo have been (and indeed still are!) incredibly friendly and hospitable. They have taken an interest in our caving activities and without their guidance many of the entrances would have remained undetected by us. To catalogue the communal events to which we have been invited would take several pages. Suffice it to say that goat, donkey and sardine barbecues, cricket, pasablo and football matches and the convivial atmosphere of evenings in the bar have heightened the Matienzo Experience !

We would like to express our thanks to Bob Machin who, on two occasions (1979 and 1980) lent the expeditions a set of Molephones. Without the use of these radio-location devices we would be much less confident of the accuracy of the Four Valleys system survey.

The following firms have donated equipment:

- Phillips Patents (Bury) Ltd. - Three weather balloons for finding the height of the Astradome Aven in Cueva Uzueka.
- Rabone Chesterman - A number of closed and open reel 30m surveying tapes and one 100m open reel tape.

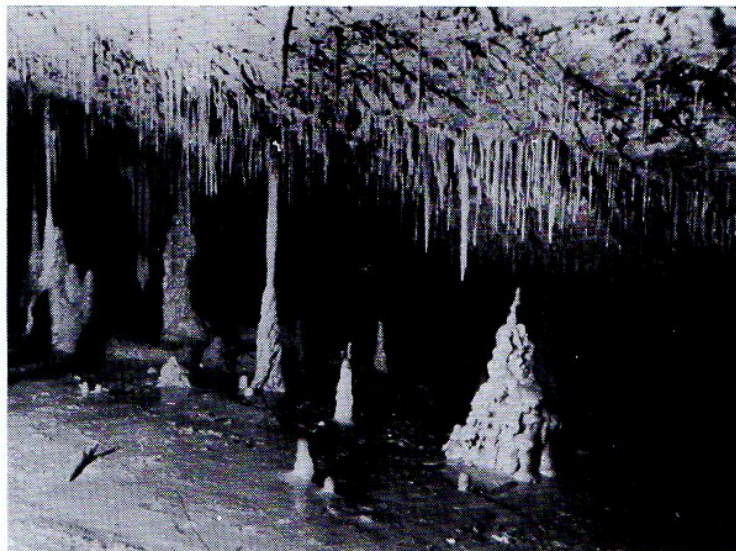
We are grateful to the Ghar Parau Foundation who administered our Sports Council Grants in 1976, 1978, 1979 and 1980 and who gave us a G.P.F. grant in 1979.

REFERENCE

Fernandez Guiterrez, J.C., 1966, La Depresion cerrada de Mateinzo; Caudernos de Espeleologia, v. 2, Santander.

February 1981

L.D.J. Mills,
St. Georges Terrace,
Cowpe,
Rossendale,
Lancs.



1. Formations on the 'ramp in Cueva del Agua
(L.D.J. Mills)



2. Negotiating the deep water in the phreatic zone downstream
of the entrance pitch in Cueva Llavea (J.S. Corrin)



3. The sand banks of Las Playas, Cueva Uzueka. (J.S. Corrin)

Plate 2

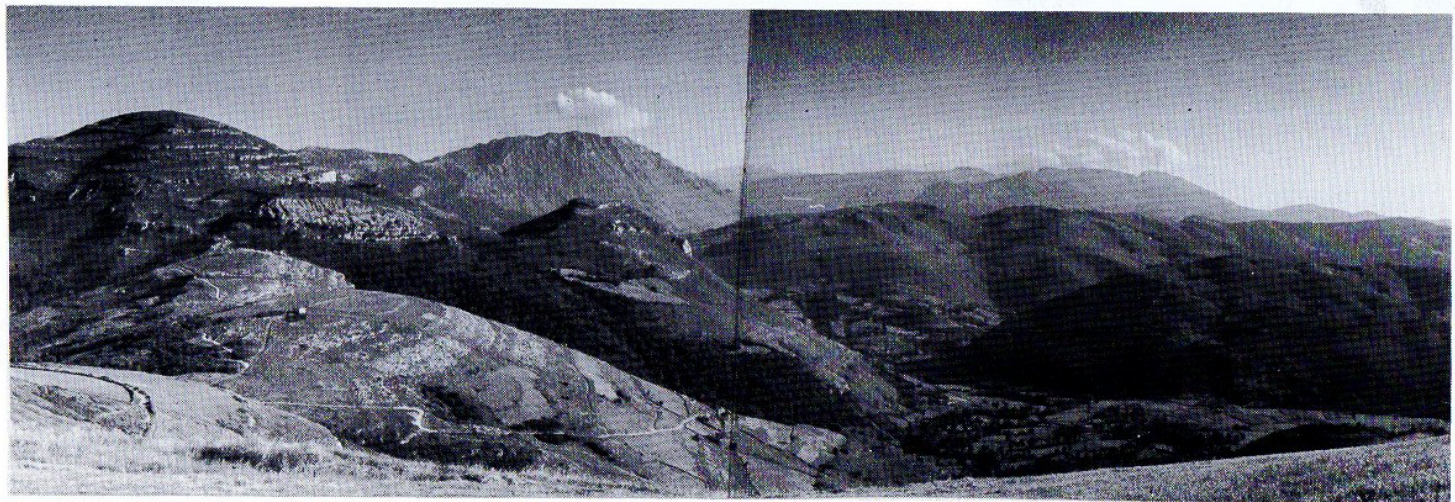
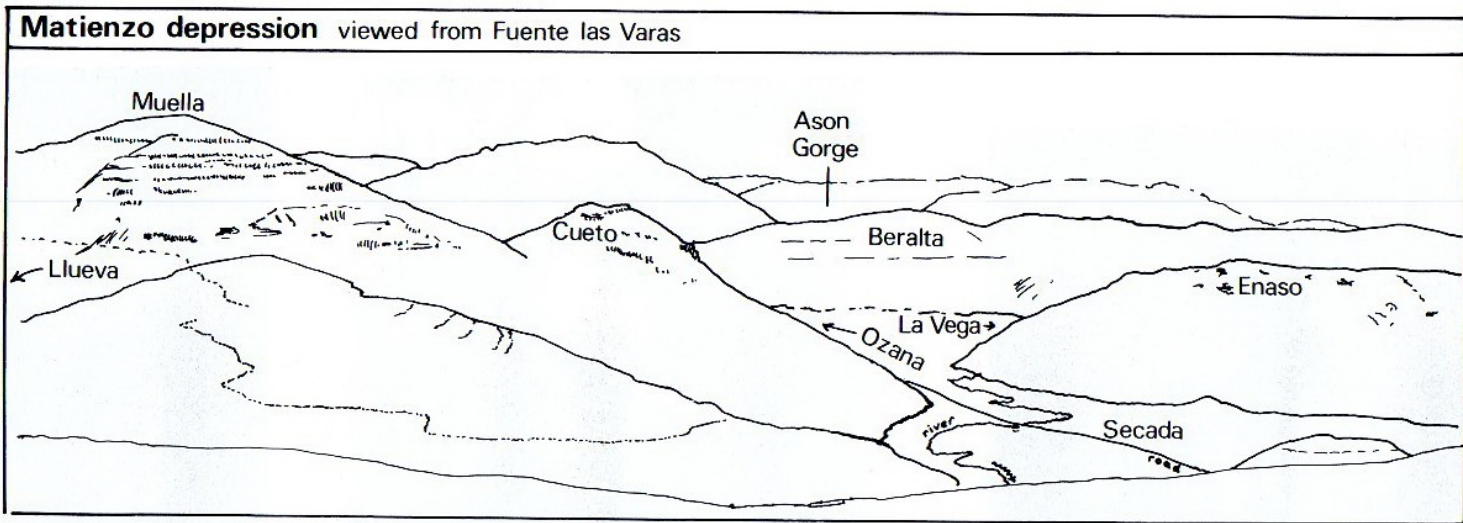
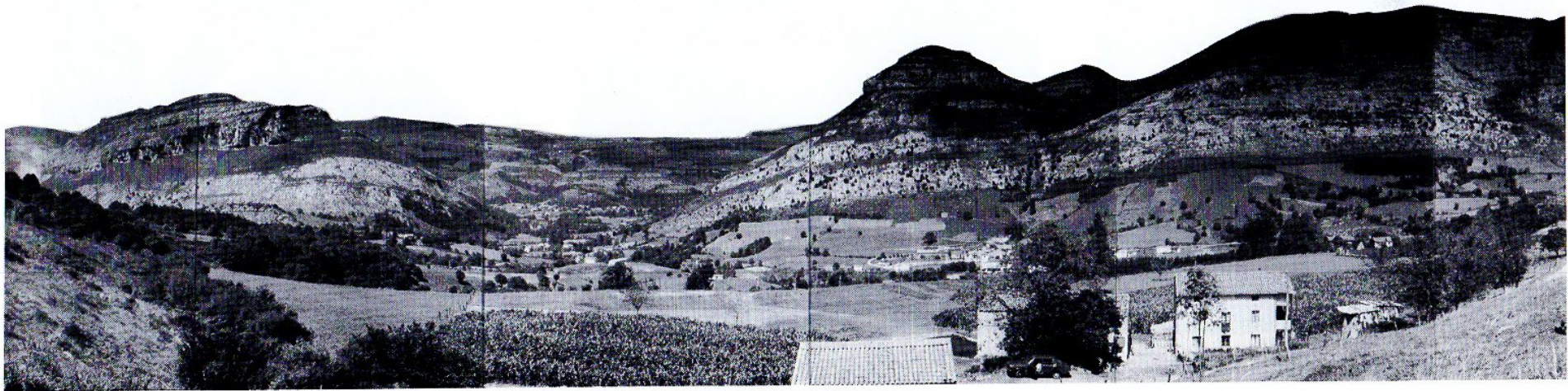
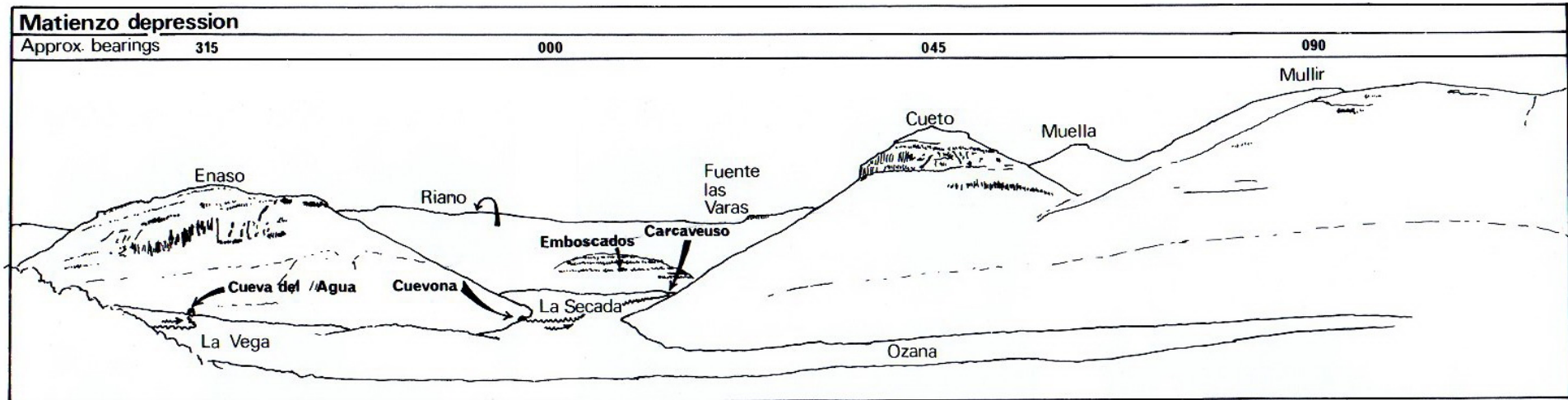
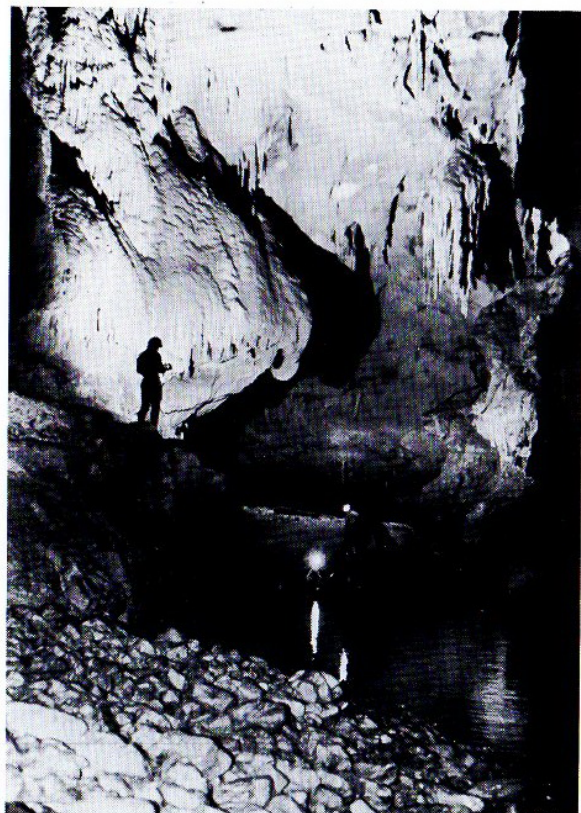


Plate 3





1. First lake in Cueva del Agua (L.D.J. Mills)



2. The high level passage of Cueva Lluva. The light at the far end is 200 metres distant. (L.D.J. Mills)



3. Quadraphenia, the sandy-floored entrance series of Cueva Uzueka (L.D.J. Mills)

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