

OXFORD UNIVERSITY

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12

Proceedings of

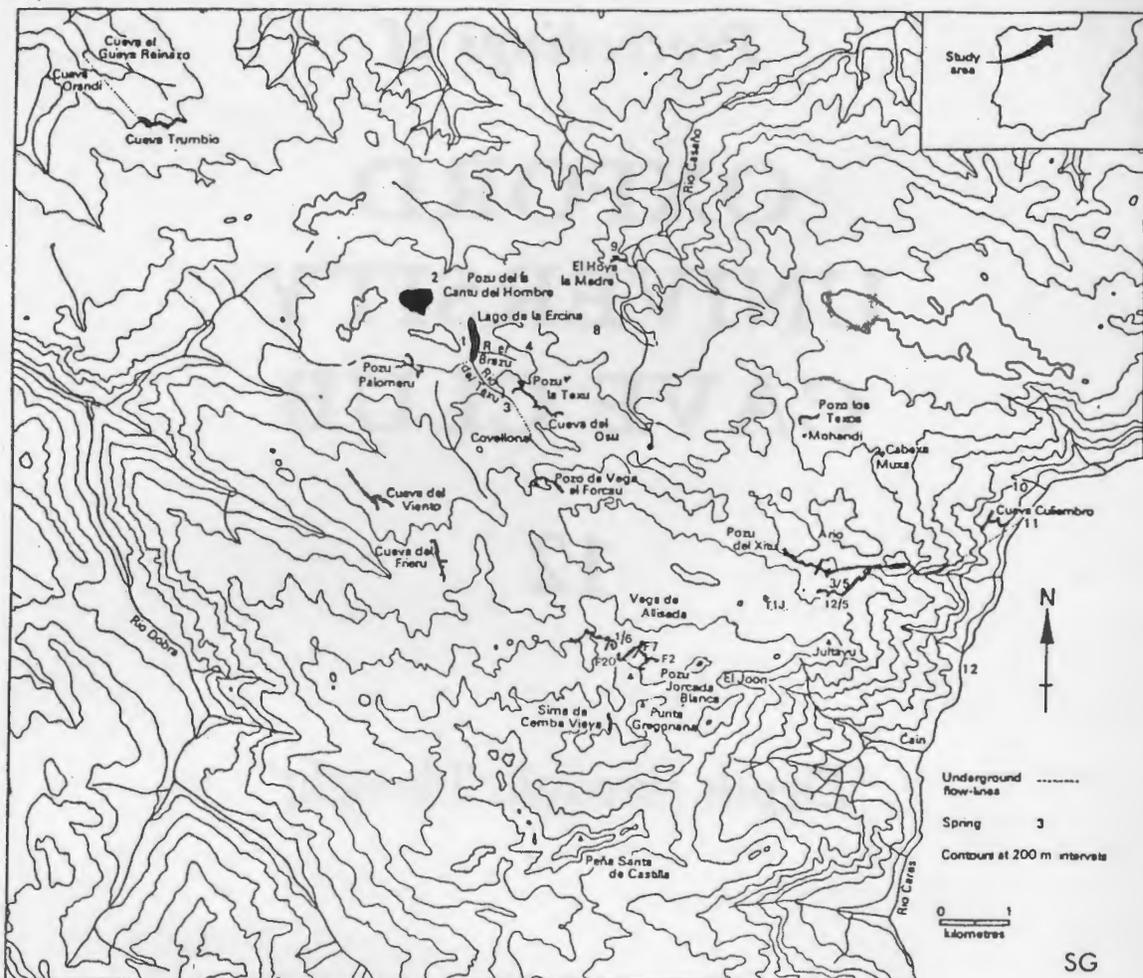
**OXFORD
UNIVERSITY
CAVE CLUB**

12

'Depth through Thought'

**A Report of
O.U. La Verdelluenga Expedition 1984
O.U. Jultayu Expedition 1985
&
O.U. Conjurtao Expedition 1986**

Produced by OUCC, October 1986; editors Ursula Collie & Steve Roberts.
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Expedition Location



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The cover picture is of Paul Brennan in Cueva Culiembro, by Martin Hicks. The photograph of the 1961 Expedition is reprinted courtesy of the Oxford Mail. Other pictures by Martin Hicks, Geoff Hogan, Dan Mace and Gerhard Niklasch are credited by the photographers' initials. Cartoons are by Tom Houghton, Gerhard Niklasch and Fred Wickham. Thanks to the Photographic section of O.U. Metallurgy Dept. for preparation of negatives, and to O.U. Computing Service for help with the typesetting.

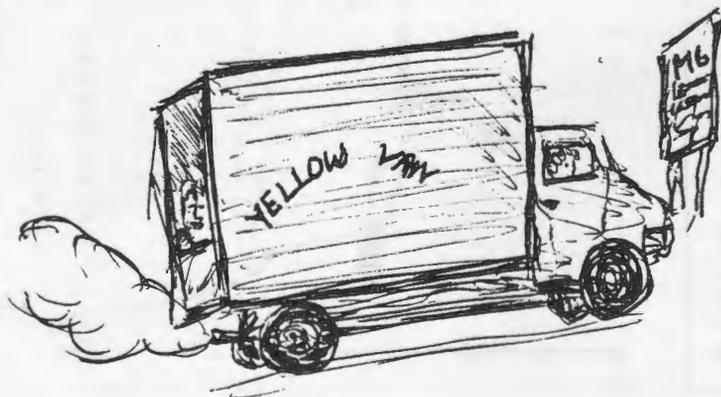
Special thanks also go to everyone in our drinking and shopping haunts at Los Lagos and Cangas de Onis, who have always treated us with the greatest warmth, hospitality and tolerance!

THE YELLOW VAN SPELEOS

Mike 'Ario path' Berners-Lee	84
Paul 'I want the caving world to take me seriously' Brennan	85,86(Ta)
Ursula 'I believe I'll have another one of those' Collie	84,85(S),86
Jonathan 'I'd rather have a bunch of flowers' Cooper	86
Paul 'I packed a plastic sack' Cooper	86(M)
Steve 'Radio star' Davies	85
Silvia 'Rabbit rabbit' Dacre	84
Nicola 'M. S. & D.' Dollimore	84,85(Tr)
Phil 'Hang it free' Duncan	84,85,86
Stephen 'Hydrogeologist' Gale	84(L),85
Duncan 'Are Mornflakes rationed?' Gilchrist	85,86(S)
Richard 'Dr. Feelgood' Gregson	84(M),85,86(M)
Sara 'Who needs to eat in such a beautiful cave' Gregson	84,85(M)
Martin 'Stereo pair' Hicks	84,85
Sean 'No sex please, I'm having a cup of tea' Hodges	84,85
Geoff 'I like it dangling round my ankles' Hogan	85,86
Dave 'I know the technique of firewalking' Horsley	84,85(Ta),86(Tr)
Ian 'Re-rigger' Houghton	84(E),85,86
Jan 'Trouble is, I'm up here' Huning	84
John 'Be nice to the cows, they are my friends' Hutchinson	84(Tr),85(Sc),86
Steve 'Pity there are no hard caves in England' Mayers	85,86
Dan 'I'm all right!' Mace	86
Neil '80%' McHugh	86
Martin 'Man Mountain' May	85,86(L)
Mike 'Shall we take a lighter?' Mead	86
Chris 'Oh! It's the pitch head!' Morris	84
Margot 'Just going downhill to tire him out' Morris	85
Graham '.....' Naylor	84,86
Gerhard 'Well-ordered in the strict mathematical sense' Niklasch	85,86
Andy 'Ethical' Riley	84,86
Sue 'I'd rather have it off, actually' Robiette	85
Steve 'Stand by your Van' Roberts	84(Ta),85(L),86
Dave 'We Roses have large willies' Rose	84,85,86
Phil 'We Roses have small willies' Rose	84(S),85,86
Phil 'Someone's stolen my <i>wetsocks</i> ' Sargent	84,85
William 'Beaky' Stead	85
Roy 'I'm not paying seven pounds for a bit of rope!' Taylor	86
Jon 'Hacker' Tombs	86
Iestyn Walters, 'The Great Waldo'	84,85
Markus 'Oh, yes, good' Wandinger	86
Fred 'People always take advantage of me when I lie down' Wickham	84,85,86
John 'Fort' Wilcock	85,86
Hilary 'Matron' Winchester	84,85

Credit must also go to our strong supporting cast of: Blas, Julia, Eduardo, Leslie, Netty, Paula, Franzjorg, Mañuel, Carles and last but not least, the singing pastor.

(L=leader; S=secretary; Tr=treasurer; Ta=tacklemaster; E=equipment officer; M=medic; Sc=science officer.)



INTRODUCTION

Ursula Collie

In 1983 our potential 'deepest cave in the world', Pozu Jorcada Blanca, ambitiously nicknamed 'FU56', had sumped at -590m: a respectable depth, but far short of our expectations. We went out the next year with few leads and only one going cave, and 1984's largely inexperienced team put the dreams of world depth records behind them and began the work of piecing together the Ario and Top Camp systems.

We started at Top Camp by pushing F7, Pozu las Perdices, into the Hot Tub in Jorcada Blanca, while at Ario we hammered away at an unpromisingly small squeeze which our leader, Stephen Gale, unaccountably thought would go. Go it did, and so that year we explored Pozu la Cistra, a fine sporting entrance into Xitu, joining the main stream at Dampturation. We had the beginnings of the present Sistemas, we had laid the groundwork for the present surface surveys, and some of us enjoyed a tourist trip down the 900m Sima Cabeza Muxa, a river cave pushed by the Spanish club S.I.E. This, too, was the first Year of the Yellow Van.

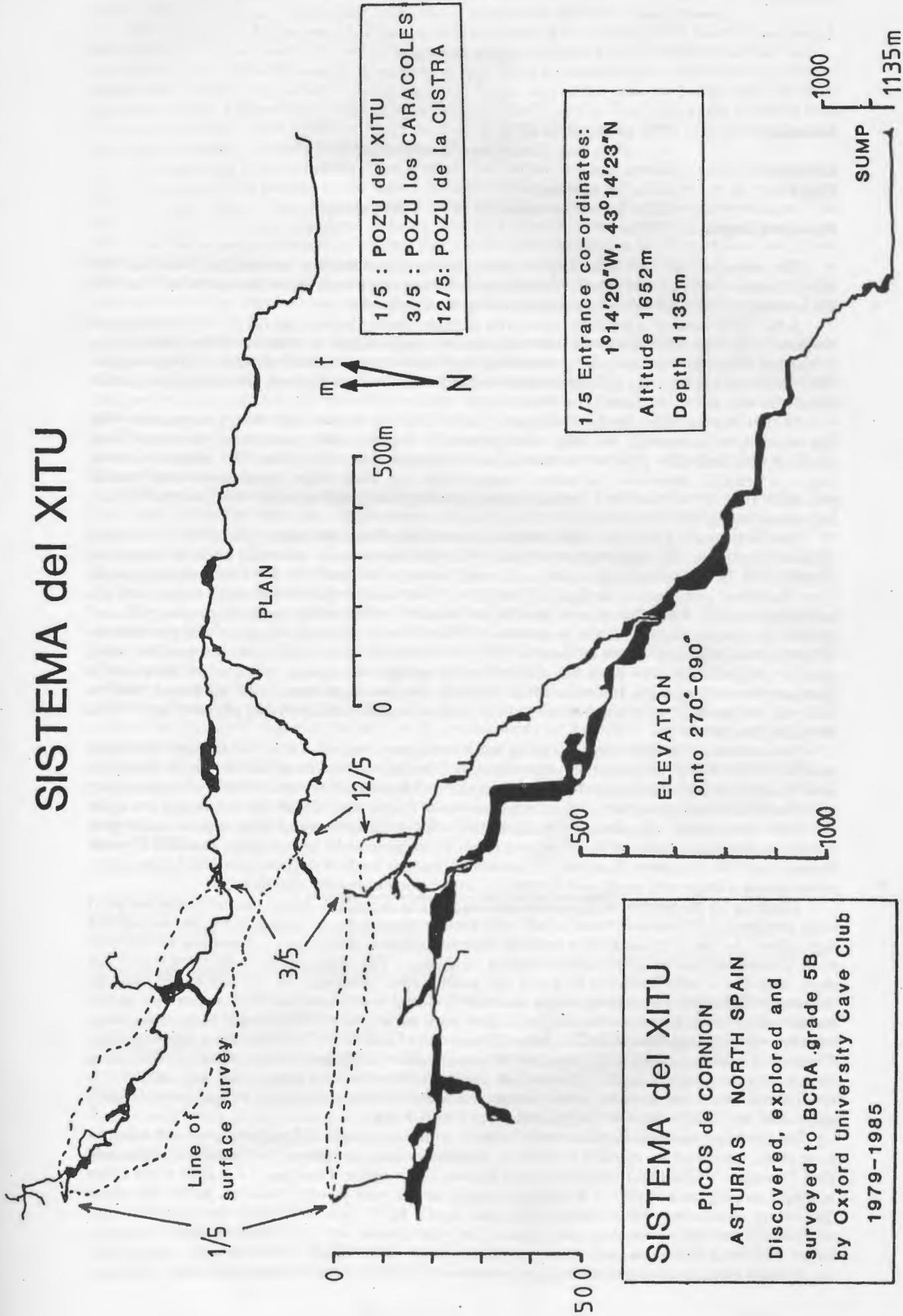
In 1985, led by Steve Roberts, work continued at Ario and at Top Camp. This was the year of the tight and nasty hole, as OUCC finally braced itself to push Pozu los Caracoles (3/5) to its bitter end: the Gap in Xitu. Another tight pot - F20 - was extended at Top Camp, and speculation was rife as to whether this would be the third entrance to the Sistema Jorcada Blanca. I think we ran a book on it. The huge open shaft, Tras la Jayada, was descended a second time and a small extension found. But the crowning glory of that year's Expedition was the rediscovery of the Sistema Conjurtao, originally found and promptly lost again in 1980 by Dave Rose. This was a system of an entirely different character from our previous Top Camp discoveries, marked by its vast dry chambers, and, trending in a different direction from either F20 or the Sistema Jorcada Blanca, it promised very well. Talk of 'deepest caves' was once again heard in some quarters.

It was a diverse crew that Martin May led back to the Picos in 1986. At different times we were joined by: an independent team of British divers; a photographer and a surveyor from Munich; two Spanish cavers from Barcelona; and two stranded Dutch travellers who had jettisoned all their possessions in a desperate attempt to escape from a cliff 'path' of life-threatening precipitousness. The Expedition was also distinguished, unfortunately, by the number of mishaps and accidents that befell us, starting on the very first day when our beloved Yellow Van blew a piston in Newbury, and we had to get ourselves and our gear to Spain by dint of hiring vans and coaches (and with the greatest help and co-operation from Brittany Ferries). The services of our Expedition doctors were more in demand than ever before, with one member injured by a falling rock and another suffering a head injury deep inside Ridge Cave.

On the caving front, we concentrated our work at Top Camp, linking 2/6 to 1/6 (Ridge Cave), and bottomed first the resulting Sistema Conjurtao (-655m) and then, after much strenuous caving and an underground camp, reached the F20 sump at -582m. We found a new cave on the Ridge, F40, and bottomed it absent-mindedly.

It feels like the end of a chapter of the Club's caving in the Picos. These have been three years in which we consolidated our knowledge of the caves around Xitu and at Top Camp. The sumps we have found in the Top Camp area are all at a similar level, so it seems that theories of a perched water table here may well be correct, and OUCC will have to look harder or further afield for its discoveries in 1987 and the years to come.

SISTEMA del XITU



1/5 : POZU del XITU
 3/5 : POZU los CARACOLES
 12/5: POZU de la CISTRA

1/5 Entrance co-ordinates:
 1°14'20"W, 43°14'23"N
 Altitude 1652m
 Depth 1135m

SISTEMA del XITU
 PICOS de CORNION
 ASTURIAS NORTH SPAIN
 Discovered, explored and
 surveyed to BCRA grade 5B
 by Oxford University Cave Club
 1979-1985

POZU LA CISTRA (12/5): DESCRIPTION

Steve Roberts

Location	1°13'48"W, 43°14'08"N = 1.00km from Xitu entrance, on bearing 123°
Altitude	1578m a.s.l.
Depth	597m (as surveyed) 602m (after loop-closure to Xitu; 1.05% error)
Surveyed length	1631m

The entrance is to the left of the path up to Jultayu, about halfway between the Trea path and where it starts to ascend. Over the lip of the slope down towards the gorge is a 2m oval hole. There is a flat area nearby suitable for changing or admiring the sunrise/set.

A 4m climb lands in a small chamber with daylight visible through the rift in one side. A slot in the floor is the head of the first pitch, for which a ladder can be rigged to numerous flakes. This lands in a chamber with a few boulders, and another hole leads to the second pitch (bolt belay). This lands in a small rift, from which climbs up lead to some small chambers with formations, and some gravel/climbs down lead to a slot in the floor (The Newt)

In 1981 this was noted on the sketch survey as 'to Xitu ?? 8 second drop'. A large amount of effort was devoted to hammering the slot, which eventually became easily passable on the way down, abseiling with descender attached to cowstail, and with most gear off or loose. The return involves a degree of deshabile dependent on stature - some people (i.e. Rose senior) found removal of oversuit necessary. Luckily, 4m below the vertical squeeze is a large(ish) ledge on which one can gear up fully before continuing the descent.

The next pitch (Oasthouse, 30m) follows immediately from the ledge, and needs a deviation approx. 10m down. The chamber at the base of the pitch serves as a collecting point for articles of clothing, etc., let slip in the Newt. An obvious small hole is at the head of a short and mildly awkward drop (handline) and climb to the head of Owl Pitch. This descends past several spiky ledges, with the amazingly owl-like formation on one, into Chaos Chamber, where many stages of collapse, infill and flushing out are obvious even to the untutored eye. From here, a short series of climbs and grovels leads to the head of Milliways. Above the head of the pitch, several traverse/climb routes are possible, going nowhere in particular. The pitch has a short broken section to a rebelay, then a 15m drop into a junction of two rift passages. Upstream of the junction, one inlet leads immediately up a short climb to an aven, and the other up a rift climb and twisty traverse into the well decorated phreatic 'La Prevista de Santa Dominico'.

Downstream, a narrow 'twisty section of active streamway leads to a short ladder pitch through a window. This is followed by a rubble slope (handline), leading to a 5m drop (ladder) into a moderate-sized chamber. Scrambling down the rocks under the wall leads to a very short section of pleasant grey streamway. This is followed by a rather longer section of less pleasant streamway developed in a spiky rift. The worst part of this section (Thatcher) involves grovelling in water with various bits of gear caught on projections, followed by a short wet climb. It can supposedly be bypassed (The 1985 Election Bypass), but I for one never found any alternative. A traverse leads to the head of a 10m ladder pitch, which passes a ledge with good mud formations, into a boulder-floored chamber.

Climbing up the boulder slope leads to the head of The Armadillo. Above the pitch head are piled large numbers of ill-balanced rocks, which may have dropped from the equally unstable-looking roof high above. A 15m drop lands on a ledge of jammed boulders, which have a disturbing tendency to settle if stood on (and you can't avoid standing on them...). The main section of the pitch is in a fine shaft, and uses a wide deviation to avoid the water, rather pointlessly as you are soaked through anyway by this stage. The landing is in a wide rift by a large pool. A section of rift streamway, with a marbled floor (luxury!) follows, leading to a short rope pitch (Shaven Hedgehog). More streamway, with fine veining, leads past B.E.G.G. Aven ('Bloody 'ell ! Good God !!'), to two short ladder pitches. These each land by a deep pool, in which it is easy to lose tackle bags, especially if you hurl them cheerfully from the pitch head. It is however possible to fish out bags using a rack on the end of a cowstail; the frustration involved in this procedure is rather like that generated by those crane things in glass cases they used to have at fairgrounds when I were a lad.

At this point, the cave becomes more vertical, with a succession of fine damp pitches landing in wide pools, connected by marbled streamway. Camshaft (21m) is followed by Gesellshaft (18m) and then Thompson's Gesellshaft (37m, rebelayed halfway). Just before Thompson's is a short climb down a steeply sloping rock shelf - a handline is useful as the rock is very crumbly (hence the name 'premature ejaculation' - keeps coming off in your hand). At the base of the shaft, the streamway runs off from the inevitable wide deep pool down a 1m wide canyon cut into a series of broad ascending ledges. Following the stream leads quickly to the next pitch (Eddie Shah), where the rock changes from the pleasant greenish limestone of the upper streamway to rather crumbly dolomitised junk. Finding a

good belay proved rather difficult. A wet descent onto a jagged sloping floor leads into a low, twisty series of canals, followed by a 15m climb down with the stream. Two rather broken short and wet pitches follow (Grand and Petit Mal), with brown and broken rift streamway between.

The next pitch is Hammersmith Palais, so called because of the amazing rock bands it contains. A foot-trapping crabwalk leads off from the base of the pitch, ending in a small bouldery chamber with... another short wet pitch. It comes as no surprise to find this is followed by more rift streamway and yet another wet, broken, vertical unpleasantness, rather longer and wetter than the earlier ones. All quite refreshing, really. The next pitch rejoices in the name of The Icing On The Cake, as the takeoff is from a broad (and thin!) white flowstone ledge, trod on gingerly the first few times and without (much) hesitation thereafter. It must be quite strong as it's still there.

The streamway then leads away down a steeply inclined section with amazing levels of 'false floors' - great limestone slabs parallel to the floor (i.e. angled down at about 40 degrees), with round holes worn through. All great fun, and reminiscent of the best splashy bits in Mendip for some reason. This ends up in some bouldery chambers, finishing with in a sizeable room containing a large pool, large rocks, mudbanks and a diversity of routes. The initial explorers found a devious traverse and climb down, labelling the obvious wide crawl through and pitch as 'Don't go Down Here' on their sketch in the log. The next team, noting the rather unusual choice of name for the pitch, rigged it (the only safe belay is back in the chamber) and descended the horribly crumbly wall back down to the stream. Take your pick.

The floor of the rift (now, at last, back in clean rock, instead of horrible brown rubbish) soon drops away. A traverse forward on ledges round a few bends leads to a good place to hang a rope from. After this pitch (The Heath) the cave begins to get rather more spacious. The next pitch soon follows, and has a rather interesting take off not unlike walking the plank - and a primary bolt belay that could only have been put in by an eight-foot tall gibbon (actually it was Rose junior). Off to the left of the pitch head is an ascending ledge to a large window. Throwing rocks down this yields lots of long silences and bangs, though it does not connect with the main hang. It now seems likely that this connects to the Xitu streamway.

The pitch (Room 101) is a fine 40m freehang in a roomy shaft, landing on a marbled ledge. The next pitch (Jump For Your Life - its discoverers all tried hard to fall down it) follows immediately, and lands in a broad, lofty streamway. At the first corner, obvious high levels lead off; up in the roof the distinction between Xitu and Cistra is probably fairly indeterminate here. The stream runs briefly through a tube with a fine display of helictites on one wall - pretty well the only notable formations in the active cave - and vanishes through a small downward sloping hole.

The hole leads onto a narrow sloping ledge on one wall of a large open space. This was rigged as an abseil/crawl/slide down the ledge to a short ladder, descent of which lands on one end of a broad horseshoe-shaped ledge. The hole in the middle is rather deep. The main hang was rigged from the other end of the horseshoe, using a bolt and a jammed boulder. The pitch can be approached either by walking round the ledge (getting 'rained' on as you go) and climbing up to a main belay, or by penduling across the gap from the ladder. The latter course of action placed perhaps rather too much reliance on the stubby stalactite that is the only possible belay for the ladder and its rope (backed up in the Wormery), but was nonetheless popular. The descent of Big Brother is rather drizzly but great fun - especially on new PMI flex with the lanolin still on, and worn rack bars. The first explorers failed to notice the characteristic rusty old bolt, and simply noted that another pitch follows. Rest assured, however, that if you get this far you really are at the head of Dampturation Pitch in Xitu, having descended the eponymous aven, and have only 470m to go to the sump (or 1.6km if you count the horizontal bits as well!).

(Dave Rose - connection of 12/5 to Xitu - 8/8/84)

Tears of nostalgia came into my eyes as I peered round the all-too-familiar buttress of Dampturation pitch and spotted Graham's bolt with the hanger still attached: and the memories of those jolly times of 1980 and 1981 came flooding back. How we would sit around the bolt ordering round after round of drinks while Skunk tinkled cool jazz on his little portable piano. How long-forgotten Hombres of OUCC like John Singleton gaily enlarged the cave by jumping into it, to the gratitude of their companions. How we were young once too. And yes (more seriously) how Graham and Keith Potter had pushed down Dampturation and on to Pythagoras, and before that how Keith and Skunk had climbed the dread mantleshelf. But it was time to dry the tears. Dr. Roberts had arrived and was demanding to know the location of the nearest latrine.



12/5

POZU de la CISTRA
 Picos de Cornion, Asturias, North Spain
 Location: 43° 14' 08" N, 1° 13' 48" W

Location relative to Xitu entrance:
 479m S, 719m E, -74m vertically

Altitude 1578m, Depth 602m,
 Total survey length 1631m

Discovered by O.U.C.C. 1980
 Main exploration 1984

Surveyed to B.C.R.A. Grade 5B
 Loop closure error to Xitu 1.05%

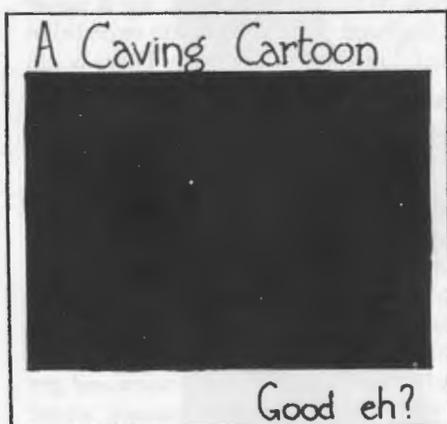
Computed and drawn by Steve Roberts 1988

Dampuration

12/5: Tackle List

1	6m	Entrance	25' ladder	Natural
2	15m		50' ladder	2 bolts
3	5m	Newt	15m rope	Natural & bolt
4	30m	Oasthouse	50m rope	2 bolts & bolt deviation
5	2m	Climb*	10m handline	Natural
6	8m	Owl	15m rope	Bolt & natural
7	3m	Rift climb*	15' ladder	Naturals
8	12m	Milliways	25m rope	Natural, natural rebelay
9	8m	Window*	25' ladder	Natural
10	4m	Boulder slope*	10m handline	Natural
11	5m	Streamway pitch*	25' ladder	Natural
12	10m	Mud formations	30' ladder	Natural
13	8m	Armadillo I	20m rope	2 bolts
14	45m	Armadillo II	75m rope	2 bolts & natural, bolt rebelay & natural deviation
15	10m	Shaven Hedgehog	20m rope	Naturals
16	5m		15' ladder	Naturals
17	5m	Fishing Pond	25' ladder	Bolt & natural
18	17m	Camshaft	40m rope	Bolt & naturals
19	20m	Gesellschaft	35m rope	Naturals
20	15m	Climb	15m handline	Naturals
21	35m	Thompson's Gesellschaft	40m rope	Bolt & natural, natural rebelay
22	10m	Eddie Shah	30m rope	Naturals, natural deviation
23	8m	Petit Mal	25' ladder	Naturals
24	15m	Grand Mal	15m rope	Naturals
25	10m	Hammersmith Palais	20m rope	Naturals
26	12m		25m rope	Naturals
27	15m		50' ladder	Naturals
28	8m	Icing on the Cake	15m rope	Bolt & natural
29	8m	Don't Go Down Here*	20m rope	Naturals
30	15m	The Heath (inc. traverse)	40m rope	Naturals
31	35m	Room 101	55m rope	2 bolts & natural
32	8m	Jump For Your Life	15m rope	Naturals
33	5m		25' ladder	Naturals
34	52m	Big Brother	60m rope	Bolt & natural

* Optional



POZU LOS CARACOLES (3/5): DESCRIPTION

William Stead

Location 1°13'53"W, 43°14'13"N; Altitude 1618m
Exploration Entrance noted by SIE early 1970's.
Explored intermittently OUCC, SIE and WMCEG 1979-85.
Surveyed OUCC 1983/85.

This cave, long recognised as a potential entrance to Pozu del Xitu, has finally been connected after six years. It is not recommended as a through route since it is small and technical throughout its short length and tackle carrying is very awkward.

The entrance lies about 2m to the right of the path from Ario to Trea, about halfway to Pozu la Cistra, and consists of a small pit (2m climb), from which a sharply descending rift leads off (climbs: 1.5m, 2m). The floor consists of small stones which, when dislodged, rattle down the first pitch (Skittle Alley). Just before the pitch head, the rift widens while still descending steeply, and the pitch itself is an easy 8m descent into a small chamber. The way on is a very tight descending rift in the far wall, called Bull's Eye squeeze as it is the target for stones dislodged in the entrance. At the far end is a 2m climb, after which the cave widens, followed by a 6m chossy climb, best lifelined, at the head of the second pitch.

The second pitch is a circular shaft 12m deep, rigged with a ladder. From the bottom chamber, two tight canyons lead off, which quickly rejoin to form a snake-like grovel. The left hand canyon is usually reckoned to be less tight and is called The Squirm. Below the grovel, a too-tight passage leads off to the right, whereas straight ahead lies a tight squeeze which opens out at the head of the third pitch (5m ladder).

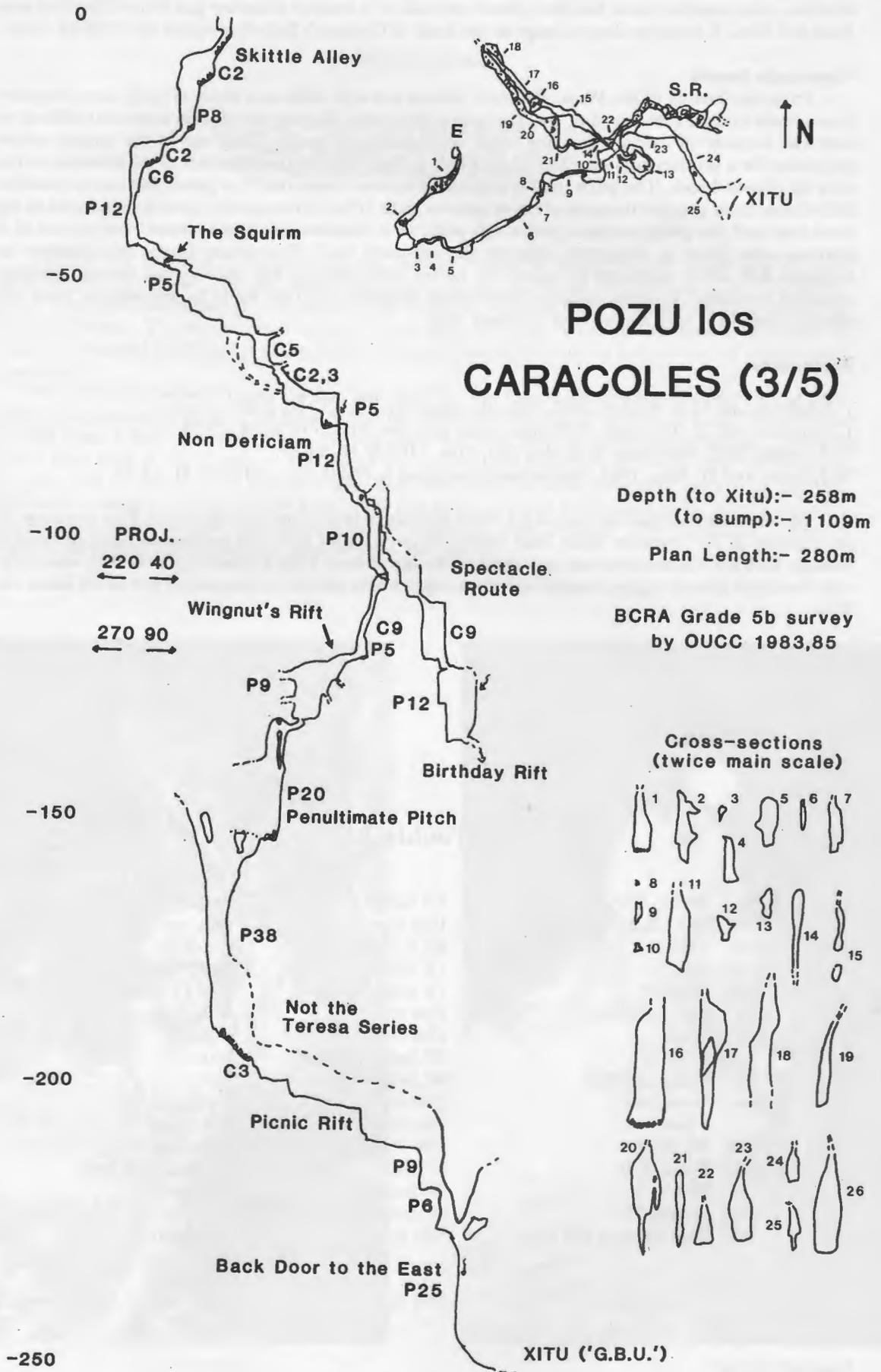
At the foot of this pitch, the cave opens out, so that it is actually possible to walk upright, and a couple of short climbs (2m, 2m) are descended. The first of these was originally covered in moonmilk and is called Slimy Ellis. A handline is unnecessary as there is one good foothold and one handhold.

Passing over a tight trench in the floor, which connects further down the cave, the passage closes in to give two more climbs with tight tops and large bottoms (5m, 3m + 2m). Above the head of the first climb is a tight rift leading to an undescended pitch, presumably a parallel shaft, whereas at the bottom of the second climb is the connection with the tight trench. The way on is a narrow trench which soon leads to the bypassable fourth pitch (if rigged, 5m ladder, otherwise 4m climb down next hole). At the bottom is a small chamber with a shallow pool and with water flowing in over some formations on the opposite wall. A crawl under the drips leads straight into the fifth pitch (Non Deficiam), a substantial 12m shaft with an awkward takeoff. At the foot of the shaft the route splits into two (The Parting of the Ways). The main route goes back under the climb and descends to the sixth pitch, while the alternative route continues in the original direction through a hole in the wall to reach the Spectacle Series. *

The sixth pitch is 10m deep with an awkward take-off and lands in a small chamber. The way on leads to the right and is a sharply descending small passage (2m climb), leading to a razor-sharp cross-rift sloping downwards at 70°. The rift is an easy 7m climb and leads immediately to the seventh pitch, (7m ladder) which has a tight top. The ladder lands in a pool in a small chamber.

On the far side of the chamber lies Wingnut's Rift, an awkward rift leading to a 2m climb down followed immediately by a hammered squeeze leading slightly upwards above a 9m vertical drop. The water sinks down a razor-sharp hole between the two rifts which can be followed for a few metres before it becomes too tight. At the end of the rift is a surprisingly easy 9m climb which was laddered to provide a handhold when emerging from the rift and to mark the correct place to ascend. From the chamber, a sharp crawl leads off past a hammered flake over a small hole in the floor to the head of Penultimate Pitch, a large shaft 20m deep with a very awkward take-off and a rub-point halfway down. This lands on a wide shelf in the Picture Palace, the only truly large part of the cave. From the ledge, a 4m descent on the original rope, followed immediately by a 3m ascent leads to an easy traverse at the head of the Big Pitch. This pitch, originally thought to provide the Xitu connection, is a fine 35m freehang into a large chamber.

From the chamber, a 5m climb leads to a short passage (Not the Teresa Series) followed by a 3m climb into a tight vadose rift where the stream is rejoined (Picnic Rift). The way through the rift, which was hammered extensively, at first keeps to stream level round a tight bend, then continues a couple of metres higher up. At the end, a 2.5m climb with dubious holds rejoins the stream on the ledge at the head of another short ladder pitch (5m pitch and 2m climb). Safe belays are hard to find as the rock is heavily veined with calcite. Use a wire round a huge projection backed up on a mediocre bolt on the wall. From here the stream passage continues with two further short ladder pitches (10m, 10m). The primary belay for the first of these is a large projection at floor level, and it is best to have a lifeline rigged to the secondary 5m up in the roof.



Location: 1°13'53"W, 43°14'13"N, Altitude 1618m

The second ladder lands in a small chamber with a pitch in a wide rift (The Back Door to the East). This starts off unimpressively, but turns into a complex series of short damp descents with flying rebelay, past unstable black boulders, down one wall of a massive chamber just below The Gap into Pozu del Xitu. A traverse along a ledge at the head of Graham's Balls-Up rejoins the 1980/81 route.

*Spectacle Series

From the Parting of the Ways, the small hole in the wall leads to a series of fairly short but very loose climbs in shale (3m, 3m, 5m, 2m, 3m) and a 10m pitch. Rigging the pitch is somewhat difficult as one wall is made of calcite while the other wall consists of shale. Climb up to the largest calcite projection for a primary belay backed up on a bolt at floor level on the other side of the chamber in the only bit of sound rock. The pitch itself is a climb down over choss and rope protectors into a chamber full of loose choss perched dangerously over another shaft (13m). Fortunately, there is sound rock to rig from here and the pitch descends past a rub point to a chamber where the stream emerges out of a phreatic tube 20cm in diameter, 1.5m up the left-hand wall. The stream leaves this chamber in Birthday Rift which continues for about 3m before becoming just too small to get through (despite repeated attempts). It seems unlikely that further progress could be made by hammering since the whole of the rift is very narrow and in sound rock.

References:

- J. Singleton and G.A. Naylor, 1982, *Xitu: the cave*, Proc. OUCC 10, 8-20.
 J. Singleton and D. Thwaites, 1979, *Small caves near Ario*, Proc. OUCC 9, 22-24.
 W.J. Stead, 1982, *Small caves in the Ario area*, Proc. OUCC 10, 24-33.
 W.J. Stead and H. Kay, 1984, *Smaller caves investigated in 1982/3*, Proc. OUCC 11, 13-28.

The distance traversed in this pot is a small fraction of that to the same point via Xitu entrance, to say nothing of 3/5 entrance being 30m lower. However, Xitu has long sections of large horizontal passage, with few obstructions and easy take-offs for the pitches. Thus a round trip to G.B.U. and back, with the caves already rigged, would take about eight hours via 3/5, as opposed to five or six hours via Xitu.

3/5: Tackle List

1	8m	Skittle Alley	25' ladder	Bolt
1a	6m	Spit Climb*	10m rope	Bolt, natural
2	12m	Second	40' ladder	Naturals
3	5m	Third	15' ladder	Bolt
4	4m	Fourth*	15' ladder	Bolt
5	12m	Non Deficiam	15m rope	Bolt, naturals
6	10m	Sixth	15m rope	2 bolts
7	7m	Seventh	25' ladder	Naturals
8	9m	Wingnut's Rift	30' ladder	Bolt
9	20m	Penultimate	25m rope	Naturals
10		Traverse	15m rope	Long wire
11	35m	Big Pitch	40m rope	Naturals
12	7m	Picnic Rift	15' ladder	V. long wire, bolt
13	10m	Stream I	30' ladder	Naturals
14	10m	Stream II	30' ladder	Naturals
15	5m	Back Door to the East	30m rope	Long wire
	5m			Long wire
	15m			Long wire
16	7m	Traverse line	10m rope	Long wire or bolt at head of G.B.U.
Spectacle Series*				
6a	9m		15m rope	V. long wire, bolt
7a	13m		20m rope	Bolt, natural

* Optional

CAVE 3/5 : A PERSONAL HISTORY

William Stead

*The saga of William's own protracted battle with the pot,
and of the efforts of the rest of the expedition
not to have anything to do with it...*

Cave 3/5 or Pozu los Caracoles holds the dubious honour of being the cave which OUCC have taken longest to explore, and the present description is the fourth, to say nothing of an SIE survey which must exist somewhere (I've been told that it stops at Wingnut's Rift and calls the cave something totally different). The main reason for this is that while the cave required considerable quantities of tackle, it remained small and grotty enough only to be looked at when we had run out of decent caves to explore.

When OUCC visited Ario for the first time in 1979, they logged about thirty entrances in the area, which was given the symbol '5' by John Singleton (The exact location of Areas 1 to 4 was obscure even in 1980 when I first came out). Cave 1/5 was Pozu del Xitu, 2/5 was a promising-looking 15m shaft with a snow plug in the bottom on one side of the Ario to Trea path, and 3/5 was a small unpromising pit about ten metres away on the other side. Both entrances had been previously marked by the SIE. The shaft-bashing party reached the head of the first pitch, saw that the passage at the bottom was very small and probably choked, and decided not to come back with a ladder. The description in Proc. 9 reads 'a very tight hole appears to lead off for a few metres'.



Pozu los Caracoles: (L) Phil Rose at a pitchhead; (R) Phil Rose at the junction of the cave with Pozu del Xitu. (G.H.)

In 1980 OUCC returned to Ario, this time with Xitu as the main priority. One afternoon, Mike Busheri and I were sent out shaft-bashing with the secondary task of matching the cave numbers with the entrances since someone had randomised them in the Proc (!). Our equipment comprised: a 5m ladder, a wire belay and a single Premier carbide lamp. The entrance pitch of 2/5 proved too long for us, but the ladder could just be made to stretch down the first pitch in 3/5. As there was only one light, Mike stayed on the surface while I descended. At the bottom, the rift was narrow but I could just squeeze through under a large boulder and down a 2m drop to where the cave opened out, then down a climb to a pitch! At this point, my Premier ran out of water, and I had to get back with very little light. As I squeezed back under the boulder, I felt it move, so I kicked it down the climb. This was the only trip there in 1980 as Xitu soon absorbed every article of club tackle.

Near the start of the 1981 Expedition, Skippy (Chris Ankcorn) and I were again sent to explore small caves near Ario, armed with a bag of tackle and the knowledge that the entrances to 2/5 and 3/5 were directly above the Teresa series in Pozu del Xitu. 2/5 looked the more promising, but ended after two pitches, so we surveyed it and set about exploring 3/5. To our surprise, 3/5 proved not to be a back way in to 2/5 but 'carried on in a scrotty sort of way' until we ran out of tackle at The Parting of the Ways. The rig on Non Deficiam was entertaining: a single 10m ladder with 2m of tape on the end belayed to a bit of choss with a single 4m length of 10mm tubular tape and no lifeline. I also descended the climbs into Spectacle Series to the pitch-head; this pitch was not rigged until 1985! Anyway, we survived and as the cave obviously needed more time and tackle than we could spare from Xitu, we detackled it. That evening in the Refugio, Skippy asked the Spanish for a snail and named the cave after it because it looked as if there were snail shells in the entrance.

After a few weeks, Xitu was bottomed and attention turned elsewhere. Skippy had invited out some friends from WMCEG, and since Xitu was finished, they looked down 3/5. What they actually found down there was unclear, since I had already gone home and their write-up was hard to make out. At any rate, they appeared to have found the bottom. Thus my description in Proc. 10 is largely fiction since I describe the same bit of cave twice!

3/5 was not explored in 1982 for two reasons. First, the Brummies from WMCEG appeared to have found the bottom, and second, the entrance was 30m below Pozu del Xitu and with a depth potential of less than 1139m it was not worth exploring anyway. 1983 started similarly with FU56 (Pozu Jorcada Blanca) going strong. When this sumped, two soldiers of Dani's named Ray and Wingnut (Mike England) were dispatched with me to 3/5 a few days before the end of the Expedition to have a final look. This time, the cave had a used appearance; a trail of SIE bolts, bits of inner tube, etc., led down the main route as far as Wingnut's Rift. Spectacle Series, however, looked untouched. Ray and Wingnut had to go early, but not before Wingnut, using a hammer, had pushed through the squeeze at the bottom. He was the only one who did get through that year as we ran out of time and I stopped the survey at the chamber before the rift. The SIE had obviously done a survey too: there was a trail of black spots along the walls, but when I tried to use them as survey stations, I found that it was just not quite possible to see from one to the next. They must have been using a Topofil. The detackling trip was the last Spanish trip to date for John Singleton; I don't know whether this is significant.

Special supply delivery to the Ario Refugio



Once again, the Expedition's Logistics Officer has done an excellent job. (Drinking is bad for you. El Jefe.)

In 1984 the cave was not explored. This may have been due to my absence, the discovery of Perdices and Cistra, or the fact that one member of the Expedition had seen the SIE survey which went through Wingnut's Rift then stopped.

When OUCC again went to Ario in 1985, a mysterious enthusiasm for 3/5 gripped the party. There was no major cave going, and with the linking of Pozu la Cistra to Xitu, here was a chance of finding a third entrance. Phil Rose and I started by rigging down Spectacle Series, on the way giving the infamous SIE bolt on Non Deficiam a clean bill of health. The pitch was still obviously undescended in spite of the SIE exploration, and the cave appeared to be going again. Our enthusiasm, however, was soon dampened by the discovery of Birthday Rift where Sue, aged just 20, was introduced to Spanish caving.

Two days later, a party went down each route. While Geoff and Sean found Birthday Rift still impenetrable, Dave Horsley talked me into going through both halves of Wingnut's Rift. All then became clear: both the SIE and the Brummies had got through the first squeeze but had turned back at the second one. At the bottom of the climb was a crawl containing a fragment of a a Planter's packet (Wingnut's) and a flake that, after hammering, revealed the head of a sizeable pitch (Penultimate Pitch). After going back to derig the Spectacle Series, it was too late to push further and it was Sue and Geoff who rigged it the following day. The next trip is best forgotten, and it was a day later that Phil, Fred and I set off to make the final connection to CBW series in Xitu at the foot of The Big Pitch.

Since I had started the cave, it was suggested that I should finish it. According to Phil, my comments as I reached the bottom were: 'We're in the Teresa Series, I can see Servicio... er... No it's not... Oh God... it looks exactly like it... I must be going mad... I've never been here before... this rift looks awful.'

After this, Fred spent the next half hour shredding his oversuit while Phil and I listened to the steady Clink, Clink of hammer on rock. Our reward for pushing it was to come back for tackle bags; this was No Picnic. After two more ladder pitches, we finally ran out of tackle and so the privilege of making the connection was left to Phil (again) and Fred. As one of the only three people on the expedition who knew Xitu, I was called in on the detackling trip as Official Verifier. The aven where 3/5 enters Xitu is totally unnoticeable, high up in the left hand wall in the chamber below The Gap. As I climbed up the Pilling Slip for the first time in four years, I realised that I was still wearing some of the same gear.

Well, was it worth it, you may ask? It may look a short cut to Xitu on the survey, but it's no easier, starting off tight and awkward and remaining so right until the bitter end. The entrance is 30m below Xitu, so it doesn't add any depth either. The mystery as to why Graham's Balls Up is so wet and miserable is now solved, but the huge aven in CBW series where it was supposed to come in remains one. I've now been down this a total of eleven times and I don't intend to go there again. On the other hand, there's a huge phreatic passage on the far side of the chamber opposite the head of GBU, totally inaccessible from Xitu. It might just be possible to pendule over from the bottom of 3/5....

(D. Rose - ethics and the evils of drink - 13/8/84)

...a solution to both the ethical and the science questions. Basically what lies at the root of the dissent is alcohol. I've been here now for 3 weeks and in that time I have seldom seen expedition members, at least on the surface, not either drinking, about to drink, or all too clearly bearing the signs of having recently drunk. One member, who shall remain nameless, I have even seen swigging neat Ricard *at breakfast time!*.... It has all got too much. I call on the leader to put a stop to it. From now on, NO MORE BOOZE. (hic.)

(Silvia & Graham - the 'quick way' to Cain (3 days!) - 14/7/84)

[see log extracts in Proc. 10 for further details of this perilous path into the gorge]

Graham went on a little and disappeared - over what seemed to be yet another sheer cliff. I heard nothing for a while, and began to wonder what I would do if he'd had an accident. The best answer seemed to be - I die slowly. In fact it seemed the only answer. Then I heard frenzied scrabbling in the grass and the first swear words to emerge from Graham's mouth that day.... [later] By chance Graham had turned across just before the cliff face at the bottom of the wood, but even that was so steep you would look at it and think it was impossible. [still later] ...the night was uncomfortable, we had run out of water and we had one biscuit to sleep on. Ovaltine are right, there is such a thing as night hunger...

(Phil and Fred - refinding Xitu again (3/5) - 19/7/85)

I got down onto a very big ledge with a lot of very big boulders and loose scree. Phil came down and we spotted a tell-tale pile of carbide. We were in Xitu. We found some truly appalling bolts, put into calcite veins, and sticking out a bit... We headed back, and made it out in 2½ hours. Phil took a picture of me emerging, muddy, grinning, ripped to shreds and totally knackered.

Map of Areas 7, 8 & 9

Scale in metres



Contours at intervals of 20m and 100 m. NB represents a slope of 45°

Spot heights in metres. A recent survey has disclosed discrepancies so values are only relative. The map of Area 5 gives correct absolute values.

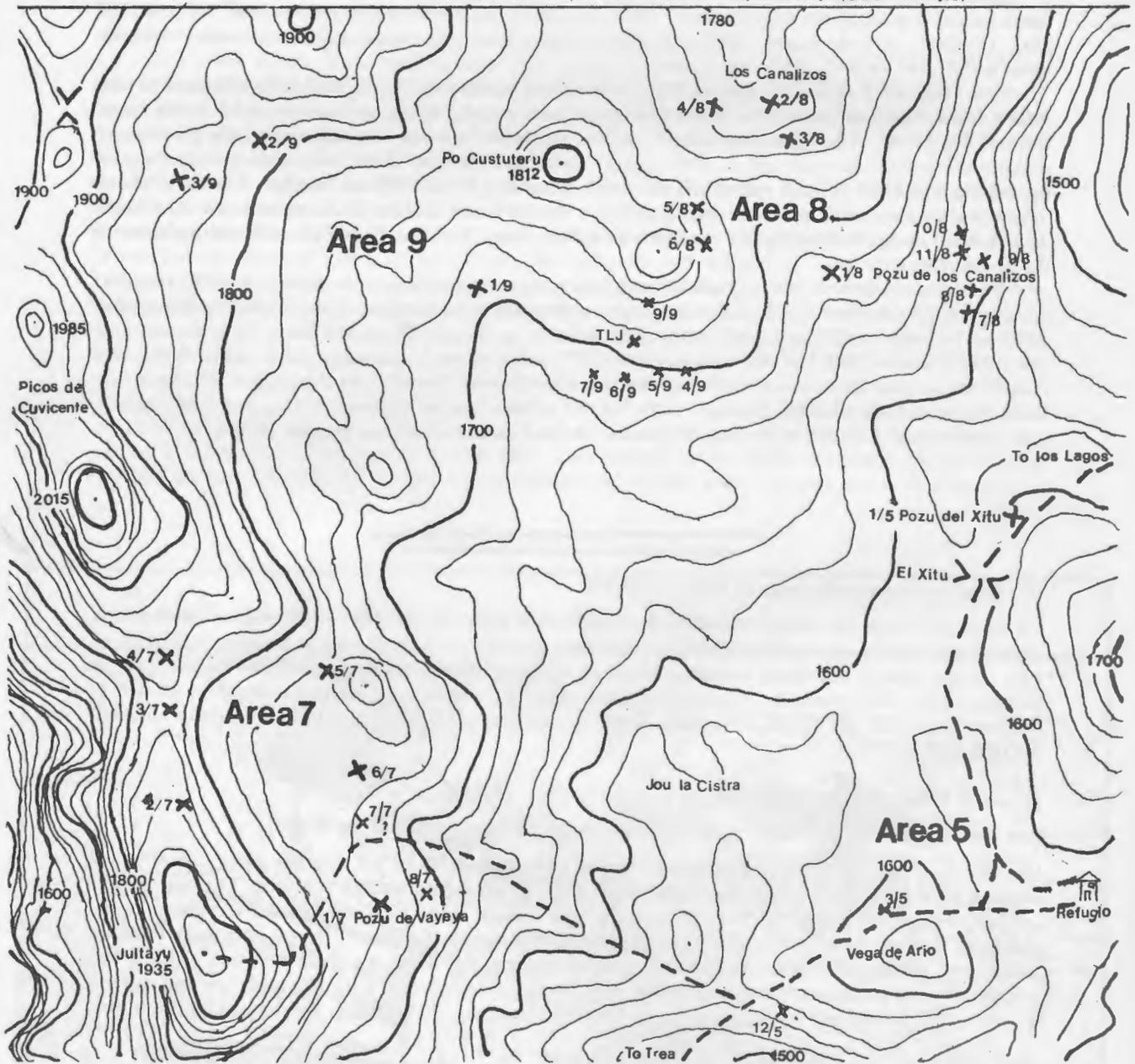
Cave entrance

Pass

Well marked path

North

Entrances in Area 5 are shown on separate map (OUCC Proc.10)



SMALL CAVES IN & AROUND ARIO

Steve Roberts

Area 5

The comprehensive list in OUCC proc. 10 was not added to. 12/5 (Pozu la Cistra) and 3/5 (Pozu los Caracoles) were extended into Pozu del Xitu - see preceding reports.

Area 6

From the 1985 Expedition log (shaft-bashing in area 8, 12/7/85):

'Could this be the day of the great breakthrough? We started off enthusiastically, skipping along in Ario's debilitating heat, first to Xitu then across the Vega Seca to what Roberts claimed to be Area 8. 'Area 5 is Ario, 7 is over there, and 9 is over there', he said, encompassing the mountains in single sweeps of his sweaty hand.

'What happened to Area 6?', Paul asked.

'It's only got one cave - 1/6 or Ridge Cave, and no-one's ever found it or Area 6 again!'

Wisely, in the heat, we decided not to try...'

Readers will note, from the latter part of this publication, that Area 6 was, perhaps surprisingly, not entirely a figment of Dave Rose's fevered imagination.

Area 7

This is the area of the bowl between Jultayu and Cuvicente. Some descriptions here appeared in OUCC Proc. 10 (Pozu del Xitu), but are repeated here for completeness. The additions are the result of two forays by Richard Gregson, Sara Whibley and Steve Roberts in 1984, and several by Gerhard Niklasch, Iestyn Walters and John Wilcock in 1985. Caves 7/7 and 8/7 are paint-marked, the rest aren't. See area map for locations. More details of caves visited by G.N. are in an annotated photo album in OUCC library!

1/7 Pozu Vayeya

On the north ridge where the path runs up to the summit of Jultayu. Two entrances: a walk into an eyehole and a concealed shaft near the path. An 80m series of shafts. No way on. Full description in OUCC proc 10.

2/7 Pozu 30m below Eyehole

Below the eyehole (!) on the ridge connecting Jultayu and Cuvicente. Two pitches down 60m shaft. 'The bottom draughts strongly into a boulder slope designed for suicidal midgets'. Full description in OUCC proc. 10.

3/7

Approx 200m downslope and towards Ario from 2/7. An open shaft, rigged from a wire round the rock wall at the entrance and rebelayed from a jammed boulder just below the lip. It descends approx. 50m past several ledges to a rocky floor with no way on, and only just enough room to cower from rocks kicked down from above. (13/8/84)

Tackle: 50m rope, long wire and tape for rebelay.

4/7

Near 3/7, further round to Cuvicente and slightly uphill. A shallow depression filled with rocks. On the Jultayu side, rocks can be cleared to give access to a small chamber over a rift. Rope or ladder climb down (slippy walls make climb up awkward) to a 1.5m wide twisty descending rift with the odd sheep bone. Round two corners it chokes, but looks clearable and could be worth digging. (13/8/84)

Tackle : 5m ladder or 10m rope.

5/7

Lies near the 'exit' from the bowl, opposite Jultayu. 25m shaft free-climbed to bottom where the only way on is a 5 inch rift rapidly narrowing to 1 inch. (13/8/84)

6/7

Not found in '84 or '85, though it may be the same as 7/7! Proc. 10 description: an open rift near the bottom of a depression surrounded by collapses. Rift is 8m deep to a massive snowplug; it is just possible that snow-clearing would find a way on downslope.

7/7 Crossrift Cave

The description by Iestyn includes a drawing of the Ario hut and the information that the shaft is the same height as the Refugio and 'looks a bit like F20'! (25/7/85). Just to Ario side of 'exit' from bowl, bearing to Ario refugio approx. 5°. (1/8/85). Vertical rift 60-240° intersects N-S rift. Snowplug 10m down, past which stones can (possibly) be thrown. Not descended. (5/8/85).

8/7 Cowskull Cave

Approx 50m to left of Jultayu path, before the first steep bit (i.e. in area 5 really). Rift 1m wide, running north to a small chamber containing snow, leaves and bones. Light can be seen through 5 inch wide continuation of the rift. No way on. (29/7/85).

21/7

Near 5/7, but closer to the refugio, just before going over the 'exit' ridge. 15m shaft to 10m scramble to squeeze that was not forced. A small chamber was just visible beyond.

Tackle - 25m rope or ladder & long wire.

Area 8

This is the area of the slope of Pico Gustateru facing Xitu. Caves 1,2,3,5 & 6/8 are described in OUCC proc. 10, so only brief details are given here. 1-6/8 are labelled in paint: later numbers are not. 7-11/8 (12/7/85) are at the foot of the huge karren slope that has 2-5/8 at the top. See area diagram for details of locations.

1/8 - Pozu del Canalizos

An SIE discovery which OUCC failed to extend.

2/8

A large rift 50-70m above 1/8. Choked.

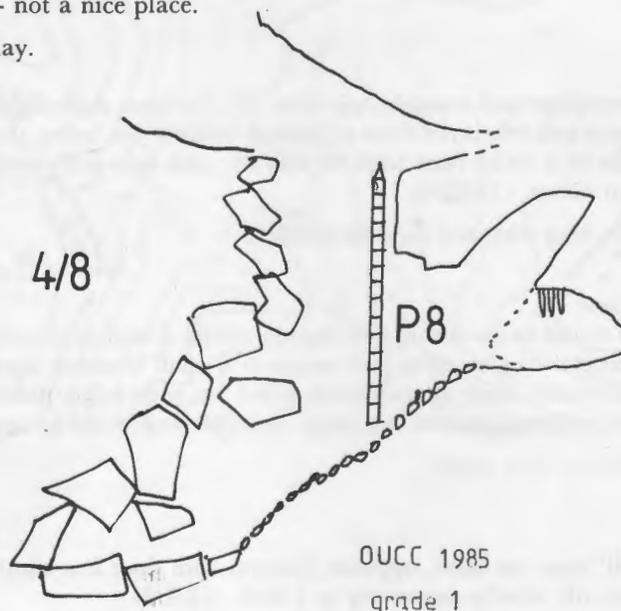
3/8

Between 2/8 and 1/8. Large entrance descending past snow to definite choke.

4/8

(see survey). Small hole in the corner of large shakehole 'round the corner' from 3/8. Traverse over rift to head of 10m ladder pitch, which lands on loose sloping pebble floor. Upslope leads to two small uninspiringly decorated grottoes. Downslope leads to a very threatening boulder choke, which was dug at until good sense prevailed - not a nice place.

Tackle - 10m ladder, wire belay.



5/8

Obvious entrance leading to boulder choke.

6/8

20m shaft with snow at the bottom, descended by SIE in 1980.

7/8

Dig at foot of shakehole. Remaining rocks too large to move without mechanical or chemical assistance.

8/8 Cueva del Darren del Cilau

The entrance is a gravel at the foot of a small cliff, looking rather like its namesake. Unfortunately it lacks the same potential and leads only to a 20' high chamber with two blocked upward routes.

9/8

Cleft in side of dry valley up from and to the right of 8/8. Leads to a small chamber with skylights and no way on.

10/8

Marked SIE C3. A cleft has a sharp bend with a 20m pitch in it. No way on wider than 3 inches.

11/8

In hillock slightly downslope from 10/8. An unexpected 15m deep slot proves to be free-climbable, but no way on. Nearby is an SIE mark 'M6'.

Area 9

Area 9 is between areas 7 and 8, and is the area around Tras la Jayada (not numbered!). 1-3/9 are listed in OUCC proc 10. See sketch map of area.

1/9

A large shakehole in the middle of the valley. A route through boulders leads to a 5m pitch to a snow plug. 'A way on may just be possible'.



2/9

Is the huge entrance 'La Jayada'. No visible ways on past its snow plug.

3/9

(=28/5). 100m to the left of 2/9. 10m, 10m, and 25m pitches to a snow plug in a wide rift with deep but narrow holes round the edge. The snow could just be wedged in: 'ooerr!'.

4/9

On the approach to Tras la Jayada up on the right hand side of the valley. Bearings to Jultayu 64.5°, to la Jayada 202°. 4m deep entrance climb (approx. 2x1.5m) leads to a series of small chambers, ending in a rift which can be climbed down about 4m but becomes too tight.

5/9

Due south of 4/9, on other side of small valley. Jagged rift partially concealed by a few jammed boulders. Ladder pitch to snow plug. A small hole leads to a tiny chamber with no way on.

6/9

About 60m down-valley from Tras la Jayada. Climb down to snow plug followed by 5m ladder pitch. The chamber at the bottom leads into a very narrow rift blocked with a boulder. 'This may continue' - but all attempts to shift the rock failed.

7/9

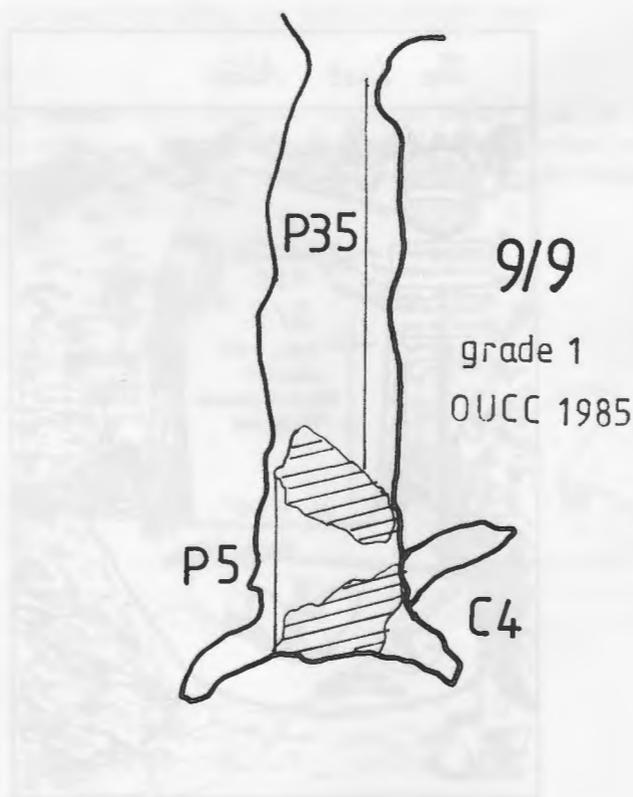
15m pitch to snow plug, sloping down at 20° to another (upwards) shaft. Halfway down the slope it is possible to kick down into the snow to a rift leading to a blocked bedding plane. At the bottom of the slope it is possible to kick down into a blocked shaft.

8/9

A 30m deep rift with some choked passages leading off.

9/9

About 70m upslope from Tras la Jayada. Red SIE 'O' mark as well as the OUCC mark. 30m shaft to a snow ledge, followed by a 5m pitch to the bottom. Three ways off, one at the foot of a 4m climb down, all choked. (see sketch) (14/7/85)



HOW IT ALL BEGAN

John Wilcock

In which it is seen that Expeditions don't change really: vehicles still break down in France, the mountain weather still necessitates hiding in the Refugio and the mountains seen from Base Camp are still as breathtaking. John Wilcock, expedition member in 1961, 1985 and 1986, looks back to the very first Picos expedition of them all.

The first moves towards British cave exploration of the Picos de Europa began during the summer of 1960. The ideas had been there before, swimming around in private, but they surfaced in OUCC towards the end of the 1959/60 season.

How different things were then, at the beginning of the swinging sixties! In Oxford University there were no mixed colleges. In the men's colleges, it was officially necessary to get permission to entertain a young lady in one's room, and the gates closed at 11pm (there were many 'climbing-in' routes which improved rock climbing abilities). There was a secret 'Bath Club' with male undergraduate members who had bathed within a women's college, successful bathers being awarded a tie with silver tap motifs, or with gold tap motifs if the taps themselves had been removed at the time of the bath. Scholastic gowns were supposed to be worn at all lectures, though the scientists never bothered. Caving activities were hampered by the fact that no undergraduate could keep a car within the City of Oxford, and most caving meets required the arranging of coach transport. Moreover, there were few motorways, and the Severn Bridge, which was later to become such a boon to cavers of the South engaged in new explorations in the South Wales limestone, did not exist. Caving equipment and exploration techniques were quite primitive - wetsuits were unknown, and the days of rope ladders were not long gone (home-made steel wire ladders with magnesium alloy rungs were considered by members of OUCC to be the very latest thing).

It was Mike Walker who started things off by bringing an interest in archaeological carvings from his native Yorkshire. Outline planning rapidly produced a scheme for a team of four archaeologists with a back-up team of eight cavers. Plans for road transport, a search for sponsorship, and a target date of August / September 1961 soon appeared. But where to go? Galicia would undoubtedly be the target for the archaeologists, but that province did not look at all promising for six weeks of cave exploration. The geographical and topographical map collections of the Bodleian Library map room were scoured for more promising country within hailing distance of Galicia, in case the rescue services there were required. Further east along the northern coast of Spain there was no shortage of limestone country, formed by the westward extension of the Carboniferous limestones of the Pyrenees. But the true Pyrenean limestones, already famous through the explorations of Norbert Casteret and others, were too far away, and there was a definite shortage of maps portraying the high relief we sought. Halfway between Santander and Oviedo, however, the Picos de Europa looked promising; and it was the discovery of sheets of a German topographical survey that first revealed to us the western massif - the Macizo Occidental - and in particular a track leading up into the mountains, which pinpointed what was to be our chosen base camp. So the selection of this now important caving area owes its origin to the survival of maps undoubtedly produced by Nazi Germany's involvement in the Spanish Civil War. Beyond that, OUCC's choice was purely fortuitous - yet how fortunate it has proved to be!

The personnel now began to be finalised. As the year passed, Ken Mills, Ian Gordon and John Wilcock undertook the job of seeking sponsorship in kind, and Ken's rooms in University College began to resemble Aladdin's Cave as letter after letter bore the fruits of Complán, Tuf boots and the statutory Kendal Mint Cake. Dave Hukin's management of transport arrangements led to the purchase of two ex-army Bedford lorries. Mike Austin saw to the arrangements for chemical analysis of cave waters and photography; John Crompton and John Wilcock drew up programmes of geomorphological and cave survey. The latter involved ground resistivity measurements which were in their infancy at the time, and this required visits to the late Professor Palmer at Wells, and tests of the equipment at Bull Pot Farm. The strength of the caving team was improved by recruiting assistants from MUSS - Mike Holroyd, Jim Morgan and Tony Delany - and by carrying out training meets on Ingleborough and Casterton Fell. Finally, Martin Trump joined the archaeological team from London.

What little there was in print about Spanish limestones and caves was painstakingly studied (in Spanish), including a small paperback 'Nociones de Espeleogía' which gave some very general information on our chosen area. Mike Walker and Martin Cummins wrote endless letters in the rather flowery official Spanish to obtain the necessary temporary import licences, and to smooth our passage and arrival. To fend off boredom towards the summer, most of us took our final degree examinations....

Once the academic year had drawn to a close with its welcome May balls and celebrations, the last-minute preparations could begin in earnest. The old Scout and Guide club meeting room became our HQ, where 1100' of lightweight caving ladder was constructed from donated components before being whisked up to Worksop for professional finishing of the eye splices. The three-ton lorry visited



Twenty-five years of OUCC Expeditions:

Above: the 1961 Expedition on the point of departure. Left to right: (on van) Dave Hukin, Martin Cummins, Mike Austin, John Crompton; (standing) Ian Gordon, Mike Walker, John Wilcock, Jim Morgan; (sitting) Tony Delany, Martin Trump, Ken Mills, Mike Holroyd. (Oxford Mail)

Below: some of the 1985 team. Left to right: Sue Robiette, Sara Gregson, Richard Gregson, Nicola Dollimore, Geoff Hogan, Steve Mayers, Dave Horsley, Phil Duncan, Paul Brennan, Dave Rose, Steve Roberts, Gerhard Niklasch, William Stead, Fred Wickham, Martin May. (S.G.R.)

London for sets of UniRoyal retreats for both vehicles, and the construction of a Dexion rack over and behind the cab, both provided through the sponsorship of the companies concerned. Towards the end of July preparations became even more frantic, but at last 31st July 1961 arrived and we set off down the High, stopping outside the Mitre for press photographs.

After a relatively uneventful journey across the Channel, the results of buying third hand vehicles became apparent - a seized brake cylinder pitted beyond repair, but the stop on a rubbish dump near Rouen did not prove disastrous since we were in northern France, where spares for Bedford army lorries seemed to be very readily obtainable, because of the legacy of the war. (This was even more fortunate on the return trip, when the effects of 62-octane petrol from Galicia had taken its toll on the one-ton vehicle and turned its exhaust valves into split mushrooms.) A stop to see the famous painted caves of Lascaux, then still open to the public, was enlivened by a complete refit of the three-ton lorry brake master cylinder.

France behind us, we had to spend all night at the Spanish border post at Hendaye/Irun, sleeping in, under and on top of the lorries until officers of sufficient seniority arrived in the morning to clear our import certificates. A well-deserved beach stop preceded a night descent into Bilbao, and a disconcerting meal of squidlets cooked in their own ink. After a further night and a journey along the unmetalled tortuous coast road we reached at last Cangas de Onis, the local town in whose mayoralty lay our destination. Letters of introduction to 'El Alcalde' produced a response from the whole township, and we were welcomed with great kindness and friendship throughout our stay.

After stocking up with local groceries we pointed our vehicles at the long steep mountain road. Up into the clouds we went, stopping from time to time to rest bottom gears and to admire the limestone shakeholes by the side of the unmetalled track. In thick cloud we came to the Vega de Eñol, and with visibility reduced to a few yards the Refugio loomed up before us. In such weather it seemed churlish to forsake the warm and dry buildings for tents and lorries, and after two days of torrential rain the Refugio began to feel like home. At last, on the evening of the third day, the cloud began to move. Spellbound, we saw the valley floor; then the wooded slopes beyond - then the bare limestone hills above; ...and, at last, that fantastic row of pointed peaks, glowing pink in an alpine sunset, which haunts the memories of all who have followed the first expedition in 1961 to the Picos de Europa.

RESCUE

Paul Cooper

Paul and Richard, our expedition medics, found their services called upon more in 1986 than ever before...

The principal value of a doctor on a caving expedition is to deal with a serious accident, particularly so one deep underground. Few non-medics, however, realise just how impotent even the most experienced doctor would be in such circumstances.

Richard and I had just completed a three-hour walk up to the Vega Aliseda camp from Base Camp at Los Lagos. It was by now approaching midnight and indeed we had needed hand torches to find the campsite. It was a fine clear night; in camp there was brandy and mugs of hot chocolate, and whilst we sat round chatting I could point out, to those interested, the Andromeda Nebula shimmering away close to the northern horizon.

Top Camp was full, and several different trips were being planned for the morning. Just that day Graham and Dave had dropped into Ridge Cave from 2/6, and since it seemed as if Ridge Cave itself had sumped, it needed surveying and then detackling so we could all concentrate on F20. This was a prospect many were not looking forward to.

Below Graham and Dave, deeper down in the same system, Ursula and Fred were pushing a possible sump bypass, followed by Neil and Dan on a photographic trip. They had gone underground earlier and did not know of the Ridge / 2/6 connection.

At about midnight Dan staggered into the calm of Top Camp. His message was concise and clear and yet it did not sink in. He repeated it. Richard and I both remember the frightening details which to us spelt out an appalling accident.

Ursula had fallen. She was in the streamway at the bottom of the cave and had been knocked out (he thought) but was now conscious. She was very dizzy and could not stand. She could not hear on one side, with what she said was water in her ear. She could not use one of her arms.

It took a little less than an hour to set up the rescue. Richard and I had both done this before; we had a 'game plan' worked out, and so, soon after 1.00am we were already abseiling into the cave. Dan had estimated the time of the accident at between 6.00 and 7.00pm: it would take two hours to reach the streamway, so we would be with her about nine hours after the accident.

I abseiled down the 130m entrance shaft feeling very frightened indeed. Richard and I admitted to each other afterwards that neither of us expected to find Urs still alive. The story that Dan had related meant that she had probably broken the substantial bone which forms the base of the skull. Few people with such an injury survive, even on a modern intensive care unit, and Ursula was in a cold streamway 650m underground. Further, it was quite possible that blood was now collecting in the tight space between the brain and the skull - this is a neurosurgical emergency for which the only treatment is to drill a hole in the skull. I have done this, but only in a sterile operating theatre - to do so in a cave would be desperate measures indeed.

In our tackle bags we carried, as well as a drill, intravenous fluids, antibiotics, bandages and the like. I had also packed a plastic sack. Richard saw me do so but didn't ask what it was for.

We reached Ursula at about 3am. She was very cold, very tired but very much alive. She said afterwards that we arrived bounding with enthusiasm, but all I remember is intense relief.

I quickly checked her over. It seemed as if, apart from an impressive black eye, she had not come to any serious harm. It is however possible for casualties to deteriorate dramatically some hours after a head injury, and so I was keen to leave the cave as soon as possible. We did delay, however, long enough for some hot food. The three cavers had been underground for twenty hours by now and were very hungry: I am sure that hot food and drink is as important a part of a cave rescue as all the medical equipment, and requires no expertise!

Ursula needed a lot of help to reach the surface. She could manage to prusik, albeit very slowly, but needed another caver on hand to help with each changeover. Richard tandemed up the big pitches with her, and we all joined in with the singing to keep up her morale. We finally arrived at the entrance shaft in the early afternoon. Half-way up I met Ian sitting on a little ledge, and as I prusiked past he handed me a mug of tea. It was very welcome.

I gave Ursula a more thorough check-up later that day. She had been very lucky and there was no sign of any serious damage. However, several weeks later she still cannot hear properly on that side. This makes me think it very likely that she did indeed fracture the base of her skull.

Addendum:

For those interested I append our 'game plan':

The immediate problem in Alpine cave rescue is, in my experience, lack of accurate information about the state of the casualties. For that reason we do not mount a full-scale rescue straight away. Instead a team of three goes underground, with at least one doctor if possible. One is designated as a 'runner'. He goes in as fast as possible and with minimal tackle. His job is to find the casualties, improve their morale and guide the two other rescuers to them. These two bring the bulk of the rescue equipment. I do not think the slight delay this means is of any significance compared to the long delay already in reaching them, and the 'runner' can anyway administer immediate first aid. In our rescue tackle we carry intravenous fluids, airways, antibiotics and injectable painkillers. Such equipment can only be used by medically trained cavers and therefore, as well as the doctors, several cavers in our club are also *practised* at putting up a drip and giving injections, and detailed instructions are included in the ready-packed ammo cans. We of course also carry a fibre pile sleeping bag, and a stove and food.

When we find the caver we can then send the 'runner' back out with a message for the surface. It is important for the doctor to assess if a stretcher is required, how many cavers will be needed and if a helicopter should be arranged. These arrangements should all wait until the casualty has been properly assessed as it probably saves little time, but would be extremely expensive, to do so prematurely.

The remaining cavers on the surface, who should in the meantime have been resting, can now organise a full-scale rescue if necessary. They can arrange radio links with the cave entrance, order a helicopter and summon cavers from nearby areas. In the meantime the injured caver is hopefully in good hands.

This plan has fortunately never been tried on a seriously injured casualty, as our rescues have involved cavers who have all been able to help themselves out of the cave with assistance. I would very much welcome any views on the conduct of a major rescue in a remote deep cave.

Editor's note:

'86 was an unlucky year: earlier in the expedition Fred had a boulder fall on his face, resulting in a broken tooth and a very deeply torn lip. Fred could make his own way out of the cave, but getting him to hospital presented different logistical problems, in the absence of an expedition vehicle. Our very greatest thanks, therefore, go to our German visitor, Franzjorg Krieg, who dropped his plans to drive Fred to Oviedo to be stitched up.

Incidentally, the first time Fred ventured underground after having his stitches out was the trip described above....

UNDERGROUND FIRST AID FOR EXPEDITIONS

Tom Houghton

These notes are for your help in the event of a major accident such as a fall or a roof collapse. They are not a substitute for qualified aid. They are designed to help you bring a victim alive to the surface.

Whatever you do, a major injury inside a remote system on expedition may well mean death. Know your caving techniques, and take care.

DO THE FOLLOWING IN SEQUENCE:

- 1) **DON'T PANIC.** Be methodical. Don't be rushed into hasty action. Keep your reason.
- 2) **GET THE VICTIM OUT OF IMMEDIATE DANGER** - loose rocks, for instance, or cold water. Mind yourself; be careful. Moving the victim - see **BACK**.
- 3) **MAKE PREPARATIONS TO TAKE THE VICTIM OUT.** Unless the injury is obviously trivial, all accident victims should be brought to the surface as quickly as possible. Beware those who have been hit on the head but look 'all right now'. They could be bleeding inside the skull and unconscious or dying in a couple of hours. **GET THEM OUT.**
- 4) **CONSCIOUSNESS.** Is the victim able to talk? If so, ask them if they can feel and move their limbs. **IF NOT, ENSURE AN AIRWAY.**
- 5) **AIRWAY.** **PULL THE JAW FORWARDS, AND KEEP IT THERE.** This stops the tongue lolling back into the windpipe. The ideal position is 'sniffing the spring air' - head forwards and chin up. An unconscious patient will die rapidly without an open airway. If they puke or look as if they might, roll them on their side and let the vomit come out - **BUT SEE 'BACK'**. If there is any muck or whatever blocking their airway, **GET IT OUT.**
- 6) **BLEEDING.** If they are obviously bleeding, **PRESS ON IT** with your hand or a pad (i.e. a firm wedge of anything reasonably clean), for five or ten minutes without peeping to see if it's stopped. If it doesn't stop, keep pressing.
- 7) **PULSE.** Compare the victim's pulse with your own. **SHOCK** - severe blood loss - the victim has a fast, thready, weak pulse; they are cold, clammy and sweaty. If you are in no doubt that the victim is like this, they need an intravenous line and lots of fluid - but you probably don't have these or the knowledge to use them safely. **GET THEM OUT. DON'T** give them fluids by mouth: the guts stop working in shock, and so you're only giving them something to puke up.

IF YOU CAN'T FEEL A PULSE AT THE WRIST - there is a muscle on each side of the neck running in a straight line from just below the ear to the inner end of the collarbone. If you put your fingers just in front of this muscle at its midpoint and press in **GENTLY**, you will feel the carotid pulse (try it on yourself).

8) **CAN'T FEEL A CAROTID PULSE.** If you really can't, the heart has stopped working effectively. The victim needs chest compression ('cardiac massage'). By this stage you are probably on a hiding to nothing, but the drowned and the hypothermic can survive for surprisingly long periods with a stopped heart, so **TRY, AND KEEP TRYING, FOR A COUPLE OF HOURS IF NECESSARY, UNTIL SKILLED HELP ARRIVES.** You might just be able to get them going again.

TECHNIQUE: this has recently changed slightly, as a result of research. Get the victim onto a firm flat surface on their back. Find the middle of the breastbone - the top end is between the collarbones, the bottom at the apex of the 'V' between the ribs. Keeping your arms straight and using the weight of your body, lean with the heels of your hands on the middle of the breastbone. Say 'one thousand', release saying 'one', do it again. The idea is to have long firm squeezes and short releases. Don't do it too quickly.

If you're on your own, give fifteen squeezes and then give them some air - head in the 'morning air' position, pinch the nose, seal your lips over theirs and exhale firmly. If there is someone else there, get them to do the breathing while you continue with the chest compression.

The time to learn how to do this is when you don't have to.

9) **BACK.** DON'T MOVE THE VICTIM TILL YOU'VE FELT THEIR BACK, OR IF THEY ARE PARALYSED OR LACK SENSATION ANYWHERE. Feel all the way down the spine. You will feel a row of regular bumps; if there is a gap or a step, or if the victim has pain at one spot on pressing, they have a back injury. If in doubt, play safe and treat as one.

LOG ROLL: With three people, move the victim as a unit without bending or twisting, like a log. Don't forget the head: don't turn, drop or bend it, but keep it part of the log - they might have a neck injury, especially if they've had a blow to the head. In this fashion, get the victim out of harm's way onto a flat, firm, horizontal surface. Don't move them again until you've got them onto a Neil Robertson stretcher, or similar.

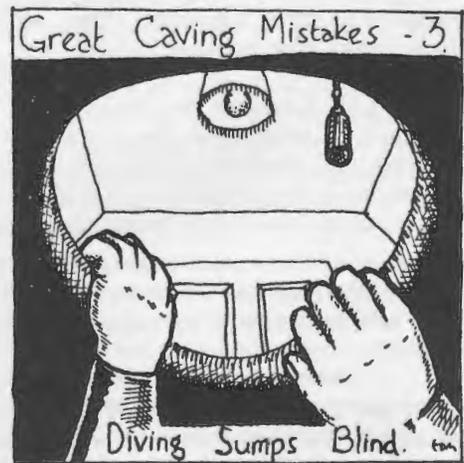
10) **CHEST.** If the victim has difficulty breathing, or pain on breathing, ENSURE AN AIRWAY and look at the chest (open the clothing, look at both sides). If there is a wound on the chest, PUT A PAD ON IT to stop air leaking in and letting the lungs down. Look at the movements; if one bit goes in while all the rest comes out, and vice versa, PUT A BIG PAD ON THAT BIT to hold it in - that is a 'flail segment', a bit of chest wall that has come out and is moving independently of the rest, and while it is free the victim can't breathe properly.

11) **DEFORMITY.** If either leg is bent out of shape, try to straighten it out by pulling down on the foot. You might have difficulty doing this, especially if the victim is awake; but if the deformity is gross or if the part beyond it is going blue, you should try. Arteries in fractured limbs can be kinked or blocked over the fracture. Support arms by putting them inside clothing, or applying a sling if you can. Look for wounds on the limbs; these might connect with the fracture, so it is important to keep dirt out of them. Put a pad on, with pressure if there is bleeding.

Splint broken limbs; strap a broken leg to the sound one; ideally put the victim on a stretcher.

12) **HEAT.** EXPOSURE IS A RISK, especially for immobile victims. Change wet gear for dry if someone else is wearing drier gear. Cover with a space blanket (which you have in your helmet, of course). Put into an Eskimo or other sleeping bag if you've got one. Sugary food can be a good idea, but BE CAREFUL; drowsy victims might puke and block their airway, and the injured might go into shock and do the same. GET THEM OUT.

On the way out - keep talking to them. Keep checking the pulse - if they weren't shocked before, they might become so.



(The Great Waldo - in the phone box? - 5/8/85)

Walked up from Lagos with an ill Ian H. Went to the phone box. Picked up the brown envelope & started the tape recorder. 'Your mission, Mr. Phelps, if you choose to accept it, is to drop several tins of grapefruit down Fred Flintstone. The details are in the envelope. Should you be captured, the secretary will deny all knowledge of your mission. This tape recorder will self-dest-- **BOOM! Kerbam! BANG!** Echo echo echo....'

Hmmmmmm. A short fuse I suppose, and who was this Mr. Phelps anyway?

DEPTH IN THE AFTERNOON

Further Extracts

Richard Gregson & David Rose

*On the subject of reminiscences, here are two more extracts from **Beneath the Mountains**. The first tells of Richard's despondent return from Spain to the working world in 1983; the second gives a vivid and (almost) faithful account of one of the adventures in 1984 of our beloved Yellow Van.*

Beneath the Mountains, by David Rose and Richard Gregson - coming soon to a caving shop near you!

It was a sombre return for me from Bilbao; I flew into Gatwick on a wet July afternoon and drove down to Torquay. My diary read '1.8.83; start work for the next 38 years.' Not only was I starting work, it was one of the busiest jobs conceivable: as a medical houseman. It was quite likely that I should never go caving ever again, or maybe the odd trip to Yorkshire. I felt that my youth was somehow over. I imagined my framed survey of Xitu hanging above the fire for a few years, then being moved to the spare room, then into the bathroom, then finally being confined to the attic. Years later it would be discovered there, and used as a roof for a tree-house, or as a sledge.

I could imagine Dave and me as old men, demolishing a bottle of port after a large meal, like veterans reminiscing about the campaign against the fuzzy-wuzzy.

'Now, *we* were here...' moves pepperpot, 'and Xitu... was *there*...' moves mustard. 'If *this* is the resurgence...' moves decanter, 'what were we to do?'

In November I went to the 1983 Expedition reunion dinner, expecting the event to make this feeling worse. I was by now worn out by months of working 100 hours of the week or more, missing sleep regularly - not only by the ward phoning me to get me out of bed, but also by the dreadful worry that I had given somebody the wrong dose, or failed to realise what was really wrong with them.

Instead, the Dinner was a great do, full of optimistic conversations and forward-looking plans for the expedition of 1984. The new expedition leader was Steve Gale, a junior don in some branch of geology. He was already very well into the plans for 1984, and his status in the University, as well as his rather formal manner, were helping things along. As I was talking to him, the two of us were drowned out by Phil Rose and Ian Houghton entering a spiral of hyperbole about the new entrance they had found together. It would join Jorcada Blanca *after* the sump; it would be an independent, deeper system containing huge pitches; it would reach a big master cave; it would...Steve Gale interrupted them.

'It will sump.'

They were choked into silence, which he broke by beginning a long diatribe about cave geomorphology and genesis. The level at which the limestone is saturated, he said, is higher in the centre of the massif than at the edge of the massif, so the caves in the centre of the massif, he maintained, would reach the phreas at a greater altitude than the caves nearer the edge of the massif, now, as the area around Top Camp is in the centre of the massif... Everyone listened intently for a while, but soon lost interest, geomorphology never having been one of our strong points. Wild imaginings were much more fun.

Later Dave cornered me.

'Do you think there's any chance of you going next year?'

'Not really. I've a job which finishes on the first of August, and I'm not allowed to take any holiday at the end - continuity of the care of the patients and all that. Any other job I get will start on August the first, and by the time I get to take any of my measly holiday allowance they'll be back from Spain. Anyway you can't guarantee that they'll let me take *any* holiday at all. Consultants are an odd bunch...'

'Give your job up.'

'You give yours up!' Dave was trying to make his way in the cutthroat world of journalism, where, as in the cutthroat world of medicine, holidays were frowned upon. We both liked caving, sure, but when it was a choice between caving and eating...

Steve Mayers had already made his decision. He had given up his well-paid job (with car) working for a drug firm, and was now just climbing, drawing the dole. I just couldn't bring myself to do that, so the prospects for caving seemed hopeless.

As it happened, I got a job in Sheffield, starting on August the first, 1984. On the way back from the interviews with the formal surgeon I was to work for, the rain lashed the windscreen as hard as any Picos storm.

Later, as I lay in bed, waiting for the phone to go off again, I heard the rain lashing against the windows of the NHS flat I had been given to sleep in. It sounded much like the rain does as you lie in your tent, as it patters on the flysheet. I thought how much nicer it would be to wake up at Top Camp, with the bright morning sun and the chilly mountain air, the perfect silence of the wilderness disturbed only by the wild chamois and the soaring of large, black birds.

Doctors' Residences,
John Radcliffe Hospital,
Oxford.

Mr. D.G. Ferguson, Consultant Surgeon,
Accident and Emergency Dept.,
Royal Hallamshire Hospital, Sheffield.

Dear Mr. Ferguson,

Thank you for offering me the job of Casualty Officer, starting on 1.8.84, which I should be glad to accept.

In this job I am allowed three and a half weeks holidays, which includes Bank Holidays, and I wonder if it would be possible to take *all* this holiday *starting* on August 1st 1984?

Normally I shouldn't ask a favour such as this, but I have had the great fortune to be invited on a major International Caving Expedition, which is going to discover the deepest cave in the world, in Spain, and is supported by the Royal Geographical Society, the British Cave Research Association, the University of Oxford, the Spanish Government, the Ghar Parau Exploration Foundation, the Sports Council of Great Britain, the West Lancashire Evening Gazette, Dunlop Ltd. (Wellington Boot Dept.), Mornflake Porridge Oats Ltd., Rington's Tea Bags and John West's Tinned Foods.

Yours,

R.M.C. Gregson.

I waited for the reply with baited breath.

Dear Dr. Gregson,

I have arranged for you to start work on Monday, 25th of August 1984, at 9.00 a.m.

Yours faithfully,

Mr. D.G. Ferguson, FRCS (Lond.)

When Richard got to Spain, this is what he found....

Whilst the frontiers of caving were being pushed back further up the mountain, a great deal had been happening at Los Lagos. The Spanish families who drove there to take their picnics were greeted by the sight of a khaki-shorted Englishman darting about with a butterfly net.

This was John Hutchinson, the expedition biologist. He was collecting not only butterflies, but also beetles, which he religiously pinned in neat rows on cards and stored in his tent. At night he would lie curled up in his sleeping bag surrounded by the corpses of dozens of innocent creatures. They didn't call him 'the Hutch' for nothing.

Apart from seeing off insects, John (the Impaler) Hutchinson had another function: he was Steve Gale's driver. The only other drivers (Steve couldn't drive) were swinging about on ropes in the big pots up the hill, so John was roped into driving about on the terrible Picos roads with Steve navigating and giving commands, like a tank commander, except that instead of a Sherman they were driving a yellow bread van.

Together they bounced up the road that followed the valley of the Dobra into the mountains. It was Steve's plan to set some dye-detectors in this rarely visited place, just in case it was from these springs or resurgences that the water from the Jorcada Blanca system re-emerged. The road deteriorated the further they went until after a few miles Steve looked up from the map on his knee and pointed up a disgraceful shambles of a track to one side.

'Up there John'. It was a steep rubble path fit surely only for donkeys, which led to a small clump of houses and beyond them, to a large spring. His not to reason why, John took a run-up and careered up the hill with the engine screaming, then lurched into the tiny village.

Rare as it was for the sleepy hamlet to receive visitors, it was unprecedented for one of the village's own sons to be flying off to America. At that moment, though, one of the young men was packing his bags into his cousin's Land Rover. The Land Rover was to take him to Santander, then the train to Bilbao for the late afternoon flight. By morning he would be in the United States!

The lucky chap kissed his mother goodbye, then jumped in - his cousin already had the engine running - and as the Land Rover rolled off he looked back at the house of his birth and waved. Next stop New York.

Wrong. Just as they turned into the village centre they saw that the way was blocked by a huge yellow van that had tried to get round the corner by the Ramirez' house. It was wedged across the street with the nose up against the wall on one side, and the square back leaning against the wall on the other. What kind of cretins would bring a van like this here anyway and what could they be delivering? The street was totally blocked!

The two cousins pushed through the crowd that had gathered around the wedged vehicle, and it was only then, when they were quite close, that they saw the sticker 'GB'.

'What's he say Hutch? - Look, I reckon we need to go back about six inches, then try turning left a little.'

'It's something about an aeroplane, I can't catch the rest.'

'Well tell him a helicopter would be better, it could lift it out for us. Hey - do you think we've enough *people* to lift it out?'

'No, not nearly enough, and anyway they're all old folk. Que Señor?...He says we've got to move the van straightaway.'

'Can't he *see* that we're stuck?'

'He's got to get to Santander, hang on...he's got to get to Santander...to catch a train... then a plane... from Bilbao... this afternoon.'

'Well, look, tell him we can't bloody well take him to Santander, because we're bloody well stuck here! Jesus Christ! He'll just have to make his *own* way to Santander. Do you think they'll let us demolish the wall of this house?'

'We can't demolish a house!'

'Try it'.

'Er... Señor... Eso es posible... er... el muro...'

It is a remarkable thing how, if he is sufficiently motivated, one Spaniard can destroy the entire wall of a house single-handedly. The wall was soon down, and there were cheers as the yellow van lumbered away with a massed helping push, hotly pursued by a Land Rover.

(Fred and Ukey - Cabeza Muxa - 15/8/84)

After some deep wading, in large round chambers and traversing around these white formations in the river, we reached the SIEFON. White walls reach down through clear water; it looks like an underwater pitch leading to further unguessable cave... Fred and I, although normally quite sane, understood the urge to go cave diving as we sat silently and looked down.

(Richard - Great Caving Discoveries no. 22 - 6/8/84)

...the caving discovery of the month: JAMON! A trip to Cangas market on Sunday was all the necessary preparation. I approached the stall, and in the appropriate linguistic melange asked for 500 grammes, sliced. This was done on an ancient hand slicing machine and the slices ready packed in a plastic bag. No further preparation for underground use was required; Dr. G. simply paced the package in his SRT bag.

(Sean & Ian - the Newt - 22/7/85)

...then we both set about it with hammers. Ian tried to climb out with a similar set of ascenders to me. After a lot of struggling and gesturing he got his head and shoulders through. The effect was rather like seeing a grown man trying to climb out of a milk bottle. He sounded much calmer than I was - huh! Confidence prevails and so he escapes. We live to cave another day...

(from the R. Gregson Spanish Phrase Book for cavers)

Eng. - 'O Barman, my friend and I are hungry and thirsty.'

Sp. - 'Quatro Jinebrias y Tonicas por favor, y quarente tortillas, quince mas.'

Eng. - 'We are very worried about our friend - he has been missing for 12 hours in the mist. He has no compass.'

Sp. - 'Una Bocadilla de Tenera y una Quarante y Tres, por favor.'

CAVE DIVING IN THE PICOS DE CORNION

Chris 'Dani' Danilewicz

In 1985 and 1986, we were accompanied in the Picos by an independent diving expedition led by Dani Danilewicz. The first expedition, in 1985, was intended as a preliminary investigation of areas known to have potential; in 1986 much more ground was covered and some exciting discoveries made, especially in Cueva Culiembro, the resurgence cave of Xitu. Unfortunately, at the time of going to press the report from the 1986 expedition was not ready; below, therefore, is the by now somewhat outdated report from 1985.

Introduction

In June 1985 an independent eight-strong reconnaissance expedition to the Picos area was organised. Our aim was to look at several sumps and to assess the potential for a future major expedition. The sites chosen were: Cueva Trumbio (Collis, 1975a); Cueva el Gueya Reinazo (Collis, 1975b); El Hoyo la Madre (Fowler and Laverty, 1979); and Cueva del Osu (Fowler and Laverty, 1979; Gale, 1984a). The main reason for the selection of these caves was their proximity either to Los Lagos or the Los Lagos - Covadonga road. With only five days available, it was essential to put in the maximum time underground and to minimise travelling time.

Cueva Trumbio and Cueva el Gueya Reinazo

These two caves were linked hydrologically by the French group Speleo-Club Alpin Languedocien in 1964 (Collis 1975b; Gale, 1984b). Each cave was visited twice during the expedition. On 26 June, two divers explored the terminal sump of Gueya Reinazo, the second passing the sump to an airspace after 30m. The airspace consisted of a 1m square, 0.25m high airbell, with a boulder roof and a stream entering through a boulder wall. There was no way on without digging; under the circumstances this was inadvisable. A return visit was made on 30 June by two divers, but they failed to make any further progress. A return in the future would need to be made with equipment which would allow the boulders above the airbell to be dislodged from a safe distance.

Cueva Trumbio was visited on June 27 and 28. Although Jim Sheppard had doubted whether the terminal sump was divable, we found it to be large and quite clear. On June 28, therefore, a large carry of tackle was arranged and a diver put in the sump. After several minutes he returned and described the sump as being 5m deep, 6m long and descending in steps under a boulder roof. The diver stopped at a point where the sump dropped down through a narrow slot. Although the slot may be negotiable after de-kitting, any disturbance of the overlying boulder roof would have dire consequences. For this reason, the sump was left until some form of shoring could be introduced. A second diver confirmed the layout of the sump. In addition to the sump, several massive roof tubes were noted on the way out and a little bolting may lead to a sump bypass.

El Hoyo la Madre

Of all the caves visited this would seem to have the greatest potential for cave diving. It is a major resurgence with an undefined catchment area and no proven feeders. None of the expedition had visited this cave before and the first attempt to find it, on June 27, failed due to the usual atrocious weather. On June 29, four members set off in glorious sunshine and had no navigational problems. The walk should not, however, be taken lightly. Sufficient equipment was carried to equip one diver. The cave itself was not difficult once the 20m climb to the entrance had been overcome. Rapid progress was made to an incredibly clear upstream terminal sump (Sump II). The diver passed this sump and emerged after 100m in a pool 20m long and 4m wide. At its far end, a 2m wide stream entered on the right. The diver de-kitted and followed this streamway until it closed down after 20m. Near this point, the entire stream entered down a 4m high waterfall in the left wall. After six attempts, the diver scaled the waterfall and followed a further 10m of deep water streamway which ended at a sump. The prospects for extension remain very good.

Cueva del Osu

A total of three pushing trips was made to Osu. The entrance series was rigged immediately upon our arrival on June 25 and the first pushing trip was made on June 26. Sufficient equipment for two divers was portered to the downstream sump by a party of five in a four hour struggle. The first diver passed the sump after a dive of only 4m. Both divers then explored downstream whilst the three porters tried to find a sump bypass. The extension consisted of approximately 40m of easy streamway in a tall rift (Buccaneer Streamway) which ends abruptly at a stal blockage, called Potter's Bar in memory of Keith Potter. This was scaled and beyond a large chamber was entered. Several ways radiated from this chamber which was, therefore, named Oxford Circus. The most obvious way on was a large, clear

sump at the far end. This was not dived on this occasion. A steep ramp beyond the sump pool was gained but could not be climbed due to a combination of its steepness and its muddiness. Several other ways, all climbs, were investigated but all became too exposed for unequipped climbing. The divers, therefore, returned and rejoined the porters. On the way out a number of avens were scaled to heights of over 20m, but in every case the climbs became too exposed.

On June 29, two divers carried in some additional gear and attempted the second sump. This dropped in a shaft 3-4m in diameter. However, visibility was extremely poor and at -9m the first diver found himself over-weight and, therefore, exited. Both divers then made their way back, carrying a large quantity of gear as far as Camp Chamber.

The final Osu trip was on June 30, when a five man group all passed the first sump and a diver was kitted up and put in the second sump. He descended to -17m in zero visibility. Not being able to see, he returned and detackling began. A total of fifteen assorted bags, bottles and boxes were finally pulled out of the cave after a nine hour detackling trip.

The first sump in Osu is only 2m long and easily free-dived. On a return visit it is essential that an equipped diver is put into Sump II immediately on arrival before visibility is lost due to silt being washed in from a disturbed Sump I. Several climbs, both before and after Sump I, may also prove fruitful.

Conclusions

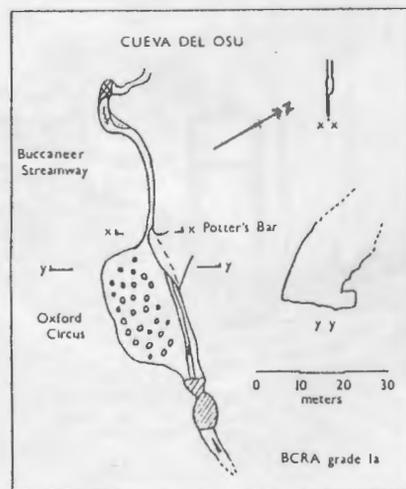
Although only four caves were visited, a total of three sumps were passed and there is still scope for extension in all four caves. Without doubt, El Hoyo La Madre and Culiembro will probably provide the best returns. In both cases diving conditions, apart from temperature, are ideal and their potential is enormous. These preliminary investigations indicate that diving should become a regular and accepted part of any future expedition, provided that the divers are well trained and do not divert effort from other projects. This expedition demonstrated conclusively that a small group of divers can be entirely self-sufficient for their portering and rigging needs. It is to be hoped that in the future the Club will benefit from the work of divers, not only by their explorations but also by the increased knowledge of hydrology and structure that their work can reveal.

Acknowledgements

I should like to thank the following cavers who made up this expedition: Dave Francis (LUCC), Stuart Gillet (ASS), Pete Riley (NPC), Rick Stanton (LUCC), Barry Sudell (NPC), Mike Thomas (NPC) and Angela Timms (MTCPC). Also J. Harris (Motor Bodies) Ltd. of Barnsley for their discount rates for the hire of the expedition mini-bus and roof rack.

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Editor's note: In 1986 the divers returned and pushed extensions in Culiembro, Osu, Trumbio and Hoyo la Madre. Details will be published in the journal of the Northern Pennine Club.

SCIENTIFIC WORK 1984-5

Hilary Winchester

Precipitation Measurements

Precipitation measurements, together with some measurement of pressure and temperature, were taken in 1984 and 1985 in order to gain data for high-altitude stations, which are scarce because of the inaccessibility of such areas. Measurements were taken at three sites at 1100m, 1600m and 1800m, in order to provide a more complete record of rainfall variation with altitude. In 1984, the measurements were taken over a period of 32 days, and in 1985, 29 days. The data are at present being analysed in association with sea-level data obtained from the Meteorological Office.

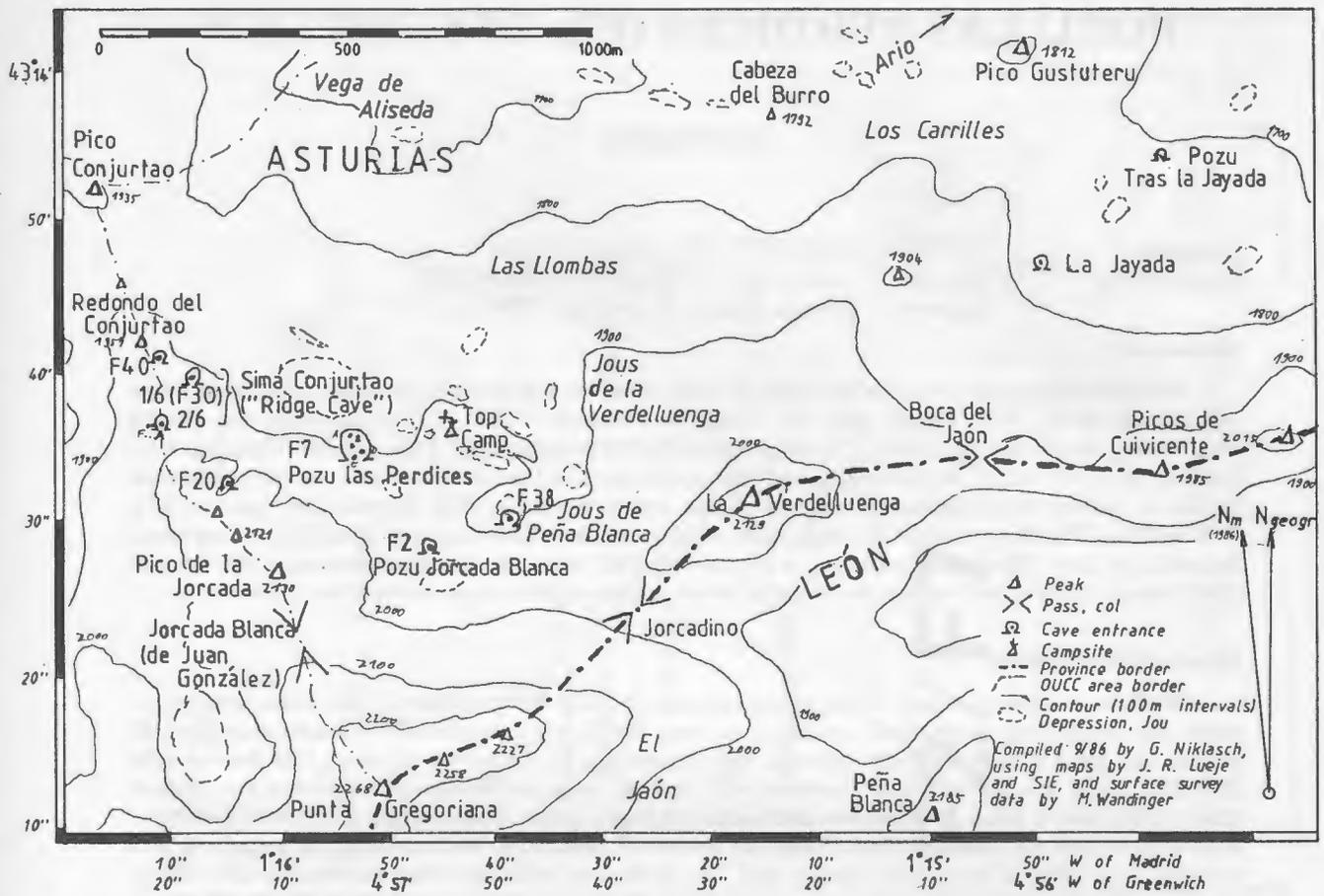
Preliminary analysis of the results and the synoptic charts indicate that summer precipitation in the Picos de Cornion may be categorised into three types. First, the presence of cloud and mist at this altitude provides a small but significant proportion of measurable precipitation. Secondly, periods of steady rainfall are associated with northerly airstreams bringing moist air from the Bay of Biscay. Thirdly, the dramatic intense rainfall events are associated with the passage of frontal systems, augmented by orographic effects. However, the relationship of precipitation to altitude is by no means straightforward as it is heavily influenced by the type of precipitation, as well as by topography and turbulence effects. Further analysis of these data will enable us to understand more fully the complex nature of summer precipitation in high-altitude areas.

Dye-Tracing

Dye-tracing experiments were again undertaken in 1985 in order to establish the routes taken by water flowing through the caves of and in the gorges bounding the Massif del Cornion. Control measurements of fluorescence were taken before dye was placed in the cave systems. Fluorescein was used in F20, a major high-level cave, and in the low-altitude cave of Cueva del Viento. Charcoal tracers were set up in the gorges of the Cares, the Dobra and at El Hoya la Madre, and at Rio Pomperu and Vega la Cueva; in other words, at all the major resurgences and surface streams of the area.

The charcoal was tested by eluting the samples and by testing for fluorescence using a photospectrometer. Unfortunately, no positive traces were found. This could be due to a variety of reasons. It is rather disappointing, as the hydrological development of this area is still poorly-known, and these experiments took a number of man-days to establish. It will be necessary to continue this work next year, probably using a greater range of dyes, and allowing a greater time-lag between the insertion of the dye and the collection of the tracer. Our understanding of the hydrological development of this area would be greatly improved if some positive results could be achieved in future years.





Top Camp Area

Above: map of area; below: the Ridge and caves as seen from Top Camp. (M.H.)



POZU LAS PERDICES (F7): DESCRIPTION

Ian Houghton

Location 1°15'39"W, 43°13'36"N (F7c); altitude 1866m
Exploration Discovered & explored to Achilles/Executioner 1983
Explored to Jorcada Blanca & surveyed 1984

Entrances

The three entrances are all within 40m of each other on a limestone pavement dipping at about 20°, approximately 210m distant from Top Camp on a bearing of 250°. The pavement is that leading from Pozu Jorcada Blanca down to the large scree-filled depression near Vega Aliseda. Sightings from Perdices give 113° to La Verdelluenga, and 204° to the peak of Jorcada Blanca. If you are still unable to find it, you are either encased in mist or on the wrong mountain. The entrances are painted F7a, F7b and F7c. The first entrance is a deep snow-filled gash, some 10m long and 3m wide, leading into a beautiful ice cave. The second entrance is a square shaped 3m x 3m shaft, intersecting a rift, and the third entrance is a tunnel onto a short pitch. Snow conditions may make recognition difficult.

General Description

Perdices provides a second, lower, entrance to the Jorcada Blanca system; it is a 450m deep trip to reach the stream cave, entering via the Hot Tub aven. Perdices is a much easier entrance than Jorcada Blanca and gives a most enjoyable sporting trip. Attractions for the visitor are the 112m free-hanging Hot Tub pitch, the Sky at Night chamber with its huge aven and house-sized boulder, the elegant, damp, 80m Nostril pitch, and the wet and technical Bogey pitch. There is also some free-climbing, a few cascades and two short squeezes. From the bottom of Perdices to the final sump of Jorcada Blanca involves some 580m of horizontal passage and 70m of descent, with four short pitches. Jorcada Blanca does provide a few difficulties, these being the rift climb and traverse immediately after the Hot Tub, and the 20m section of cave from the Vortex squeeze (very tight) to the base of the final pitch, Armageddon, which is also tight. This whole section is very wet and draughty, and the 9m Vortex pitch is very awkward with a horizontal serrated flake half-way up in the water to snag ladders or rope. As the cave guides say, an accident here could be serious. Further details of Jorcada Blanca are in OUCC Proc. 11.

If the cave were rigged, and the route known, a fit solo caver could reach the sump in about 3 hours, and exit after a total of 7½ hours. A trip to the bottom of Perdices and out would take only about 4½ hours. Perdices could be rigged and derigged in a day by a small party using lightweight rope.

Cave Description

Of the three entrances to Perdices, only the higher two can be considered as normal routes into the cave. If not blocked with snow, the middle entrance (a shaft intersecting a rift) provides the easiest route, following the rift downwards, bridging over the snow. A phreatic tube entering from the right from the upper entrance is passed and, after a steep bridged climb downwards, a rock floor is reached with a squeeze at floor level providing the way on.

The upper entrance has a tunnel approach that protects it well from the snow, though in 1984 it was nearly blocked. This entrance has an 8m pitch, followed by a few metres of passage to a fork. Both routes rejoin after about 15m at a small chamber. At the far end of the chamber behind a boulder is the phreatic tube which can be crawled to the rift of the middle entrance. Below the boulder is a climb downwards in the rift for 14m that lands at the floor-level squeeze.

After the squeeze, a narrow rift is encountered. Although this can be passed by climbing up for some 5m and squeezing through, easier progress can be made in higher passage higher up in the rift. The rift emerges onto a 10m pitch (Strangeways). At this point the cave widens, and an enticing draught (upwards) is noticed. Strangeways lands on a ledge in the middle of a rift, with two ways on. Left, facing out, is the Executioner; right is Achilles.

The Executioner route involves a 3m climb downward, followed by a traverse over a 7m blind pot to a 19m free-climb into a narrow abandoned stream bed. This leads immediately to the Howler, a strongly draughting hole leading downwards to a tight squeeze, immediately followed by a pitch into the Achilles route.

The Achilles route is the more sensible choice, involving a walk over boulders until the floor disappears down a rift. The rift can be followed directly as a 13m narrow pitch using a bolt belay; alternatively, a wide traverse (easier than it looks) can be followed to the far end of the rift. The rift carries a small stream, and can be climbed upwards for 60m to a choke. Sporting climbs down the rift enable the 13m pitch to be bypassed. Pitches of 22m and 11m follow, landing near the base of the Howler pitch from the other route. The landing is a small ledge with a stream. An airy traverse round the corner (bolt protection) leads to a flake belay with a tiny, but perfectly positioned ledge providing a

good take-off for a superb 36m free-hanging pitch (Obelisk). At this point the cave starts to enlarge further, to approx. 5x10m.

Obelisk lands on a ledge, where once stood a 2m high rock tower. Unfortunately, attempts to belay to the tower showed it to be less solid than desired, or expected. The demise of the 'obelisk' means that the next pitch (11m) is most easily rigged using a deviation on the rope above.

This drop lands on a substantial ledge, with a 2m long and ½m wide hole in its floor, down which the stream runs. This is the Nostril, an inclined 80m pitch that is against a smooth wall and rather dribbly and damp. The pitch becomes unpleasantly wet on hot sunny days at 3-5pm, when the snow starts to melt. The Nostril lands in a chamber / aven, the largest flat area encountered in the cave so far, measuring about 25m by 4m. A 55m pitch follows. The direct descent is both loose and wet, so a traverse round the left-hand wall, to a set of natural belays, is advisable. However, a very wet aven enters from above here, rendering this descent equally unpleasant. We used this route, although a better descent line exists between the two waterfalls.

The next pitch (26m) is followed by a tight rift, combining a crawl and squeeze, affectionately called the Bastard. This is followed by a 22m pitch in a loose but wide rift onto a large jammed boulder. Climbing down 6m to the stream leads to a rising traverse and a 23m pitch into a huge chamber, The Sky at Night. The chamber measures some 35m by 14m. Access is almost completely blocked by a boulder, 5m high, jammed across the 4m wide rift, and it is necessary to climb under it and exit through a gap at its top. A vertical cliff is then encountered; a second, much larger, boulder, 8m high, 6m wide and 4m deep. Fortunately the chamber is 7½m wide here, and it is possible to climb up past it. A huge aven enters here, and the feeling of space is such that the chamber seems outdoors. The walls rise vertically out of light range with no indication of a roof or narrowing down.

A small passage leads off to the final pitch, the Hot Tub. This is the finest in the cave, a completely free-hanging 112m drop, with a large aven above. A substantial waterfall can be made out on the far side of the pitch at the top, but it is too far distant for the spray to reach the rope even on such a long pitch. The walls disappear out of sight almost immediately, leaving the caver with no other means of judging the rate of descent other than by watching the rope. The pitch lands in the boulder chamber of Jorcada Blanca, named the Hot Tub because of the cold draught caused by the waterfall previously mentioned, which lands in a corner of the chamber. The exploration limits in Jorcada Blanca without tackle are Lago Victoria upstream and Pol Pot downstream.

F7: Tackle List

1	12m	Glass Sword entrance	18m line	Naturals
2	3m	Topofail entrance	6m line	Natural
3	8m	Ginnel entrance	30' ladder, 10m wire	Naturals
4	10m	Strangeways	15m rope	Naturals, deviation
5	13m	Achilles I	15m rope	2 bolts
6	22m	Achilles II	25m rope	Naturals
7	11m	Achilles III	15m rope	2 bolts
8	4m	Traverse	8m rope	3 bolts
9	47m	Obelisk	50m rope	Natural & bolt, deviation
10	80m	Nostril	85m rope	Bolt & natural
11	19m	Traverse	15m line	2 bolts, naturals
12	55m	Bogey	65m rope	Naturals, natural rebelay
13	24m		30m rope	Bolt & natural, rebelay
14	2m	Blind pit climb	5m line	Natural
15	24m	Avalanche Pit	30m rope	Naturals, rebelay
16	22m		25m rope	Natural and bolt
17	112m	Hot Tub	120m rope	Natural, 2 bolts

Executioner Route

5a	19m	Executioner rift	20m line	Naturals
5b	27m	Howler	35m rope	Naturals, rebelay

(Phil Rose and Ukey pushing in F7. - 24/7/84)

...he seemed to take a long time going down. Then the call came 'Rope free!' and I followed. It's an incredible pitch: a straight free-hang down the middle of a vast chamber. On the way down, enveloped in a vast cloud of steam, I had to look at the rope running through my rack to convince myself that I was moving at all.

We landed in a bouldery draughty sloping chamber and headed off down a little rift. Soon we came to a drop. 'Is this a pitch?' I asked. 'No,' said Phil confidently, 'it's a *climb down*' so we clambered down this little climb with that popcorn stuff all over the walls. Does this begin to sound familiar, Gentle Reader? It should do, because a few minutes later, Phil cried: 'Hey, wait a minute! I've been here before... THIS IS FU56!'

THE GOURMAND'S GUIDE TO TOP CAMP

Fred Wickham

On one trip in 1984 all the party forgot their tin openers. As the rest of us bashed maniacally at the tins with rocks to get at their precious contents, Sara was heard to utter the immortal words, 'Who needs to eat when you are in such a beautiful cave?'.

For the rest of us, however, food comes pretty high on our list of priorities when living at Top Camp. This is hardly surprising when you consider that to replace the calories used in a thirty-hour caving trip you would have to eat thirty-eight King Size Mars Bars.

During the first week of the Expedition it seems that not much cooking gets done. Instead, people gorge themselves on the choicest of the sponsorship goodies: Hawaiian Crunch, Yorkie Bars, spoonfuls of honey and peanut butter washed down with lemon juice. After that the staple food is 'Top Camp Stew', which despite all our efforts at *haute cuisine* always turns out remarkably similar to the last cauldron-full. Here is a recipe for Top Camp Stew:

Top Camp Stew

Ingredients (always cook at least twice as much as you think you will need):

Onions; tinned meat; tomatoes; peppers; carrots; pasta; chick peas; Worcester sauce; salt; pepper; oil; vinegar; garlic; mustard.... anything interesting that's around.

Method:

Bung it all into a huge saucepan and cook it for a couple of hours. Do not stir it or you will scrape the burnt bits off the bottom.



Now, lets see, eye of newt, toe of frog, wool of bat, tongue of dog,

Interesting things that might be around include: cumin; oregano; green beans... although these probably won't appear in the shopping until about week 4 when the shoppers have got really desperate for interesting things to put in the stew.

Variations on Top Camp Stew include:

- Curry: Top Camp Stew with curry and/or chile con carne 'Spice'n'Easy' in it.
- Sweet'n'Sour: Top Camp Stew with pineapple chunks in it (Don't let the Expedition Leader know that you're doing this, as pineapple chunks are cave food, and it is **VERY** naughty to eat cave food on the surface).

Boeuf Bourignon: Top Camp Stew with a pint or two of wine in it.

Pasta Salad: Top Camp Stew cold and without the meat.

Apart from Top Camp Stew we live off Mornflake Oats and vast quantities of bread and jam, and, when underground, tinned fish, indestructible Spanish cooking chocolate and wonderful, wonderful tinned fruit.

By the end of the Expedition all the sponsorship food has normally run out and the kitty has run out of money. All that you have left is a huge mound of rice at the back of the food tent. Top Camp Stew is modified to a cauldron-full of rice with the odd onion in it. There might however be rice pudding afterwards as a special treat. Or if you're really desperate you could rummage through the tackle bags that have just come out of the cave, and you might find a revolting plastic bag full of ancient, crushed cooking chocolate impregnated with bits of tin foil and spent carbide.

But fear not, the Expedition Leader has in the back of her/his tent a bag of goodies specially reserved for promotion pictures for the sponsors. So make sure you are around when the pictures are taken, and you might get your hands on some Hawaiian Crunch.

Anyway, trips to town and the Restaurante Puente Romano wouldn't be quite the same if you hadn't just spent a week enjoying the delights of Top Camp Cuisine!



F20: DESCRIPTION

Location	1°15'51"W, 43°13'35"N Altitude 1937m
Exploration	Discovered and explored to the Ivory Tower, 1984. Explored and surveyed 1985/86

The entrance is not easy to find. Early in the exploration of the cave, the standard route was to climb down to the bottom of 'Bog Alley' and then to ascend to the left up a steep bouldery gully. Later, it was found easier to traverse at a higher level, crossing the scree slope on the way to F6, and to scramble up the steep rocks to its left. F20 is at the top of a moderate-sized scree patch, about 80% of the distance to the top of the ridge. The entrance is a small cleft in the rock.

Entrance Series:

The 24m entrance pitch bells out and lands by a pile of snow in a rift about 2m wide. At one end is an undescended pitch; at the other, a short ladder drop. From here, a wide traverse (lined) on reasonable ledges (3m) leads to the hang for the Lone Ranger (23m). The pitch is rigged from flakes higher up in the rift. Freehanging at first, the lower part of the pitch is against the wall, and lands on a small ledge. Here, the shaft is split into two. The larger half (possibly the unrigged pitch from above?) was not descended. Sitting on the 'saddle' between the two holes facilitates the changeover onto the rope for Tonto (57m). At first this pitch descends in a 2-3m diameter tube, then the two halves of the shaft reunite, and the last 35m is in a magnificent wide black shaft to the glistening pinnacles of the Ivory Tower (this is the best part of the whole cave, so I'm allowed to go a bit over the top).

On one side, the shaft continues down; initial explorations attempted to descend here down the side of the huge snow column. No bottom could be seen, and this route was left uncompleted in 1985, as a way on with less avalanche danger was found. Snow levels were lower in 1986, and a descent was possible: it was found that the shaft tended towards the main route, but ended in a choke.

A pendule from the bottom of Tonto to a wide eyehole (a splashy place) gives access to another huge shaft system which ascends out of sight. The descent (Fistful of Maillons, 33m) is initially down a sloping broken wall, necessitating complicated rigging. This lands on a wide sloping ledge, with the next drop following immediately. The pitch (27m) descends in a wide rift system; this route was not followed to the bottom as the pushers here preferred to pendule about 20' across to an ascending boulder ledge in a rift intersecting the main shaft. A step over a hole leads to a big ledge consisting of one huge boulder (about 3m square) with another one serving as the 'roof'. The rocks resemble a pair of giant millstones, not a comforting thought when sitting between them waiting to descend. Behind another large block is the last big pitch in the entrance series (33m). This lands on a small boulder bridge 6 feet above the stream, to which one can easily climb down.

Stream Passage:

Upstream can be explored for approx. 10m to where water enters from above. Downstream is a 3m climb to the stream; at this point water enters down the left-hand wall. The way on is to follow the obvious traverse level in a meandering rift. The traverse continues for some way on wide ledges. (A dry inlet enters from the right; this leads to an unclimbed aven after about 50m.) Eventually the traverse level degenerates to a small tube, with the rift below being choked with boulders.

The tube emerges 1m above the floor of a small chamber. Across from the rift it is possible to see into a large chamber below, which is entered by descending a ladder pitch (9m) rigged from back in the tube. The pitch lands on a boulder floor, with the rift continuing below. A 30m pitch (Rawhide) is rigged from the far end of the chamber, from a bolt with a large rock as backup. The initial section is tight, to a rebelay 10m down, and then the pitch bells out to land on a rock bridge. The last section from the bridge is rigged with a short ladder. A further 5m ladder rigged on the left wall descends to the stream. An obvious traverse level above this ladder continues upwards at approx. 15° for 15m to a drop which connects with the chamber above Blasphemy Rift.

From the bottom of the ladder, a crawl in the stream, or a friction traverse in the tight rift, rapidly leads to the next pitch, rigged with a short ladder from a boulder. This lands in the stream, and a brief crawl leads to another short pitch to a small chamber which the stream cascades into. The obvious traverse level from the chamber ends after about 10m in large fallen boulders; a climb up here enters a 5x10m chamber. The rift out of this chamber connects to the top of the Blasphemy Rift pitch, but is too tight.

The way on is to descend from the traverse level before the fallen boulders and follow a tight and awkward traverse route through Blasphemy Rift. Climbs down to the stream (about 30' below) are possible but, as the stream runs in a rift about 4" wide, somewhat pointless. The traverse ends in a 20m pitch, rigged from a bolt and a natural, which lands on a floor of jammed boulders, and is immediately followed by the next pitch (17m).

The stream is again too narrow to follow. A traverse leads to a climb down to the water, followed by a short grovel, then more traversing. A couple of short pitches (6m ladder, then 15m rope) deposit one at the start of Ernest Rift (from 'Today we're starting surveying in earnest...'). The stream flows off down a tight slot, while the way on continues at a higher level. The route is very confusing, with

numerous oxbows and some inlets. At one point the obvious traverse level is too tight, and a devious bypass is made by descending 15 feet.

The route continues, widening out slightly to Calamity Jane. This pitch (16m) lands back in the stream. Upstream is a 10m waterfall and a deep pool. Downstream, a comfortable level leads up at approx. 30°. This gains a boulder floor, which peters out after about 40m. The next pitch (28m) is found by descending a short tight climb against the left-hand wall; a short thrutch leads to a squeeze out onto the pitch-head. The pitch lands in the stream, which is comfortably wide (1m) at this point. This was the limit of exploration in 1985.

The foot of this pitch is similar to Calamity Jane and the rift has a wide level ascending at 30° to where it narrows at a large boulder. The passage now degenerates into another series of awkward rifts, initially descending at 40°, but then widening at the head of Songs of Praise. The rift narrows again after the pitch and the way on descends steadily towards the roaring of a big cascade. Immediately before the top of the cascade a ladder is necessary, as the rift widens. This point marks the end of the rift developments; the rest of the cave is spacious by comparison.

At the bottom of the cascades, the passage is easily negotiable at stream level until it narrows after about 20m, and a short climb up to a phreatic roof tube is necessary. A pitch can then be rigged from a bolt. The tube runs parallel to the stream, but ends after 30m at a vertical shaft. The situation here is that the phreatic development continues on the other side of the shaft, and is reached by penduling across the shaft to an obvious ledge at the bottom of a greasy 60° ramp. The tube continues, but is now 3m or so wide, and full of fallen rocks. After 40m a dry inlet with a fairly level stony floor enters the passage on the left. This is the site of the 1986 camp. Water can be found in the small, tight inlet to the left beyond the camp, where the main passage descends from the tube.

The head of the following pitch is at the end of this short descending passage, and begins as a greasy ramp, becoming a pitch proper after 10m where the passage rejoins the stream in a series of cascades. At the foot of the cascades is a vast bedding plane chamber, very rocky, with the floor descending at 30°. The floor meets the roof at the bottom of the slope, but the stream has cut a passage through to the final cascade series, which can be rigged from a small dry chamber to the left of the stream.

Here, a vertical rift cuts across the bedding and gives access to the fine cascades, which end in a splashy chamber. The stream continues via a few short free-climbable cascades, into a long straight canyon, with some fine vertical inlets (one contains a hanging resurgence about 5m above sump level) to reach the sump itself: a foreboding black pool. This marks the end of what must rank as OUCC's most severe cave to date, making up in its strenuous rifts and muddy pitches for what it lacks in depth.

F20: Tackle List

1	24m	Entrance	30m rope	Bolt
2	3m		3m ladder	Natural
3	23m	Lone Ranger	30m rope	Naturals
4	57m	Tonto	75m rope	2 bolts
5	33m	A Fistful of Maillons	40m rope	Bolt & naturals
6	27m	Pendule Two	40m rope	Natural
7	33m		40m rope	Bolt & rebelay
8	9m		Short ladder	Naturals
9	30m	Rawhide	35m rope	Naturals
10	5m		Short ladder	Naturals
11	5m		Short ladder	Naturals
12	20m	Blasphemy Rift Pitch	30m rope	Bolt & natural
13	17m		20m rope	Naturals
14	6m		Short ladder	Naturals
15	15m	Earnest's Rift Pitch	20m rope	Naturals
16	16m	Calamity Jane	20m rope	2 bolts
17	30m		35m rope	2 bolts
18	20m	Climbs	20m rope	Naturals
19	10m	Rattlesnake	5m ladder	Bolt
20	25m	Songs of Praise	30m rope	Bolt
21	8m	James Herriot	Short ladder	Bolt
22	23m	Cascades	30m rope	Bolts
23	-15m	Into A Night in Amnesia	20m rope	2 bolts
24	13m	Out of A Night in Amnesia	25m rope	Naturals
25	-22m	Ramp	30m rope	Naturals
26	40m	For A Few Maillons More	55m rope	Naturals
27	3m		3m ladder	Bolt?
28	30m	The Alamo	45m rope	Naturals



Above: **Pozu las Perdices.** (L) Andy Riley in Achilles Rift; (R) the 80m Nostril pitch.
Below: **F20.** (L) Tonto and the Ivory Tower; (R) Surveying in Easy Rift. (M.H.)

THE CRUEL KARST

Phil Duncan

Martin's alarm watch woke us up at the crack of dawn, and we promptly dozed off back to sleep. Although the time was 7.00am, it was pitch black outside the warm sanctuary of my bag and very cold. At this point the first rule of underground camping was perfectly illustrated: 'Know where your light is'. After a few minutes of fumbling around and swearing I found it, and morning, broken by the feeble glow of my electric, was upon us. The second rule of underground camping is: 'Fettle a light before going to sleep so that it's ready in the morning'. Messing about with carbide before breakfast just isn't nice. But once the unpleasantness was over and the light lit, things began to look up.

The scene: Martin, Phil Rose and I are in the depths of F20, in a small dry inlet off Bronco Lane, half an hour away from the limit of exploration. We've got tackle, enough food for two days, and a couple of cans of gas. It's dark; we're wearing sunglasses. We had slept on the bare rocky floor in furry eskimo bags, lying on our caving suits with wellies as pillows, the lucky ones (me and Phil) in thermal underwear, and Martin in a large poly bag. It's a very quiet place and surprisingly comfortable, but quite cold as any heat shoots straight up into the high aven directly above us. We have realised that the key to successful underground camping is to organise your facilities, water and food before going to bed, so that all morning activities can be performed from the sleeping bag. Putting on damp smelly caving gear before breakfast is to be avoided at all costs.

Having got a flame, I can light Gerhard's excellent 'hi-tech' propane stove, which roars into life, warming us psychologically. We're soon drinking black, gritty tea from split plastic mugs as we peruse the breakfast menu: dehydrated soya mince, soup, fish, squids, mussels, pasta, rice, and for afters, cooking chocolate and tinned fruit (One party took a tube of condensed milk down, but we shun such luxuries, knowing their inherent danger).

At about nine, feeling rather full, we left the camp with a tackle bag each and the prospect of a good day's pushing ahead. The previous trip had got to a large chamber with a dry pitch adjacent to the rapidly-descending stream, after having rigged 'For a Few Maillons More', a series of entertaining, short cascade pitches. The stream thundered down to the very bowels of the earth, it seemed, and we knew that this trip could easily be 'The Big One', our excitement tempered somewhat by steadily-expanding half-cooked rice.

When we reached the limit, Martin rigged the pitch, whilst Phil and I surveyed, then waited in the chamber. After ten minutes it got a bit cold and damp; after an hour we were wishing we were somewhere else, preferably in the sun; and by the time he had done his stuff we were well into the twilight zones of primary hypothermia. The entertainment value of the novel rigging was wasted upon us as we descended, fighting the surveying tape and clubbing our tackle bags into submission on the flying rebelay and curiously slanted pitches. We met at the bottom of a large cascade chamber, where Phil claimed to have found a long horizontal canyon. As it was lunchtime we broke for lunch.

Phil's canyon had serious implications: an imminent terminal sump. Until now the fate of the tackle in F20 had been undecided, and depended largely on whether or not our team found a sump. The options were:

- a) No sump. We leave the cave partially rigged, with the tackle and ropes in bags for next year's expedition. Then we all swan off down to Lagos and spend a couple of days in the bar, have a beach trip, climb Peña Santa, buy souvenirs in Cangas, swim in the lake, etc., until it's time to go.
- b) Sump. We organise a mammoth detackling schedule, involving several relays of people doing gruelling twenty-four hour trips to get all the gear up through those awful rifts, leaving at most one spare day in which to recover before leaving.

It was definite sump country down in the canyon. We moved slowly, surveying the virgin passage as we went, until restraint expired, and I charged off down to the inevitable dark, unwholesome-looking, cold pond, perfectly in character with the rest of the cave. We looked around for a bypass, at one point using the human pyramid combined tactics technique to gain a high entrance which wasn't, and gave up after discovering a 'hanging resurgence' in an inlet a good 5m above sump level. We decided to fettle up and make our way out. Our excuse to avoid immediate detackling didn't take long to emerge, when we discovered we were short of carbide and had to hurry back to camp before dark.

At camp we had dinner, as it was by now well past dinnertime, and began our ascent after dessert. By this time Phil had gone a bit quiet. He'd arrived in Spain a couple of days ago, gone on a longish trip down 2/6 till 3.00am, then came down F20 with us the following lunchtime, carrying heavy tackle through the cruel bag-snatching rifts. A few hours sleep, followed by a big push, and now we had to get out. By the time we got to Earnest's for our fish, fruit and chocolate break, we were all pretty tired. Phil kept falling asleep, mumbling to himself, and trying to do up his chest harness. He'd then wake up with a start just as he was about to fall over or off whatever he was sitting on, mumble a bit more, fiddle with his harness, and fall asleep again. The cycle repeated itself several times at the foot of each pitch.

We made our way slowly out and emerged at dawn. Phil was so tired that he couldn't even eat his stew at Top Camp and went straight to bed, whilst our dozing companions groaned and wailed at the news of the sump, and Martin and I began intensive mental preparation for the detackling of the 'hell hole'.

RIDGE CAVE: THE LONG SEARCH FOR CONJURTAO

David Rose

Late July or early August 1980, and I was but a lad. No job, no mortgage, not many cares. Xitu was about 700 metres deep and still going: Keith and Skunk had just pushed down the vile and narrow streamway below the Samaritan pitches and found the Marble Steps, a set of wet and dangerous climbs. Exploring the cave was hard work. I was knackered and prone to memory lapse. When I set off on a brilliant, broiling morning to look for new caves with Dave Thwaites I had forgotten the compass - fixing the co-ordinates of anything we found would be impossible.

Simon Fowler had told us of the promise of the Vega Aliseda, a vale hidden between our camp at Ario and the high peaks. It was 'over there' he said, pointing at a big blank hill. It was surely stuffed with caves.

Hours passed and we stumbled around, deeply lost. I didn't know then where we went, and I don't know now. But at last, we toiled up a steep slope towards a ridge. Near the top was a bank of snow, and I walked around to where it met the cliff above to gather mouthfulls and to wash my face. 'Dave! It's a cave!' An opening between ice and rock formed a rift, and we fished out a torch from our pack. Ten yards in the snow gave out: we were in a large, sloping phreatic tube. A Picos cave which didn't begin with a shaft! And hundreds of metres above Ario. The potential was vast.

The battery wasn't very good, and we teetered gingerly down the slope. Turning back I could just glimpse the snow and sunshine. Ahead was a pit: not very deep, but requiring tackle. On the opposite side, a trickle splashed into the shaft. We departed. Above the snow bank at the entrance, I solemnly painted a sign on the rock: 'OUCC 1980 1/6' - cave number one in our new highland area six.

We reached the crest of the ridge and gazed upon a new view: a magnificent pyramidal summit, and a vast area of karren. Round the corner was a deep, booming shaft - 2/6. We were both exhausted, probably suffering from sunstroke. But it ought to be easy to find these caves of ultrapromise again: after all, they were right on what seemed to be the main ridge of the massif.

Xitu kept us very busy in 1981, and I never had the chance to revisit our discovery. A couple of times John Singleton and Simon Fowler tried to find 'Ridge Cave', and I tried to point them in the right direction from Ario. 'You can see the ridge from here...no maybe it's that one...well it can't be far because it only took us two hours to get back to Ario.' They failed to locate it.

The legend was growing, in proportion to the decline in my own credibility. Nevertheless, in 1982 we managed to screw a tidy sum from sponsoring authorities by announcing plans to explore the high altitude caves of the Picos ridge. Chief among them was the extremely promising entrance found in 1980 by D. Rose, the prospectus said.

I was a fortnight late for that trip. I met the advance party, who smelled strongly, in Cangas. 'Find Ridge Cave' Graham growled. Next morning George Hostford and I tried. We walked up Jultayu, Cuvicente, la Verdelluenga and other fine peaks. I was rather unfit and by evening the muscles of my thighs were burning. We did not find the cave. It was extremely frustrating. Everywhere I looked for scree slopes and toiled up them, expecting to see it just over the top. There are a great many scree slopes in the Picos de Cornion. Soon we had Optimistu, and then FU56 to keep us busy. 'Keep your eyes open for Ridge Cave' I told everyone. By now, such instructions were beginning to arouse only laughter.

1983 was the great missed opportunity for finding Ridge Cave. The expedition was very large, and after a fortnight its main objective, FU56, had ended beyond reasonable doubt. But the weather, after fourteen days of heatwave, turned wet and misty. One attempt to search ended with a lost party 100 metres from Top Camp stumbling among the depressions, calling hopefully for directions. Another time I spent the entire day combing the ground between Gregoriana and la Verdelluenga. It still refused to turn up.

Next year I spent little time higher than Ario, where Pozu la Cistra was absorbing hammer blows and explorers. I didn't look for Ridge Cave at all. But during the following winter, its memory began to prey on me again. For the first time since 1982, we had no specific lead to investigate beyond a vague intention to find a 'Third System' between Top Camp and Ario. I had looked at every ridge and spur visible from Aliseda save one: the crag on the far side of the Jorcada gap. I had always ruled it out because I couldn't remember walking so far. But then I couldn't remember much else. It was that one or nothing. Wisely, I kept my growing conviction to myself.

A week into 'Jultayu 85' had turned up only the 3/5 route into Xitu and an absence of significant cavities where the third system was supposed to exist. And F20, which Steve Roberts and other sensible cavers found unenjoyable. Richard, Sara, Steve Mayers and I set off for Top Camp, determined to rig this obstinate shaft.

A lovely hot afternoon, just like that one five years before. We were old lags now, weighed down with jobs and owner occupation. I was also weighed down with a very long rope. Richard and Sara

Looking back to the Old Times



had their caving gear. Down a slope from Top Camp into a depression, we found some cairns and followed them up a steep gully. We were heading towards my last chance ridge. When I thought the way to F20 branched to the left, I kept quiet.

Soon Richard was swearing. We had reached the top of the gully and were on the ridge, and F20 was nowhere to be seen. Across a vast plain of karren was a magnificent pyramidal summit.

'Richard'. My pulse was rapid.

'What'.

'I think we're very close to Ridge Cave. This is definitely the ridge.'

'God don't you ever give up. You know very well you've said that half a dozen times before over the years'.

'Give me five minutes'. I raced across the slopes. Soon we stood at the gaping tube of 2/6. Richard was still impatient as five minutes became twenty and I dived in and out of gullies, convinced that Ridge Cave was really here at last. He had stopped looking and so I came upon it alone: an oddly moving moment. My sign was as fresh as the day I painted it.

Richard and Sara agreed to do a 'cheap and nasty trip' while I fetched more tackle from the failed Third System at La Jayada. As the sun dipped towards the horizon I heard a yell and left the cooking: they were standing at the entrance - visible from Top Camp all this time - and waved. 'Does...it...go?' I screamed across the mountains. 'Yeaaaaa!' They watched me tolerantly as I did a furious and excited little jig above the grikes used as latrines.

Next day all four of us went down. The trip had its problems: finding a way on through the confusing area above Borborygni pitch, getting somewhere to bolt the Weather Station. But demon Mayers was whacking in the anchors in five minutes flat and we carried the Picos secret weapon, copious supplies of smoked jamon.

Next morning Steve Roberts arrived. 'What happened?'

'Well, we rigged ten pitches with some nice horizontal stuff and left it at the top of a big one well over 200 metres down.'

'You mean you got to the bottom of the entrance shaft?'

'Oh we didn't go to F20. We're talking about Ridge Cave.'

'Bugger off Dave, don't mess about.' The usual Roberts early morning charm.

He was convinced eventually. The name I gave to the first big pitch expressed my feelings precisely: Dancing in the Dark.

SISTEMA CONJURTAO: DESCRIPTION

RIDGE CAVE (1/6) & 2/6

Exploration: Entrances found 1980, lost 1981-4, relocated 1985.
Explored and surveyed 1985/86.
System depth 655m
Surveyed length 2435m
Plan length 1394m

Ridge Cave Entrance Series:

Location: 1°15'53"W, 43°13'42"N
[498W, 136N, +3]
Altitude 1891m

The entrance is situated on the main ridge between the Jorcada Blanca Pass and Pico Conjurtao. It is best reached from Top Camp by walking down 'Bog Alley' (directly away from la Verdelluenga) to a bowl filled with massive boulders. At the opposite side of the chaos, a green gully runs upwards. Ridge Cave is near the top of this, about 50m below the ridge.

The entrance is a wide tunnel descending gently into the hillside. This may be blocked by snow after a heavy winter; in normal conditions a walk or squeeze past the snow plug leads to a spacious changing room. The passage leads quickly to the head of the first pitch (The Five Year Plan); a ladder is best used here, rigged from a profusion of naturals. The climb down lands by a large boulder, and the passage reverses direction. A step over a hole in the floor leads to the second pitch (this area is riddled with alternative 'routes', holes, etc.). Here a short descent down a slab leads to a bolt hang for the ladder, which lands in a bouldery chamber. Exit is by a small rift, which needs a traverse line as the floor immediately drops away. 5m of scrabbly traverse leads to the bolt hang for the third pitch (Dancing in the Dark). A fine descent lands on a large shelf. The obvious way on soon chokes. A good swing on the rope through a large eyehole gives access to a small chamber, with a trickle of water entering through one slot and leaving down through another. This latter is the way on (The Axolotl). It can be passed downwards with all gear on, but the ascent (line useful) might require you to take some off, depending on individual stature (i.e. fat).

Two climbs (3m, 3m) in the rift follow, and lead to a short rope pitch; avoiding the obvious route down, swing across to a bouldery ascending ledge to the left. From here, a traverse (loose at the end) or a short thrutch through a slot (where the loose bits of the traverse fall), leads immediately to the head of the next pitch. A Y-hang off bolts drops 20m to a ledge (above the continuation of the pitch: two 10m drops to a small chamber with no way on). Halfway down the pitch a small amount of water enters from what is probably the route below the swing onto the ledge. The way on is across the pot, along an apparent inlet. The floor soon drops away into The Canal of Nuck (see any doctor for an explanation), an awkward tight rift.

The easiest descent is straight down at the widest point (on the ascent, a climb up at the start of the rift leads via a mildly devious elevated crawl to the passage above). A couple of strides leads to the next interesting manoeuvre; bridging up for 2m allows a feet-first insertion into a hole (part of a old inlet sloping in from the roof). A line should be attached to a block in the inlet, as just through the hole, the floor drops away. The pitch-head here is an interesting area, with many passages apparently intersecting. The rig is from a wire/tape wrapped round a large rock spike. Descent of Borborygmi (see your doctor again) narrowly avoids a couple of ledges. A large ledge divides the foot of the pitch from the next drop (6m) which lands on a boulder floor. This leads to a large bouldery ledge overlooking the next pitch (8m), rigged from the lefthand wall (from a rather dubious bolt). A ladder is useful.

From here, a series of climbs over and round large boulders in the rift leads on down. A good cold draught can be felt if you're sitting around surveying. The last climb (10m down the knobbly rift walls) is followed by a drop through a slot (mildly awkward on the return) to the head of the next pitch (The Weather Station). The rope drops past several ledges. At the base of the pitch, a dribble of water is met, and can be collected in an old can for light fettling. A short pitch follows immediately, tied to naturals and rebelayed from a wire just below the pitch head. A short walk leads to an interesting hopping thrutch round a sharp bend to the head of Barney Rubble.

A backup bolt in the wall is the safety for the traverse out to two bouldery ledges that don't bear too close an examination. The pitch itself is belayed round a set of jammed-in boulders above the further ledge, and hung from a long wire round the very large boulder that is the lower ledge. The pitch descends to the bottom of the rift, a place that offers no protection from boulders kicked from above (but we won't remind Martin about that). A short scroffle through the rift, which lacks definite footholds as the floor drops away, leads to an upward traverse over and around some convenient rocks to the head of Fred Flintstone. A Y-hang on natural and bolt drops past a large ledge, suitable for photographers, about 10m down, and then to a rebelay about 17m down. A short distance below is a

classic 'Rose' free-space rebelay off a great lump of choss. 10m further down is a bolt rebelay, followed by Dave's *pièce de résistance* - a tiny deviation. The landing is on a large ledge tucked behind a huge boulder, from which the last section of the pitch drops to a boulder-floored chamber.

The way on is obvious but the rig less so; all the walls are smooth and respond ill to bolting. A rock jammed in the rift is equipped with a bolt, and allows a free descent to the vastness of Dinosaur Beach.

2/6 Entrance Series:

Location: 1°15'56"W, 43°13'39"N
[575W, 46N, +65]
Altitude 1953m

From Ridge Cave continue up the grassy slope to the ridge and then walk up the ridge. Across a flat grassy area a steep slope followed by a scramble up a rift leads to the top of the ridge. The cave is rigged from the highest entrance, a large open shaft.

The entrance pitch, The Eye in the Sky, is an impressive 122m daylight shaft. This is rigged from two large rock protruberances: the archetypal bomb-proof belay. The first rebelay is after 35m from a single bolt. The second rebelay is after a further 55m and is from a bolt by a small ledge. The final hang lands in a large chamber and has at its base a small pile of snow.

The way on is to walk down the boulders and traverse around the edge of a blind pot. The pitch is located between the left-hand wall and a large (house-sized) fallen boulder. Prime Time is a fine 32m pitch landing on a boulder slope. The next pitch is up the slope and takes its name (the Bladerunner) from the sharp flake which the rope just shaves past. The rebelay itself is interesting in that the bolt is surrounded on four sides by cracks which bound a square about four inches on a side.

The fourth pitch is very broken, and lands in a region with many ways on. A hole between boulders is traversed over, with the next pitch straight ahead. In the left-hand corner of the chamber, however, is an eight-second drop. This is almost certainly an upward continuation of the Seventy.

The next pitch, starting tight, soon bells out to reasonable dimensions. Here the ways part. The obvious next pitch is Shit Creek, a fine 23m pitch with a rebelay at a large boulder-strewn ledge and a small inlet running down the far wall. Early in the expedition this route was abandoned, as the only way on from the chamber at the bottom of the pitch is a tight crawl (The Crawl of the Wild), which opens into a big pitch. Richard decided this was the perfect place to throw a poly bag full of shit, which landed in the inlet and burst; hence the pitch's name. This route was later explored and found to rejoin the main way on at the bottom of the Seventy.

The best route is to traverse around the left-hand side of Shit Creek, using the left-hand bolt of the Shit Creek pitch for the traverse line. A short section of rift leads to the next pitch, the Seventy. This is rigged from a bolt and natural to form a Y-hang which is awkward on the return.

Although small at the top, this pitch widens, and is probably the most impressive shaft in the cave. The first 10m are against the wall and land on a small ledge. Here the pitch is rebelayed from two decidedly dicey bolts, about 15m out on the right-hand side. The lower of these is funnelled for about half its length; the upper *looks* much more secure but I'm assured that it wobbles beautifully.

The pitch lands in a large boulder-floored chamber, and the next two pitches are rigged in the rift which leaves the far side of the chamber. The pitches are broken and loose, and follow almost immediately after one another. The first pitch is rigged from a bolt to the left of the chamber, with a rebelay about half-way down at a small ledge. It lands on a 30° loose boulder floor, which leads via a traverse to the next pitch. This is split by two rebelays: one near the top, and the second beneath a large, well-chocked boulder.

The way on at the bottom is down a short climb to the bottom of the rift, and then up a rising traverse level in the rift. This is quite narrow in parts, being partially blocked in places by the flowstone and stal that coats both walls.

After about 50m, the rift broadens to a small chamber. To the right it is possible to look across to the bottom of Fred Flintstone pitch in Ridge Cave, and to see a possible exposed traverse to reach it. Straight ahead, the next pitch is rigged from a boulder and a bolt. The top of this pitch is against the wall and rubs in many places, but after the rebelay the rope hangs free to land in Dinosaur Beach, only a few feet away from Dino pitch.

Dinosaur Beach:

From near the landing of Dino pitch a tight rift leads off; from the survey, it would appear that this links with the upper part of the Lower Streamway. However, it has not been fully pushed. Ascending to the top of the chamber and climbing over the great rock pile gives access to Martin May's Inlet (M.M.I. on the survey), a tight and tortuous ascent to no definite conclusion.

The route out from the Beach is to the left facing the main slope of the chamber, close to and beneath a particularly large block. A short ladder descent around unstable-looking chunks of rock gives drops into a roomy passage, which soon leads to a junction. Descending to the left leads to an area of particularly loose horror, the far point of which (after a very nasty squeeze that threatened to drop the roof) gave a view into a deep rift down which rocks could be thrown a long way. This is probably the Lower Streamway.



Ridge Cave. Above: (L) Entrance; (R) Dancing in the Dark.
Below: (L) Fred Flintstone; (R) the Big Crunch. (M.H.)

Going up and right from the junction leads to a small hole that drops down another short ladder pitch. 3m above the floor (a blind pot), a swing across leads to a small passage. Squeezing down here leads to a traverse above a small drop. Continuing on and up immediately leads to The Big Crunch (mistaken for Dinosaur Beach by its rather confused initial discoverer). Descent leads to the Lower Streamway, the subject of not a few pushing trips.

Lower Streamway:

The route from Dinosaur Beach quickly leads to the head of a just-off-vertical and grotty rift, climbable with a line (if you're Richard) or abseiled (if you're me). The climb becomes a pitch at a point where the rift meets another, at approximately right angles; at this point both rifts are about 1-2m across and at least 50m high. The pitch lands on a boulder, and a 3m climb lands in the streamway, which on our visits carried about as much water as goes down the pitches in P8 on a 'normal' day (very informative - all right then, about 0.5 litres/sec). Upstream goes up a few small waterfalls to a choke. Downstream is tortuous to begin with, necessitating traversing, but widens at an S-bend just before a choke. The roof here is jammed boulders, giving a passage about 1m square. A large boulder in the choke was moved enough to squeeze around; a wriggle and drop to the stream level gives access to a larger passage, with an immediate Swildon's-style 3m climb, to the head of a 10m pitch (no belay except the rocks above!) to a chamber where the stream sinks in an impenetrable choke. Rats! Climbing up the far wall of the chamber, a small dig was made, through which a continuation could (just) be seen; however, the last few rocks also appear to hold up the roof, which looks none too secure. The dig was abandoned.

Big Crunch to the sump:

The Big Crunch is a large, parallel-sided 'roofless' chamber containing one very large block, several large ones, lots of small ones, and thousands of tiny ones, which are added to from the roof (wherever it is) with alarming frequency. A hole down through boulders leads nowhere in death-threatening style. *Faute de mieux*, the way on is up the wall opposite the entrance. The wall (Fred's Folly) was ascended by a combination of bolting and protected climbing, over several trips. It is extremely dangerous and loose. The first pitch of the climb takes you to a ledge overlooking the Big Crunch; from here the way up is to traverse left along the ledge and climb up alarmingly through perched boulders to solid floor in a rift.

The pitch down the other side follows immediately; rebelayed at a constriction in the rift, the first hang is 13m and the second 38m. A pendule to the left about 10m from the floor gains a bouldery passage, which soon turns into a rubblely slope down to the head of a 16m pitch. This lands on top of a boulder choke: the way through can be found either by going immediately down or by crossing over along the opposite wall, taking care not to damage the mud formations. The steep climb down at the end of the boulder choke is best roped. Next, a climb down in a narrow winding rift reaches walking passage, obstructed first by a climb over boulders - the slipperiness of the walls makes this treacherous - and then by a traverse over a 8m blind pot.

Immediately the passage begins to ascend to a loose ledge looking over yet another huge chamber: the Great Beluga. Hammerhead pitch, named from the broken bolt hammer which aborted the first pushing trip here, is 46m with a bolt rebelay.

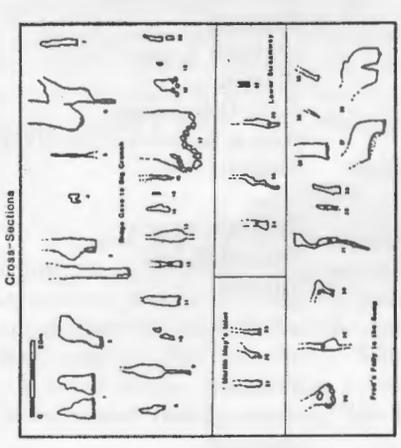
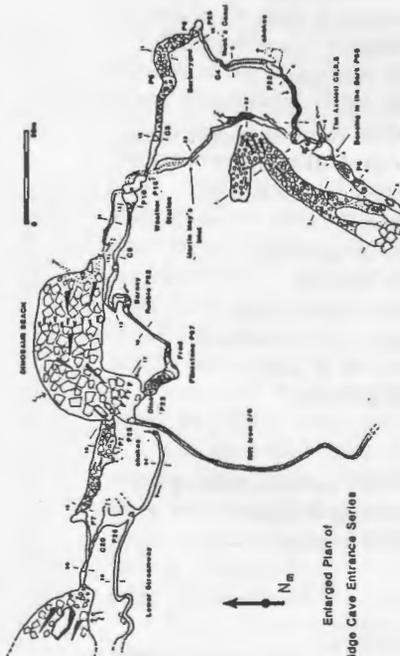
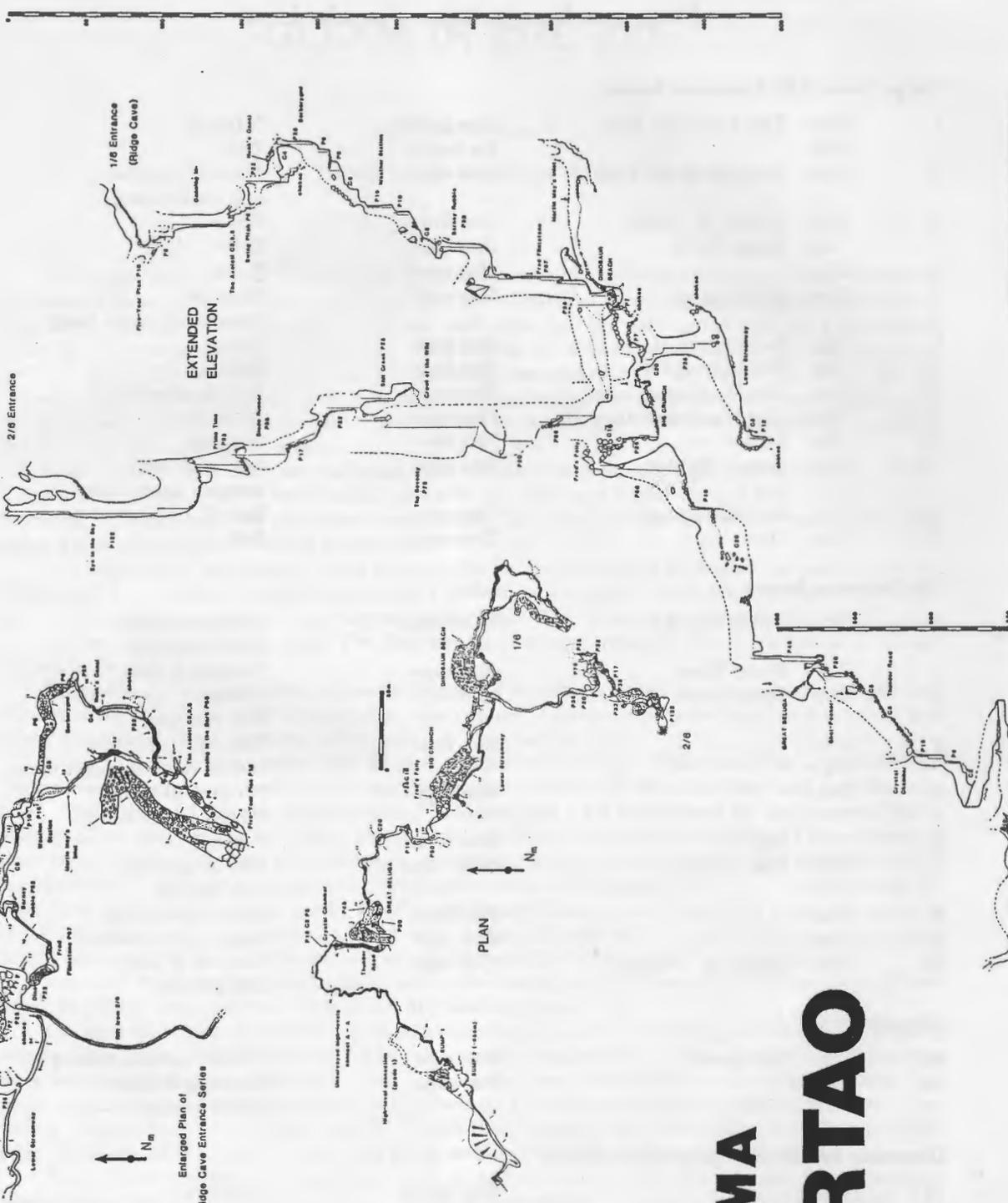
Here the water is rejoined, as two inlets enter from the roof. The way out of the Great Beluga is down a small drop behind the huge boulder where Hammerhead Pitch lands. This leads down a steep bouldery slope (anything knocked off Hammerhead lands here, and it's where the original hammerhead was found!) to another short drop between boulders. At the bottom the passage widens somewhat and continues into a steeply-sloping, extremely loose boulder slope: Thunder Road. A handline is advisable here, and several vertical drops can be rigged as pitches. Two inlets enter from the right.

In this way a circular chamber containing a small waterfall - Crystal Chamber - is reached. The way to the Upper Series above the streamway (A-A on survey) is found by climbing up in the waterfall. A scramble over boulders leads to a short pitch (about 15m) which gives access to a large chamber with a rising bouldery floor. A squeeze in the far right-hand wall leads to another chamber. Here a drop is reached and the streamway can be seen below: this series of chambers consists merely of false boulder floors in the streamway rift.

From Crystal Chamber a wriggle over a boulder on the right-hand wall, just past the waterfall, allows one to drop into a smaller chamber and from there to rejoin the stream. The streamway is winding and reasonably narrow: here the cave changes character and leaves behind the vast bouldery chambers which have been its hallmark so far.

After 150m the stream disappears into a shallow sump. This can be bypassed either by a squeeze among the boulders directly above the sump, or by retracing one's steps about 40m to the last inlet entering from above and to the right. About 15m up the inlet an obvious abandoned vadose passage on the left leads after some crawling and a couple of climbs down onto a large pile of boulders in the huge passage of Heartbeat Avenue.

After the sump, a large chamber is reached, with an inlet flowing into the downstream end of the sump. This leads promisingly to a second large chamber: its promise, however, is illusory, as around the corner is the second sump: deep, final and without a bypass.



PICOS de CORNION ASTURIAS NORTH SPAIN
 Discovered 1090
 Explored and Surveyed to DCRA Grade SB by OUCG 1985-86
 Entrance Co-ordinates (1/0): 1°15'53"W, 43°13'42"N
 Altitude: (1/0) 1861m, (2/0) 1953m
 Depth: 655m

SISTEMA CONJURTAO

Sistema Conjurtao: Tackle List

Ridge Cave (1/6) Entrance Series

1	10m	The Five-Year Plan	10m ladder	Naturals
2	8m		8m ladder	Bolt
3	33m	Dancing in the Dark	45m rope	Natural (traverse); bolt (main hang)
4	10m	Axolotl & climbs	15m line	Natural
5	5m	Swing Pitch	10m rope	Bolts
6	22m		25m rope	Bolts
7	25m	Borborygmi	35m rope	Naturals (traverse & main hang)
8	6m	Borborygmi II	10m rope	Bolts
9	8m	Borborygmi III	20m rope	Bolts
10	16m	The Weather Station	20m rope	Bolt & natural
11	10m	The Weather Station II	15m rope	Naturals
12	8m	Climb	10m line	Natural
13	32m	Barney Rubble	40m rope	Bolt (traverse); natural (main hang)
14	67m	Fred Flintstone	75m rope	Bolts & naturals (4 rebelays)
15	22m	Dino	25m rope	Bolt

2/6 Entrance Series

1	122m	Eye in the Sky	140m rope	2 large naturals; 2 bolt rebelays
2	32m	Prime Time	40m rope	Natural & bolt
3	35m	Bladerunner	45m rope	2 bolts; bolt rebelay
4	17m		30m rope	Natural (traverse); bolt & natural (main hang)
5	23m		40m rope	Natural (traverse); 2 bolts (main hang)
6		Traverse	20m rope	2 bolts
7	75m	The Seventy	100m rope	Bolt & natural; bolt rebelay
8	20m		30m rope	Bolt; bolt rebelay
9	35m		45m rope	Bolt; 2 bolt rebelays
10	25m	Wilma & Thelma	35m rope	Natural & bolt; bolt rebelay

Alternative to 6 & 7

6a	23m	Shit Creek	30m rope	2 bolts; natural rebelay
7a	~65m		75m rope	Naturals & bolt; 2 bolt rebelays

Dinosaur Beach to Topographic Ocean

16	7m		10m ladder	Naturals
17	7m		10m ladder	Naturals
18	-25m	Fred's Folly (pitch)	35m rope	Bolts (4 rebelays)
19	-10m	Fred's Folly (climbs)	15m line	Natural
20	50m		55m rope	Bolts, bolt rebelay
21	16m		30m rope	Naturals; (traverse & main hang)
22	20m	Rift climb	20m rope	Natural
23	43m	Hammerhead	50m rope	Bolts; bolt rebelay
24	20m	Shot-Peener	30m rope	Bolts & naturals (2 rebelays)
25		Thunder Road (ramp & climbs)	40m line; short ladder	Naturals
26	16m	Crystal Chamber Pitch	20m rope	Naturals; rebelay
27	8m		15m rope	Natural & bolt
28	-10m	Climb into sump bypass	15m line	Natural

Lower Streamway Series

18a	20m	Richard's Rift Climb	20m rope	Natural
19a	25m		30m rope	Naturals; bolt rebelay
20a	12m	Rats!	20m rope	Naturals

GLEAM IN THE EYE

Gerhard Niklasch

Pushing 'Eye In the Sky' and Beyond

This is one of the moments when I feel no gratitude at all for the Spanish noon sunshine or for the magnificent panoramic view from the Ridge. I've just clambered across the deep bouldery Jou west of Top Camp, changed into furry and Troll suit, and crept into the only corner offering a little bit of shade for an uneasy drowse. Even so I'm being baked. 'A shallow warming-up trip' had been my declared desire this morning and I'd kept pestering Ian with it until he joined me to rig the 2/6 entrance shaft. Martin Laverty, having completed a double share of sherpa-ing and cast a glance into the abyss, has decided to abstain from a descent. Ian is already some 35m down bolting up a rebelay. We hear the faint echo of his strokes.

Last year this place had been suffering from chronic lack of tackle. This year, a week ago, Steve Roberts had rigged a 100m rope, abbed down to the knot and found himself still dangling above blackness, at which point he abandoned exploration. So far no one has entered 2/6 more than once: today I'll be the first to descend a second time.

The hammering has ceased. Ian is down to the knot and is heard asking for me and the second 100m rope. I clip on and descend very slowly. I've been down enough shafts not to feel giddy, but still there's this irritating phobia of dropping one of my boots. The choughs nesting somewhere in here are now circling above my head - oops, I've forgotten to turn my carbide on. Easy to overlook in a shaft bathed in daylight!

Gradually the air gets cooler. I pass the rebelay. The side shafts end on a snow-covered ramp and join the main drop. One wall is beautifully, evenly fluted, a monumental relief eight metres across and thirty metres high. Still blackness below, nor can I see the far wall.

I join Ian on a tiny ledge and he ties on the second rope. 'This won't be a real mid-air changeover', he explains, 'because you can always pull yourself over onto this ledge and pass the knot here'. 'Well, let's call this the pull-over then,' I suggest, just a bit intimidated by the prospect. Ian is already below me, looking for a place for another bolt. While he is hammering away I have plenty of time to cool down and think up exotic ways of folding my legs to prevent them from going to sleep.

Eventually Ian is on the rope again, preceded by tons of pebbles and followed by my shivering self - this time to the floor! A bit of murky snow, a few chough feathers, torn bundles of grass, a long patch of faint daylight on the scree slope, a black space in the left hand wall. I stop to look up: a dazzlingly bright blue speck of sky, a yellowish one of reflected sunlight next to it. 'The Eye in the Sky'!

Ian is off exploring the black space, noisily descending a steep loose climb. 'Guess what I have here,' he shouts back. 'A dead sump pool!' My face lengthens.

Ian scrambles back uphill, kicking off an avalanche of boulders and scree, and disappears round a corner. 'Inlet aven... this bit chokes...' Then the sound of rocks falling, with a good echo. 'This might be a way on. Come over and have a look.' I hate the loose unguarded boulder slope traverse, but muster my courage. (Four weeks later I will be here on a solo derigging trip swearing at the most f...ing useless traverse line ever to have existed!) 'Watch this', says Ian and hurls another big rock over the edge. Whizzzz BANG. Two seconds, and a fine solid overhanging wall to give a free hang.

Right-handed bolting isn't Ian's cup of tea so he leaves me to finish the job, and I bang my first underground bolt in place. 'Prime Time': 'I had a premonition, it's gonna be my turn tonight'. Ian volunteers himself once more for the first descent.

A splendid 30m pitch, free-hanging, the knot just a few metres above the steep boulder floor - downhill chokes again, as I can see even before I land. But there's Ian uphill behind an enormous boulder, on his knees, trying to lift a pebble half his own weight. His eyes are gleaming. A last effort -

BangabangwhizzBOOMrattlerattle! Two and a half seconds. And no rope left! 2/6 is on its way. Less than four hours caving have taken us to -150m, already 80m below Ridge Cave entrance - 250m to go to Dinosaur Beach, or less than 300 to the Big Crunch, if our luck runs that way, and already we've covered a third of the horizontal distance to the Ridge Cave chambers.

The next day Ian is determined to do something harder so it will be up to me to sort the messy rigging out. Jonathan Cooper, on his first expedition, and medicine man Paul Cooper, The One With Experience, join in. We rereg the main hang together before getting changed. Paul had tried to place a bolt to ease the take-off, but the brittle, weathered surface rock had foiled his valiant attempts. He doesn't seem to like the primary. The rope sling is going to rub on an edge. Paul takes a last suspicious look at the whole arrangement, then suddenly turns away, green in the face, leaning on the rock wall, holding his stomach, moaning 'Oh I'm so sick...' ('You should see a doctor about it', will be Steve



Sistema Conjurtao. Above: (L) Fred's Folly (G.N.); (R) the head of Shit Creek. (G.N.)
Below: (L) the head of the Shot-Peener (G.N.); (R) the Topographic Ocean (D.M.).

Roberts' sympathetic comment back at Camp.) On every trip here one person out of three drops out - and I'm going down for the third time, and like it! What's wrong with me?!

The riggering goes smoothly and soon Jonathan and I set about bolting the third shaft. He has never placed a bolt before and I've never placed one on my own - let's see whether Team Incompetent can cope. Where to put the bolts in is obvious enough: the hang will be from another overhanging wall. The 100m rope is tied on and I set out on my first virgin shaft descent. I don't like the wall in front of me. To begin with it is too close. It's also extremely loose. The rock is all shattered and cracked - it must have been an impressive bang indeed when one day, many thousand years ago, that enormous boulder had dropped from the roof and crashed onto the pitchhead...

I can feel the rope touching the rock above me. Well, so much for a free hang. I pull out the hammer and start tapping. Fortunately I've tucked my legs well out of the way as immediately a fifty pound pebble falls out of the wall. WhizzBANGrattlerattle. Oh bother. I don't feel quite up to this. A few more futile attempts - no, nothing solid in reach. I'm about to give up when I spot a hand-sized overhung recess, where the rock at last rings vaguely solid under the hammer. Lots of calcite veins crisscross it, cracks surround it, but heavy blows and strong prodding don't seem to move anything in the immediate vicinity - let's go for it, then.

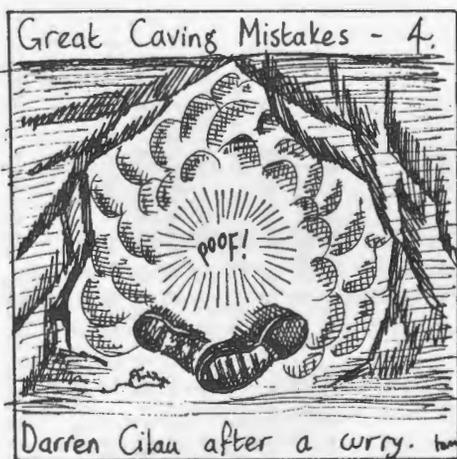
At last the rebelay is in its place, and on I go into the depth. From the wall on my right a big triangular promontory sticks out, its edge neatly following the rope for several feet. Once below this obstacle I see that the rope will miss it by just a couple of inches, provided you don't swing about. This shaft is going to be the 'Bladerunner', then, 'cos the rope runs past this blade, if you follow me.

The landing is, yes you've guessed it, on a steep loose boulder floor leading down to a blind-looking chamber. I move myself and the remaining rope out of the target area of things falling off the pitchhead and shout for Jonny to follow. The only way on is up the boulders, round the corner, down more boulders to a tall narrow rift. The approach is loose, lots of ledges below make a free-hang impossible; it seems to call for a ladder, which we happen to have left behind on the surface. Sod it we'll do it anyway. A flake and a bolt will give a nice Y-anchor, another chance for Jonathan to practice his new bolting skills. His turn this time to go down first. An uncomfortable descent, judging by what I'm hearing from him. You keep banging into ledges and chocked boulders and showering sand and gravel onto yourself with the rope.

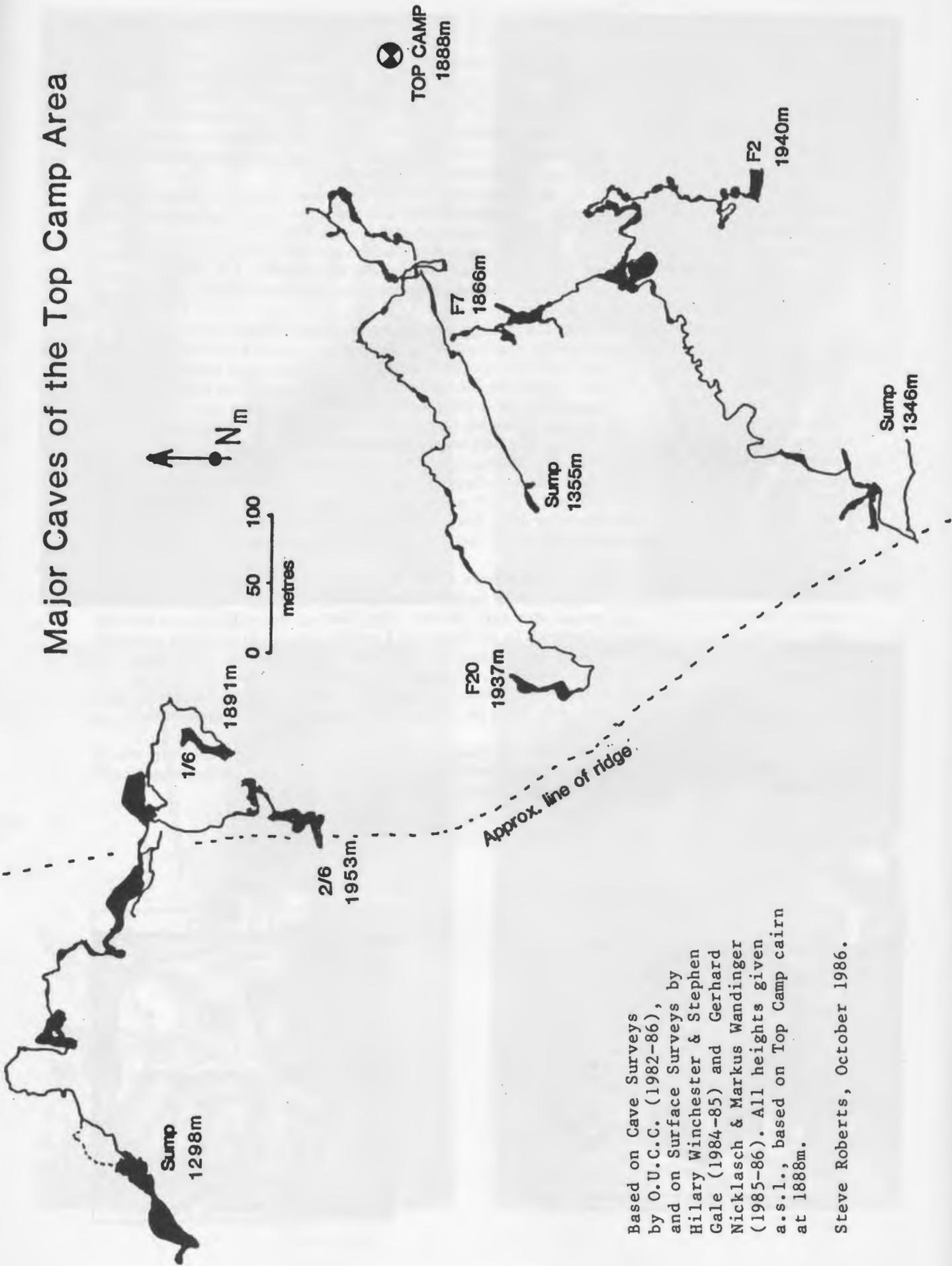
Jonathan sets off exploring and calls me down after a short while. Again that gleam in the eyes when I meet him! He directs me round a sharp bend into what looks like a blind corner with an inlet coming down. 'There's an eight second drop here', he says. 'Just climb up this wall and look over the edge'. The wall is a bit lacking in footholds for my taste, but I get high enough to reach the edge with my hand and fling a little rock down. It keeps going for ten seconds, hitting the walls a few times. 'I've managed to throw a pebble so that it doesn't hit anything for eight seconds', says Jonny.

Once again we're left with only 25m plus 19m of rope, which doesn't seem to be enough for eight seconds. So we wistfully throw a few rocks down the continuation of the rift, another good rattler to be followed up, and turn our backs on it.

We're both running out of light when we reach the Eye in the Sky: no water anywhere except some unimpressive drips on the walls. But who needs a light on this entrance shaft, while the sun is still in the sky! Paul has missed out on a brilliant trip, one of the finest I've ever had.



Major Caves of the Top Camp Area



Based on Cave Surveys by O.U.C.C. (1982-86), and on Surface Surveys by Hilary Winchester & Stephen Gale (1984-85) and Gerhard Nicklasch & Markus Wandinger (1985-86). All heights given a.s.l., based on Top Camp cairn at 1888m.

Steve Roberts, October 1986.

COMBINED SURVEY OF THE TOP CAMP CAVES

Steve Roberts

The adjoining map shows the deep caves near Top Camp, drawn to a common scale and in the correct relative positions.

Since there is some uncertainty over the correct positioning of F7 entrance, the combined survey of F2/F7 as drawn by Ian Houghton was used, with F2 entrance correctly positioned, and F7 allowed to 'float'. Loop-closure error for these two surveys is large: depending on whose surface data are taken, either 38m horizontally, 0.5m vertically (Winchester/Gale) or 33m horizontally, 0.1m vertically (Niklasch/Wandinger). Thus the error is certainly in the cave surveying, probably in Jorcada Blanca. Much effort has failed to find errors of the magnitude required, so the fault may lie in a consistently mis-reading compass, or similar cumulative sources of error, and is unlikely to be corrected without a complete system re-survey! The combined survey was produced by working outwards from the junction point in the Hot Tub.

The loop-closure error in the 1/6-2/6 survey is very small (about 3m horizontally, with insignificant vertical error). There is, of course, no loop-closure check on the F20 survey, but the accuracy of the 1/6-2/6 survey, carried out with the same instruments and by the same people, gives one hope that it is reasonably accurate. Certainly, it is unlikely that this system will be resurveyed in the near future...

The main noticeable feature on the combined survey is that all three sumps are at essentially the same level. Thus it would seem that the area genuinely has a high local water table (as thought by Stephen Gale), and that any other caves nearby will probably sump at around the same depth. On the plus side, there must be a massive flooded cave system there, if anyone cares to dive it! The easiest way in would be by F7, but I would need extreme persuasion to help with the carries.

If the differences in height between the three sumps are significant, then the F20 sump may be at the top of the water 'dome', and searching further outwards, towards the Cares or the Dobra, should yield deeper sump levels. There is still about 300m to lose before descending to the level of Xitu entrance, so the potential for a *really* deep cave is still there. Caves are where you find them!

TOP CAMP SURFACE SURVEY: 1984 & 1985

Hilary Winchester

The aim of the surface survey was to provide an accurate map of the topography and location of cave entrances in the area of the Pena Blanca Basin, approx. 1100m x 750m, which ranges in height from 1800m to peaks of over 2100m. This area is highly significant as it contains entrances to three of the major cave systems of the Picos de Cornion. The ridge and basin also contain 36 smaller caves logged by OUCG.

Initial surveying work was carried out in 1984, and the height of Top Camp established (1888m a.s.l.) by a number of altimeter runs. The survey was carried out by establishing a triangulation base with five cairns. Cave entrances and major peaks along the ridge were then surveyed with reference to two or more of the cairns.

In 1985 this work was extended, and the number of survey points more than doubled. New cave entrances were surveyed to an extended triangulation network. The bulk of the work concentrated on surveying significant ridges and depressions within the basin, in order to establish a more accurate contour map of the area. The contours shown on the map were produced from the raw survey data by a computer program.

TOP CAMP SURFACE SURVEY 1986

Markus Wandinger & Gerhard Niklasch

Co-ordinates are in metres and are given, unless stated otherwise, relative to the survey station at Top Camp cairn. Where no error margins are specified, the precise values (not yet obtained) can be expected to lie within $\pm 10\text{cm}$ of the preliminary values. Positive x = magnetic east; positive y = magnetic north; positive z = up. The magnetic declination is roughly 7°W , i.e. magnetic bearings are about 7° too large; as, however, all the cave surveys use magnetic co-ordinates we will stick to these when reporting our results.

No absolute altitudes are given as the barometric measurements still await evaluation. From the existing data it seems that some of the spot heights on the maps will need to be corrected. In particular, Top Camp is certainly higher up than Hilary's previous value of 1888m a.s.l., probably somewhere around 1915m.

A full report will be prepared during the winter when a more accurate evaluation of the raw data by the Geodesy Institute of the Munich Technical University has been completed. The report will include details about instruments and methods, descriptions and co-ordinates of the points of the triangulation network, details of the polygons linking these to the various cave entrances, precise geographic north and (we hope) latitude, longitude and altitude, and a large-scale (accurate but not detailed) map of the area covered.

Station	x	y	z	Notes
F2 top entrance	-81.61	-256.84	+53.31	1
F7A inscription	-192.12	-22.17	-37.40	
F7B blue cross	-179.61	-45.88	-31.72	
F7C start of roof	-189.12	-68.29	-19.97	
F7D blue circle	-167.60	-54.51	-22.46	
F20 head of doline	-459.52	-92.24	+56.31	1
1/6 survey point 0	-498.29	+136.47	+3.03	
2/6 'surface' (lip of shaft)	-573.72	+46.31	+69.80	1,2
2/6 'entrance' (green dot)	-575.37	+44.93	+64.74	1
F40 head of doline	-556.90 ± 0.7	+184.80 ± 0.8	+23.60 ± 0.6	2
F40 survey point 0	-554.80 ± 0.7	+185.6 ± 0.8	+21.60 ± 0.6	2
F23 painted cross	-454.00 ± 0.3	-54.00 ± 0.3	+37.20 ± 0.2	2
F36 green cross	-417.58	-39.90	+13.07	
F38 green cross	+122.10 ± 2.3	-226.30 ± 2.9	+22.90 ± 1.0	2
F39 green cross	+107.50 ± 2.3	-198.70 ± 2.9	+23.90 ± 1.0	2
Pico Conjurtao	-660.74	+541.90	+12.55	
La Verdelluenga	+572.80 ± 6	-237.10 ± 3	+217.20 ± 2	3

Notes:

1. In the polygons linking F2, F20 and 2/6 to the triangulation network, discrepancies between Markus's figures and Gerhard's field notes have been found: the figures given have been obtained using the more likely values. F2 might be affected by 2m horizontally and 0.4m vertically; F20 by 1.6 horizontally and 0.3m vertically; 2/6 (both points equally) by 0.7m horizontally only.
2. F40 data were obtained by Gerhard with compass and clino after Markus's departure. Link from 2/6 green dot to 2/6 surface from Gerhard's 1985 compass & clino data (2/6 green dot is linked up to the theodolite triangulation), as well as F23 to F20 and F36. F38 and F39 from Gerhard's 1985 compass triangulation using the new cairn and Verdelluenga co-ordinates. All these figures have to be taken with a pinch of salt and none can be expected to reach the eventual precision of the theodolite survey.
3. Only two lines of sight, one of which hits a shoulder rather than the actual peak. Figures are given under the assumption that the peak was just about visible behind the shoulder through the theodolite telescope; Markus's sketch shows a spike in the appropriate place.
4. All surface links obtained along the shortest route through the triangulation network, and thus intrinsically more accurate than mere differences of co-ordinates. However, all suffer from the problem mentioned under 1) above.

Editor's Note:

The only point at which the survey done by Gerhard and Markus in 1986 differs significantly from that done by Hilary Winchester in 1985 is in the entrance co-ordinates of F7C. For the sake of consistency, all data used in the descriptions of small caves in Area F are Hilary's, with the exceptions of F38, F39 and F40: these were not included in Hilary's survey and so Markus' & Gerhard's data have been quoted instead.

OTHER CAVES IN AREA F

Steve Roberts & Hilary Winchester

Where location is not given, see area map. Locations in square brackets are relative to the Top Camp cairn (location 1°15'31"W, 43°13'38"N, altitude 1888m), in the order E/W, N/S, vertical displacement: all in metres. 'Exact location not known' means a hole not refound, or found too late to be included in the accurate surface survey. The dates at the end of the description give the logbook entry describing the cave's discovery and exploration.

F1 Cliff Rift Hard

Location 1°15'38"W, 43°13'22"N
[164W, 491S, +155]
to Top Camp: 18.5°

Located on the flanks of Punta Gregoriana, and easily visible from Pozu Jorcada Blanca (it stands out as a shadow), this is a rift in the side of a cliff. The 20m entrance pitch lands on a snow plug. (23.7.82)

Tackle - 22m rope, two long tapes to naturals.

F2 Pozu Jorcada Blanca

Location 1°15'35"W, 43°13'30"N
[85W, 256S, +52]

See OUCC Proc. 11 for description.

F3

Location Lost and not painted.

Rumoured to be a hole of insignificant depth somewhere down 'Bog Alley'.

F4

Location exact location not known.

A shaft on the other side of the ridge from F2. One side is plugged, but a 30m shaft rigged between boulders at the other end drops to a pile of snow and boulders. An unpromising crawl leads painfully to a chamber, with several choked pots in it. No way on. (22.7.83)

F5

Location [152E, 358S, +126]
to Top Camp: 337°; to 'Spike': 254°

In wall of ridge. Deep rift (8x2m at surface), trending 84°. Large snow plug in entrance, revealing two pitches at either end of the rift (W & E).

West descent: 20m pitch to snow plug revealed as 3m block of snow jammed in the top of the pitch. 3m gap to large pile of snow in the bottom of the rift. Pitch ends when narrow rift meets snow (at West end). Shaft appears to continue but is full of snow.

East descent: 20m to the top of the snow, where a water drip had made a 1m wide x 20m deep hole down. Worth a decent pushing trip, but probably snowed out for most of the year. (5.8.84)

F6 Pozu Paso Doble

Location 1°15'45"W, 43°13'37"N
[325W, 44S, -10]

See OUCC Proc. 11 for description.

F7 Pozu las Perdices

Location 1°15'39"W, 43°13'36"N (F7c)
[187W, 52S, -22]

See main article.

F8

Location [112W, 10N, -39]

A crawl through boulders at the bottom of a shakehole goes into a small chamber with no way on. (5.8.84)

F9

Location not recorded, but somewhere near F7 and F8.

'An interesting-looking crack in the cliff face with a bouldery depression beneath'. A small chamber exists beneath the boulders; no way on.(6.8.83)

F10

Location [37W, 48S, +1]

At the start of the walk from Top Camp to F2. 'A huge shaft 20m deep with a snow plug in it'. At the bottom a rift closes down after 20 feet.(23.7.84)

F11

Location [593W, 275S, +146]
to Top Camp: 054°; to 'Spike': 105°

High in the ridge to the west of Top Camp. A 20m drop, the first 5m free climbable. Below this narrow entrance, a drip enters, and the cave develops into a rift, down which 'stones rumble for some time'. 20ft climb leads to a pitch. 40m freehang to the bottom, which is... choked. A window 20ft up from the base of the shaft is also choked.(22-27.7.84)

F12

Location [573W, 264S, +154]

Above F7, 20m away from F11 on bearing 010°. Descended for 15m on ladder. Three ways on: (a) down, where stones bounce and crash; (b) across into an ascending passage; (c) along a rift. Chokes! - at least on route (a).(22-23.7.84)

F13

Location [351E, 274S, +110]
to Top Camp: 322°

Impressive rift-like entrance at base of cliff above scree slopes to SE of Top Camp. Cave is 25m long (large walking-size passage) with a 10m climb at the end. Choked.(25.7.84)

F14

Location [230W, 138S, +30]
to Top Camp: 301°

An impressive-looking hole in the hillside surrounded by very chossy shattered rock. Through the hole is a chamber whose floor is covered in a snow cap 3-5m deep. This slopes down to a vertical slit 1m wide by 2m high, above a handline climb of 3m to another snow-covered chamber. A small passage goes on from the lefthand bottom corner for approx. 10m, ending in a small blind chamber. 'There are probably ways on under the snow'.(4.8.84)

F15

Location [165E, 59S, -1]
to Top Camp: 289.5°

A short passage leads to a small chamber with a snow plug. No way on.(4.8.84)

F16

Location [203E, 122S, +2]
to Top Camp: 301°

A very pronounced rift entrance (.. pronounced 'rift entrance'), underneath la Verdelluenga, visible from Top Camp cairn. Go up dolomite band along grassy ledge towards slit. Two main entrances to this cave lead to a snow-filled chamber. The righthand side of the chamber leads into a smaller snow-filled chamber. 'There is probably a way on under the snow'. (Not found in 1985, when snow levels were very low, though).(4.8.84)

F17

Location [2W, 113S, +28]
to Top Camp: 181°

A long fluted rift, 10m deep, in depression between C1 and C2; choked.(5.8.84)

F18

Location [87E, 191S, +45]

A choked hole approx. 6m deep, near to F17.(5.8.84)

F19

Location [66E, 180S, +36]

Another choked hole approx. 6m deep, near to F17.(5.8.84)

F20

Location 1°15'51"W, 43°13'35"N
[442W, 78S, +49]
to Top Camp: 080°

See above.

F21

Location exact location not known.

A large hole near the top of the ridge, above F20 (to Top Camp: 084°). Entrance is a walk down into a large entrance in a dolomite band. Shafts enter from above; blue sky can be seen through them. Eventually a huge rift is met, which can be walked along (approx. 1.5m wide, 10m high, with daylight at the top). Ends after 20m. Climb through a hole to peer over the ridge into the next valley!(6.8.84)

F22

Location [503W, 44S, +38]
to Top Camp: 083°

Entrance is a large shaft near the bottom of a gully (right hand side), a little higher than Top Camp. The shaft is 10m deep and maybe choked but it could be possible to enter under boulders.(6.8.84)

F23

Location [406W, 36S, +25]
to Top Camp: 085°

Near F22, but lower down on the right. Approx. 25 foot shaft.(6.8.84)

F24

Location [515W, 27N, +25]
to Top Camp: 093°

Entrance approx. same height as Top Camp . Large shaft approx. 20m deep.(6.8.84)

F25

Location [631W, 44N, +46]
to Top Camp: 094°

Entrance near ridge on the right hand side of a gully. A rift which you can walk down, with further progress possible under boulders (?).(6.8.84)

F26

Location [635W, 101N, +16]
to Top Camp: 099°

Hole approx. 8m deep in the bottom of an amazing surface rift (rift is 20-25 feet deep).(6.8.84)

F27

Location exact location not known.
to Top Camp: 100°

About same height as Top Camp. Hole in the bottom of a gully (on right hand side), below the rift containing F26.(6.8.84)

F28 (formerly 'F6', 'F20')

Location [103E, 318S, +102]
to Top Camp: 342°; to 'Spike': 252°

10m deep entrance shaft (opening out to 3x4m) leading to a snow plug. Rift trends into mountain and closes off after 5m. Graham-sized passage leads off to the left & then round a corner: 'couldn't get in it, Guv' says Jan.(6.8.84)

F29

Location [387W, 55N, -29]

(6.8.84) At base of depression at the bottom of the F20 gully. 15m entrance pitch to chossy floor with small snow pile. Daylight entering from West through unlocated entrance (possibly a depression with some snow at the bottom?). Numerous narrow rifts enter, but pitch disappointingly closes off to a 1mm cleft in the rock. No way on.(6.8.84)

F30 Ridge Cave

Location 1°15'52"W, 43°13'43"N
[475W, 145N, +26]
to Top Camp: 107°

This is another name for 1/6 ! see main article.

F31

Location [331W, 88N, -52]

To the left of the path from the bottom of the Jorcada Blanca depression up to 1/6. A 1m diameter shaft with a snow plug, but stones rattle beyond this.(27.7.85)

F32 (formerly 'F21', 'F29')

Location [217E, 226S, +10]

Beneath F5. A 1m x 4m shaft with a 3 second rattle. A snow plug is visible, but the shaft seems to continue.

F33

Location [385W, 45N, -52]
to Top Camp: 097°

Higher up in the same gully as F29. 5m tight pitch, not fully descended.(28.7.85)

F34

Location [404W, 62N, -15]
to Top Camp: 097°; to La Verdelluenga: 113°

Pitch approx. 6m to boulders. From here, another 3.5 metres down to snow plug and boulder floor. Possible way on through boulders upslope; slight draught.(28.7.85)

F35

Location [450 due W, +3]
to Top Camp: 090°; to La Verdelluenga: 109°.

Pitch approx. 15m, chokes, no way on.(28.7.85)

F36

Location [432W, 45S, +23]
to Top Camp: 084°; to La Verdelluenga: 106°.

Open shaft 10-15m deep, 10m long x 1.5m wide, choked at the bottom.(28.7.85)

F37

Location exact location not known.

On the right side of a gully ascending from the 'Arch Caves'. A small hole descends down a steep rubble slope with two squeezes to a small aven. No way on.(29.7.85)

F38

Location [122E, 226S, +23]

Enter past large snowfield to large chamber with fine ice column (in 1985, at least!). Pool at back of cave is covered in a thin layer of ice. This was the Top Camp water supply at the end of '85 and in '86.(3.8.85)

F39

Location [107E, 199S, +24]

5m drop past snow to a choke. No way on.(3.8.85)

F40

Location 1°15'56"W, 43°13'44"N
[555W, 186N, +22]

Walk up the grassy slope from Ridge Cave. On the ridge turn right and walk down the ridge for about 100m to a large depression in very metamorphosed limestone. To the left of the depression is F40, a vertical crack about 4m by 1m.

The first pitch (15m) is rigged from a large natural on the right and a flake and lands on a small ledge. Two short climbs, with a blind pot to the left, lead to the second pitch of 10m. This lands on a large rock bridge with pitches to the left and right. The best hang from the natural belay is down the left-hand shaft. This 9m pitch lands in a small chamber. The pitch continues below, but the way on is through a slot above and to the left of the continuation of the third pitch. This leads to a 2m climb with a pitch to the left and a blind pot to the right. You are at the bottom of the shaft to the right of the rock bridge.

A traverse above the fourth pitch (10m) leads to a good natural belay. The pitch lands on a small ledge. The next pitch (19m) is reached by a short pendule to a rock bridge and uses a small flake above the bridge as a belay. Landing in a boulder-floored chamber, the way on is a short rift 1m wide, ending in a tight vertical squeeze on the left: the Salamander. This drops into a small chamber with a sloping boulder floor, leading straight to the next pitch. As the top was loose this was rigged from a very rounded flake with nothing much stopping the tape rolling off. This pitch (20m), though small at the top, opens out after a few metres and is very impressive. It lands in another large boulder-strewn chamber. An ascending scree slope finishes at one end. The opposite direction soon closes down to a narrow rift half-filled with boulders. After four metres this pops out into a small chamber, where the draught present in the rest of the cave disappears up an aven. The only way on is down through boulders. The passage then closes down, ending in a sandy choke into which you can stick a welly for about a foot. (3.8.86; 17.8.86)

Tackle

1	40m	This pitch is divided into: 15m pitch; 15m roped climbs; 10m pitch	50m rope	Naturals 2 natural rebelay
2	9m		20m rope	Natural
3	29m	A traverse is followed by 10m & 19m pitches	45m rope	Naturals Natural rebelay
4	20m	Disappointment Pot	30m rope	Naturals

(Phil D. and Nicola at Top Camp - 14/7/85)

[Richard had left a bottle of brandy in the store tent 'for medicinal purposes only']

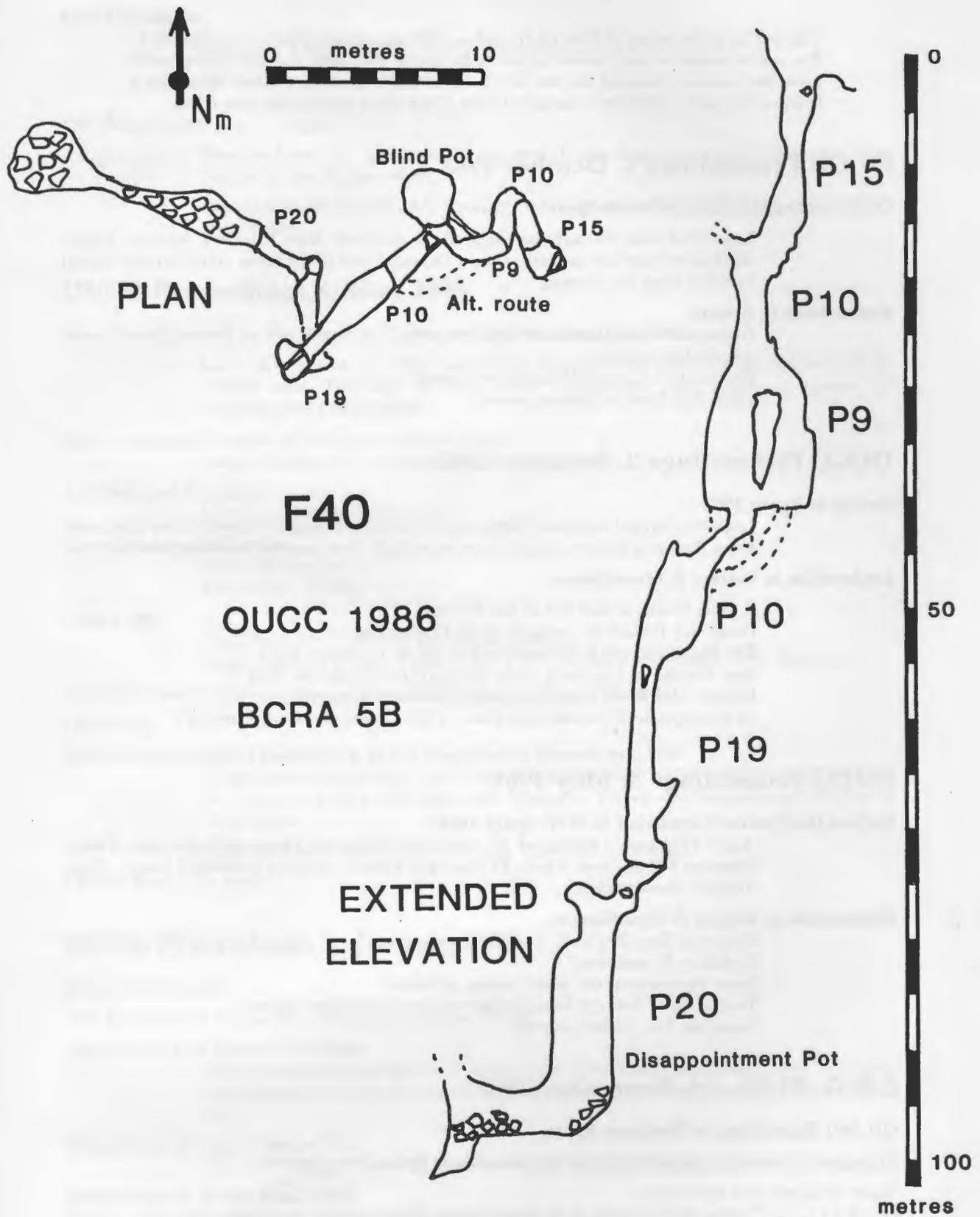
No eggs.

SO. The old 'Brandy at top camp trick' eh?...

As all cavers know, the best cure for a hangover is to do a cave, so that's what we'll do today. I believe there are some caves around here somewhere...

(Martin May - 21/7/85)

'God I hate the smell of carbide, it's almost as bad as that wine we drank..'



Location: 1°15'56"W, 43°13'44"N, Altitude 1910m

CONTENTS OF OUCC PROCEEDINGS

1961 - 1984

This is a list of the contents of Procs 1 - 11 (and one CRG special publication), chronologically by Proc and in the order in which the item appears in the relevant Proc. Note: (survey) after an article means that a survey is included, not that there is only a survey; similarly, (history) means that a history of the cave's exploration is included. Copies of any article are available from OUCC.

OUCC Proceedings 1, October 1962

OUCC 1961 expedition to North Spain.

Lago Eñol area: 60 caves investigated, 30 surveyed. Pozo Palomeru (survey): Cueva del Viento (here un-named!): Cueva Orandi: Cave of the Snow (C15; survey). Small caves in Vega de Comeya.

Exploration in Britain

Graveyard Series, Lancaster Hole (survey).
Aygill Hole (survey).
Bouthier Gill Cave in Wharfedale (survey).
Afton Rift Cave in Devon (survey).

OUCC Proceedings 2, Summer 1963

Caving in Spain 1962

Lago Eñol area: Cueva del Viento (C15) (Muddy Passage) (survey). Cave (dig) near Vega Redonda Refuge. Small caves near Eñol. Two uncompleted pots near P1.

Exploration in Britain & Miscellanea

A short Guide to Bull Pot of the Witches.
Future for Potholing? (passing of the Golden Age !)
Tip Pot, Casterton Fell (listed in Vol. 4B as 'Casterton Pot')
New Passage in Lancaster Hole (first part of Woodhouse Way ?)
Dunald Mill Hole, Carnforth, Lancs, SD 515676 (survey).
'A Description of Dunald Mill Hole', 1760. ('most pleasingly horrible')

OUCC Proceedings 3, May 1964

Oxford-Derbyshire Expedition to N.W. Spain 1963.

(Lago Eñol area). Pots near P1 completed. Pozo los Texas. 450' pot near Texas. Alphonso's Hole (near Eñol). El Burdio la Peña ('Coventry Cathedral Cave'). Pozo Altiquer (incomplete).

Exploration in Britain & Miscellanea.

Whitewell Pot, Bowland, Yorks (survey).
Yorkshire Roundabout
Some observations on recent caving accidents.
Yordas Cave: Antient Descriptions; modern description (survey).
Casterton Pot (history; survey)

C.R.G. PUBL. 14, November 1965

OU 1961 Expedition to Northern Spain.

Transport; Catering; Supplies; Domestic Organisation in Spain; Photography.

Water Analyses and Hydrology

Trema spring; Vega de la Cueva rising (Eñol spring): temp, flow rate, pH, Ca and Mg content. List and Map of Sinks (S1 - S17) and risings (R1-R15) near to Eñol.

Geomorphology

Caves Pozo Palomeru, Cueva del Viento, Cueva de Orandi, P9, P10, P11, C16, P2, P3. List of Potholes P1-P14, P17, P20. List of Caves C1-C22, C35, C36, C38. List of Blocked entrances B1-B12.

Surveys Pozo Palomeru (P1); Cueva del Viento (C15); Cueva de Orandi (P14); P9, P13 (near Vega el Texu); P10, P11 (Cerro de Sohornin); Cave of the Snow (C16); P2, P8 (near Eñol).

Geophysical Survey: Resistance survey over Palomeru.

1962 Expedition

Cueva del Viento (muddy passage extension).

500 foot pot 'near Palomeru'.

1963 Expedition

Pozo los Texas. 450' pot and 600' pot near Texas. Resurgence in Rio Reduma. Pozo Atiquer & Jou Cabau noted.

Descriptions of: C15 (Muddy Passage), C36, C36, C38, P21, P20, P21 (another one ! 160m shaft)

OUCC Proceedings 4, May 1966

Cave Development in the Western Cantabro-Asturio Mountain Chain

List of Expeditions to 1965; Landforms; Speleogenesis; Sketch Maps of Eñol area & Felmin area; Drainage of Vega Eñol; Chronology; 3D Sketch of Cueva del Valporquero; 47 references

Some Solutional Features in the Karst around Oxford
Maps (Cumnor, Nth. Leigh)

Accidents and Insurance

Letters to the 'Guardian'!

Cave Location in Turkey

Toros Mountains
Lit. survey, 25 refs.

Wales 1965

Ogof Fach SN 97070972: extensions (survey).

Small Caves in Hepste Valley (SN 9477.1172, 9478.1180, 9480.1195, 9494.1207)

An Experiment to Estimate the Errors made in Taking Compass Bearings

Club Diary

British Speleological Expedition to the Cantabrian Mountains, 1965

Valporquero area: Sima Grail; Sima el Solitario; Pozo de los Grajos; Cueva del Pozo de Infierno; Cueva del Valle del Marques; Cueva del Valporquero; Sil de la Colombina.

Lago Eñol area: Jou Cabau; Cotozia; Cueva de la Huelga.

Official Report 'in prep.'

OUCC Proceedings 5, January 1970

Letter from Canada

The Discovery of Pigshit Pot, Penyghent. (not in Vol. II)

The Geology of Castro Urdiales

Introduction; Stratigraphy and Rock Types; Structure; Cave Morphology; Sedimentary Structures within the Caves; Mineral Veining; Cerredo; Candina; Conclusions. 7 refs.

Expedition to North Spain 1968

Castro Urdiales: Fuente de Orinon (extension); Ojo Guarena; Cueva de Escalada

Expedition to North Spain 1969

Llanes area : el Mazuco. The expedition; Caves explored (2 location maps); La Boriza (Cueva del Agua) (Gd. I survey); Pozo de Fresno; Cueva de Bologo; other caves in the Arroyo Bolugas system; Caves in other areas.

Short Story - 'The Devil's Breakfast'

OUCC Proceedings 6, February 1974

Report on 1971 Expedition to Spain (El Mazuco Area)

Introduction; Area Map

Cueva la Boriza (Gd 4B survey); Inlet Series; High Level;
Geomorphological Notes; 2 refs.

Torca la Manga (Gd 2 survey)

Torca los Corniceros

Cueva Laneveru

Cueva la Borbolla (Gd 1 survey)

Cueva de Puron (Gd 3A/4B survey)

Small caves Nacimiento de Cortines; Cueva del Castro; Cueva el Bosque; Arroyo Bolugas

Cave Diving Equipment & Preparation; Sites visited
Boriza; Calduenin; Ojo del Rio Bolugas (sketch surveys of all three)

De Fluminente Fluorescente - the trials of testing
Comparison of phosphates and fluorescein.

Bibliography of OUCC Spanish Expeditions

OUCC Proceedings 7, November 1975

1973, 74 & 75 Expeditions (mainly Rales area)

N. Spain 1973 - General

N. Spain 1974 - General

N. Spain 1975 - General

Area Geology Report 1972-3 (map, 7 refs).

Rales Cave System

Entrance series; Cueva la Juentica (Rales main chamber); Manantial de la Aldea (rising); Cueva de Samoreli / Pozo de Molino (upper streamway); (+ alternative Molino Entrance); Biological report; Other minor caves near Rales; 2 surveys of Rales system.

Villa area Cueva Jou (survey); Un-named cave.

Llovio area Abseil Cave (survey); Cueva de Tinganon (survey + survey notes); Cueva Negra (survey); Cueva Adelante.

Socueva area Cueva de Chinchana.

Llamigo area Llamigo Cave (survey).

Mestas de Ardisana area

Cueva de Llina Lleras; Cueva las Canadas

Covadonga area (Map)

Cueva de Orandi (survey); Cueva la Gueya Reinazo; Trumbio rising (survey); Cueva de la Campana; Cueva Trumbio (survey).

Infiesto - Campo de Caso - Oviedo area (Map)

Reconnaissance trips

La Hermida area

Pozo del Infierno

7 References.

OUCC Proceedings 8, 'Forcau 1976'

Organisation; Equipment notes; Survey notes

Pozo de Vega el Forcau (history; survey)

Cueva la Huelga (history; survey)

Pozo la Texa (Alphonse's Hole) (history; survey)

Cueva el Osu (Cueva el Jeadá) (survey).

Reconnaissance

Caves of the Venta de Fresenedo area

(multiple sink/resurgence systems)

OUCC Proceedings 9, 1979

Expedition to Spain 1979 (Ario Area)

Introductory

Introduction; Location maps and Key; Geography; Maps.

S.W. of Los Lagos

Cueva del Viento; Cueva el Frieru

N.E. of Los Lagos

El Hoyo la Madre (survey); Pozu del Cantu del Hombre (survey); Smaller Caves (Crow pot, Dead Sheep Cave, Pete's Potty (survey) Belbin sink, un-named cave).

S.E. of Los Lagos

Smoked Food Cave; Cueva del Osu (survey); Stone Lid Cave; Cueva del Cana; Small caves near Osu (area map); Pozu del Xitu (survey); Small caves near Ario (1/5 - 26/5) (area map).

Silly Rope Tricks? Sensible Reply Technique

Geological Notes; Geomorphological Notes; Hydrological Notes

The Stinkie Dilemma

Biospeleological Collecting; The Ecological Relevance of Cave Communities.

Caving as a Behavioural Strategy; Speleopsychogenetics.

Thoughts of Brummie Expedition Guests

A Computer goes Surveying

Survey Statistics

OUCC Proceedings 10, 1981: 'Pozu del Xitu'

1980 & 1981 Expeditions (Ario area)

Introduction Editorial; The Xitu Explorers; Geography of the Picos de Cornion; Maps of the region.

Caves

Xitu: the Cave

The Truth about Xitu

Smaller Caves around Ario: 1/5-30/5, 1/7-6/7, 1/8-6/8, 1/9-3/9

Too Deep or Knot too Deep (Tras la Jayada)

Cave Sciences

Cave Fauna on the 1979-1981 expeditions

Geology of the Ario Region and Cave Development in Pozu del Xitu

Pozu del Xitu 1981 Dye Tests

Speleopsychogenetics II

How To Do It

Expedition Photography

How to Camp Underground

Expedition Medicine - How to Plan it

Hypothermia for Cavers

Caving Gear

A New Jammer, The Warsaw Walker

Belays

A Survey of Abysmal Etymology

After the Ball was Over

Obituary: Keith Potter

Surveys

Small Xitu Survey

Large Xitu Survey (A0 size)

Surveys of 2/5, 8/5, 12/5, 2/7 & 3/9

Survey of Geological Features

Maps

Main Expedition Areas; Area 5

OUCG Proceedings 11, 1984

1982 ('El Joon') & 1983 ('Gregoriana') Expeditions

Editorial

Expedition Hall of Fame

Spain '82-'83

'Frontispiece'; Introduction; Topography and Map Coverage

Pozu Jorcada Blanca

Smaller Caves Investigated in 1982-3

3/5 (Pozu los Caracoles); 30/5 (Pozu Optimisto); B1; B2; C3 (Sima Verdelluenga); C4 (Playschool Pot); D1; E1-E4; F1; F6 (Pozu Paso Doble); F7 (Pozu las Perdices).

The Geology of Jorcada Blanca

The Geology of the Immediate Region of Pozu Jorcada Blanca

The Topography of the Western Picos

Water Tracing in the Western Picos

Some Measurements of Water Discharge in the Los Lagos-Rio Cares Area

The Hydrological Development of Cueva del Osu

An Estimate of the Palaeodischarge of Cueva del Osu

Biospeleology: a Speleopsychogenetic Hierarchy

Expedition Transport: Sick Transit, Glorious Monday

The First Trip down Pozu las Perdices

Surveys

Pozu Jorcada Blanca; Pozu los Caracoles; Pozu Optimisto; Sima Verdelluenga; Playschool Pot; Pozu Paso Doble; Pozu las Perdices (entrance series).

Borneo '83

Introduction

Some Karst in the Penrissen Area of Sarawak.

Geological Background, Geomorphological Background, Biological Background, Human and Historical Background, Speleological Background, Medical Aspects.

The Caves

Tang Baan; Tang Chi; Tang Saya; Tang Sungei; Tang Peraba; Tang Toka.

Sinks in the Bunuk Area; Sinks near Gunung Penyok

Caves in the Pedawan Area; Caves in the Blimbin Area

Temerang and Wah: Semadang Cave; Temurung Resurgence; Picnic Cave.

Surveys

Tang Baan; Tang Chi / Tang Sayah / Tang Paraba; Tang Toka.

27 references

What Really Happened

The Saint Michael's Cave System, Gibraltar

Old St. Michael's Cave; Leonora's Cave; New St. Michael's Cave; Lower Series of

Old St. Michael's Cave

Surveys: Old and New St. Michael's Caves.

Some Karst Near Oxford (Cumnor Hill)

List and Map of Sinks and Springs; Chemistry

A Reappraisal of Techniques for Descending Pitches by Ladder.

How to Rope-walk

Introduction; Sit Harness; Ascenders; Changeovers; Setting up.

Corrosion for Cavers

I - Some aspects of the corrosion of caving ladders

II - Corrosion of Alloy Carabiners

A Simple Charger for NiCad and Lead-Acid Cells.

SPELEOSTATISTICS

Gerhard Niklasch

After the derigging was over in '85, most of us contented ourselves with getting pissed on the Santander ferry. Our one German member, however, went back to Munich determined to discover precisely what it was that we had been doing for all those weeks. And this is what he found...

The average '85 expedition member spent 700 hours away from home, viz. 140 hours as a female and 560 hours as a male. This first classification is not particularly illuminating, so let's be a bit more specific. A total of 140 hours went into travelling there and back, which leaves 560 hours in and around the expedition area. These can be classified as follows:

- 190 hours asleep
- 140 hours eating / drinking (i.e. tea / coffee / water) / yawning / swearing / following other calls of nature (I've been quite generous here)
- 20 hours cooking / washing up / tending and tidying camps / fetching water
- 60 hours underground
- 10 hours mending oversuits and other caving gear
- 21 hours carrying supplies, tackle, expedition gear uphill
- 5 hours carrying rubbish, tackle, expedition gear downhill
- 27 hours moving between campsites and carrying personal gear
- 4 hours surface surveying / drawing up surveys
- 7.5 hours on scientific work
- 30 minutes administrating

The time underground can be subdivided further according to the type of trip (where I've counted abortions as what they were intended for - the same applies to the 'carrying' and 'moving' entries above):

- 20 hours pushing and rerigging
- 14 hours surveying
- 12 hours detackling
- 5 hours photography
- 5 hours shaft-bashing
- 4 hours tourism

and 'scientific work' splits up into:

- 6 hours dye detecting
- 40 minutes reading rain gauges / altimeter
- 30 minutes looking at / collecting bits of rock
- 20 minutes chasing snails and insects

Add it up and (surprise, surprise) no less than 63 hours remain unaccounted for. Most of these probably come under the heading 'festering'. The precise use each person made of them is so varied that you'd better pick your own selection from the following list of suggestions (delete when not applicable and tick when substantial - due to possibility of overlap you may end up with more than 63 hours):

- getting pissed
- throwing up
- showing off

bathing / sunbathing

walking / climbing

reading

sending / receiving letters / postcards

taking / posing for: nice / ordinary / boring / sponsorship / embarrassing pictures

admiring the sunrise / sunset / stars / meteorites / milky way / rainbow / clouds / mist / rain / hail / Picos / sea

discussing yesterday's discoveries / tomorrow's discoveries / today's own cock-ups / today's cock-ups of other people / quantum physics / Shakespeare / geology / hydrology / meteorology / vino / brandy / food / anatomy

washing your hair / t-shirts / gear / caving underwear

chasing cows / sheep / goats / tourists

dozing

flirting with the treasurer / Ukey / Margot / el jefe / Fred / Phil D. / Phil S. / Julia

producing / recording quotations for the logbook

Notes.

1. These statistics are reliable 'cos I faked them myself.

2. To simplify calculations, I've assumed 30 members and active guests, e.g. by including Steve D. and John S. but omitting Lesley, or (equivalently) counting each of them as 2/3.

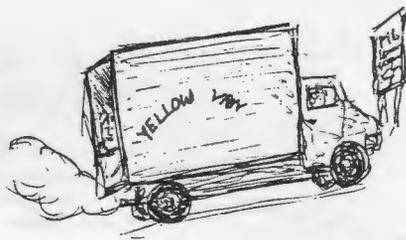
3. Total manhours are thus obtained by multiplying the above figures with 30, e.g. 1800 manhours caving in total. To obtain manhours per day per member, divide by 23.3, e.g. 2 hours 42 minutes festering per person per day.

4. A total of 7.5 mandays for dye detecting may seem absurdly low. But bear in mind that each Culiembro-trip also induces large contributions to shopping, eating, tourist caving, bathing, admiring, taking pictures, dozing and occasionally even sleeping....



(Fred - an appointment with fear (Fred's Folly) - 31/7/85)

I managed to climb up about 12 feet then a large handhold went. Suddenly I was flying past the bolt, wondering how far I had to go before the rope caught me. Then I hit a knob of rock, landing on my back. My glasses were ripped off by the shock and I ended up dangling with a sharp pain in my back. I abbed down, had a bite to eat and set off up again. I went across to the left and found a point near an overhang where I could put a bolt in. I put one in and tried to put another in. However, as I was bashing in the wedge, the rock broke and I was left with a driver with a useless anchor screwed on the end. I decided to come down. I tied 'blue' onto the bolt and started to ab down. After a few feet I realised that I could pendule round the edge of the overhang and claw my way up to a gully. I got to the top under another overhang, and decided that more safety was essential before I went on. By the way all this time I was scared absolutely shitless.



THE YELLOW VAN SPELEO SONG

Three cavers sang at the College gate
They sang so loud and they sang so flat.
A student sat in the library,
Put down her pen and said 'Bugger that'!

And she's plucked off her floral print gown,
A-bought from Laura Ashley-oh!
And she's gone down to St. John's Bar,
To get pissed with the Yellow Van Speleos.

She's hocked her pearls for a second-hand wetsuit,
And a pair of Dunlop wellies-oh!
And she's gone off to Bull Pot Farm,
Along with the Yellow Van Speleos.

'Oh bring to me my E-type Jag,
And fill it up with petrol-oh!
For I must leave and seek Genevieve,
Who has gone with the Yellow Van Speleos.'

Oh he drove fast and he drove slow,
He drove past Charnock Richard-oh!
Until he came to Junction 34,
And caught up with the Yellow Van Speleos.

'What made you leave the Hunt Ball set,
And beagles starting from Christchurch-oh!
What made you leave your well-heeled lord,
To go off with the Yellow Van Speleos?'

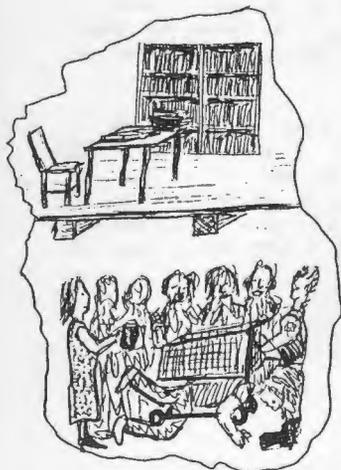
'What care I for the Hunt Ball set,
What care I for your beagles-oh!
What care I for my well-heeled lord,
For I'm off with the Yellow Van Speleos!'

'Last night you slept in a narrow college bed,
And the scout came in so early-oh!
Tonight you'll sleep at Bull Pot Farm,
Along with the Yellow Van Speleos.'

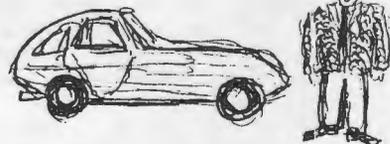
'What care I for my narrow college bed,
With the scout coming in so early-oh!
For tonight I'll sleep at Bull Pot Farm,
Along with the Yellow Van Speleos!'



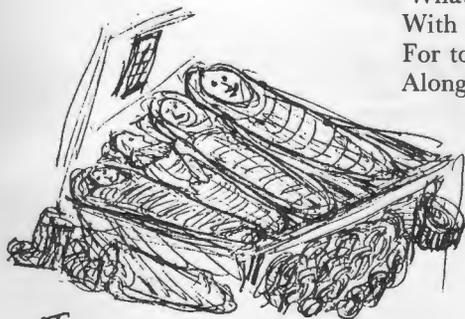
She swapped her pearls for
a second hand wetsuit.



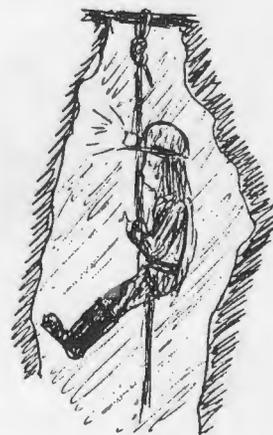
Genevieve has abandoned her
essay in the library to get
rattled with the "Yellow Van
Speleos."



Oh bring to me my
E Type Jag.



Tonight I'll sleep at
Bullpot Farm



Cartoons by Fred

OK. ES EL COMERCIO! THIS IS THE BUSINESS!!

AND THESE ARE THE NAMES OF THE CAVE:

- 1/6 POZU PICU CONTURTAO
- 2/6 POZU LOS DESVIOS
- ¿ F20? POZU REDONDO CONTURTAO *correct, it's up here it is. (all from the map)*

MESSAGE

Today (18/7) Dave + Steve went going down 1/6; Ed + Sam following after getting 80M rope from JTB.

A SUGGESTION: after 2/6 is surveyed + classified Arco should be run down there are 3 going caves here now. We ought to have more bunts, a double burner, 2g pots, and a bigger operation generally up here. And more water containers - nice stream to fill them at 1/6. All these caves could be part of great hydrological network rimming at Hoyo La Redonda in which case depth potential is about (1400m.00) *That is at approx. theoretical about ramp levels - some caves ramp and some are and that's the way it is...*

Forget the general statements by people who don't know what they're talking about, particularly given this view, hold only 6

HAVE A NICE DAY-Y!!!

pages previously, that F20 would be maximum depth of 190 - ~~corrected by JTB~~



I go down in the morning
 4/ Arco got nothing to eat
 Except a tin of ~~the~~ tinned
 And some ~~large~~ lumps of codon

Call light a lamp without a spark
 I'm looking for a Caley
 So I can go dancing in the dark

YES VERY POSITIVE - 1/6 has gone
 2b or not 2b
 That is the system.

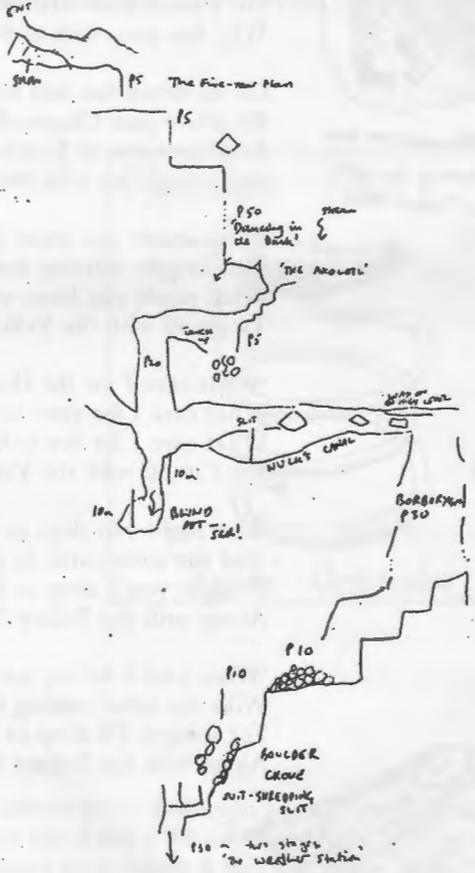
I fitted the rope from TTB & then Sam & I joined Dave + Steve inside Ridge Cave. The pushing trip which entered is one of the Picos classics - best up to take in the bar.

What happened was this.
 After 1st + 2nd pitches (10m) the head of the bigger pitch was rigged with a bolt - a 50m super/ shaft called 'Dancing in the Dark'.
 At the foot, the way on with the water was ignored and through a window and down to a sledge which reminded Dave not a little of... well we called it 'The Axolotl'.

A 5m pitch follows the short streamway ~~then~~ after the AXOLOTL, which swings you round to a farside passage - climb up to the obvious traverse line. as soon as you can and then go round to the pitch head - a brilliant Y belay for a 20m pitch.
 This pitch could actually be from our story about being at the obvious place.
 The way on now is complicated. This ward has now been abolished.
 The stream vanishes downwards, but you go up an inlet. straight ahead - except that it isn't an inlet but an abandoned outlet. There seems to be no way on... until you see the rope dangling down a slit at floor level. Go down here using the handline on the last section.
 PRO You are now in a small courtyard, with an obvious way on ahead.

- GO UP WAY ON.
- *** Above your head is a traverse line in the roof climb UP TO TRAVERSE LINE & CLIP ON
- *** The only way on is feet first down a foul chute to a pitch head.
- Go DOWN THIS AND, CLIPPED ON TO THE TRAVERSE LINE; CROSS OVER THE DEEP TO THE SET PITCH.

The next pitch is 30m and the Hallow makes a growling noise as you go down - hence the name Borborygmi.
 At the foot two short pitches lead to an area of massive collapse, and climbing down, though this a cold danger is felt and then you say to yourself surely the way on isn't be down here? but it is. slide down the vertical slit and arrive to the pitch head.....



Top Camp Log 18/7/85 -
 The first push down Ridge Cave.

Oxford University Cave Club
 13 Bevington Road
 Oxford OX2 6NB