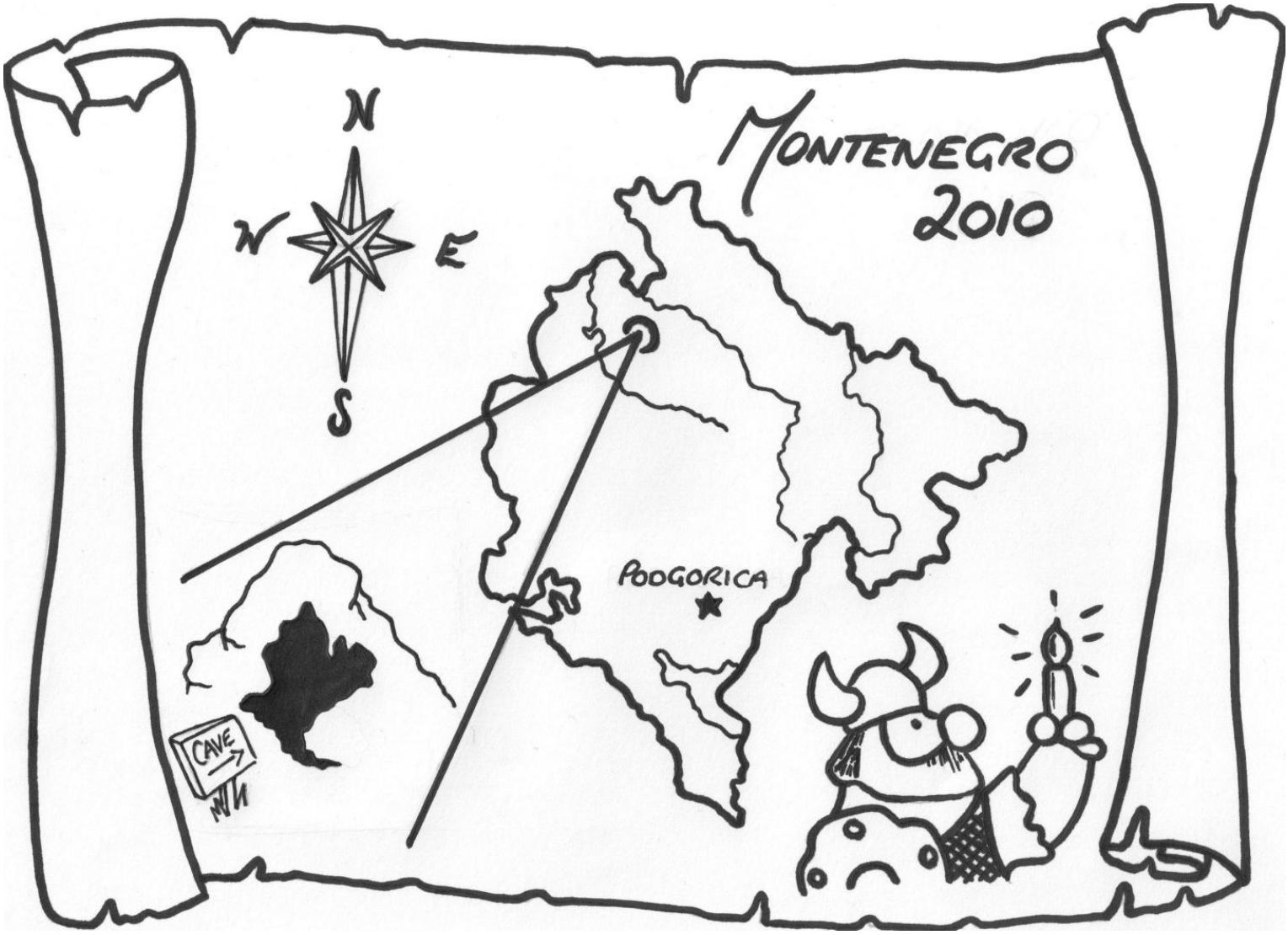
York University Cave & Pothole Club



REPORT

With thanks to:

Grant awarding bodies:

- The Ghar Parau Foundation
- The Lyon Equipment Award
- York Travel Bursary

Companies providing sponsorship:

- Blackfriars bakery
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- Tetley tea
- Shewee
- Tunnocks
- Farmhouse Biscuits

Special mentions:

- Dave Chaplin – for his generous donation of tents which proved invaluable for gear and cooking
- Andy Vick – for his general advice on all things expo, as well as the help he gave us making sure the car would make it!
- Matt Ewles, Gary Douthwaite and Richard Wilsdon for their surveying training.
- The Yorkshire Dales Guides for the loan of a stretcher for our training weekend
- CHECC for arranging their advanced SRT course which several of our members went on.
- The Dachstein expedition for their invaluable training weekend

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Contents:

Introduction:

Montenegro is situated in Southeast Europe, bordering Croatia (W), Bosnia (NW), Serbia (NE) and Albania (E), but is probably easier located as a part of former Yugoslavia. Indeed it was only in 2006 that Montenegro declared its independence from Serbia. Despite using the Euro, Montenegro is not yet a member of the EU but they are currently undergoing the Stabilisation and Association process in order to bring the political, economic, trade, and human rights standards up to those set by the EU.

Tourism in the country is certainly on the increase, having been severely damaged by the Yugoslav wars fought during the 1990s, with the government aiming for tourism to become a major contributor to the country's economy. Despite this, however, it is probably fair to say that it is still a relatively little known area to most people in the UK. The most visited areas are the Adriatic coast with its 72km of beaches and the slightly lesser know Durmitor region.

The Durmitor National Park is situated in the Northwest of the country, covering an area of 390 km^2. The main attractions in the area are skiing in the winter and walking in the summer. However our interest was largely centred on the huge area of karst with resurgence over 1.5 km below the highest point of the Durmitor massif.

The area was first visited by cavers in 1984 when an international expedition was organised involving many clubs from former Yugoslavia. Their choice of area was certainly vindicated with the discovery of Jama na Vjetrenim brdima (Cave of the Windy Hills) which was initially thought to be 897m deep, along with Jama u Malom Lomnom dolu (-605m). They unsurprisingly returned in 1985 and discovered Jamski sistem u Obrucinama, a multi-entrance system with a depth of 464m. However, cavers did not return to Durmitor until 2002, with the expedition now coordinated by the Student Speleologic and Alpinistic Club (ASAK), based in Belgrade in Serbia.

In 2003, YUCPC contacted ASAK about joining their expedition and in the summer of 2004 five members joined a 70 strong international group of cavers on the mountain. The main aims of the expeditions at this time were pushing and

resurveying JVB, which was found in this year to in fact be a mere 775m deep, over 100m less than the original measurement! As well as helping with the surveying, some prospecting was also carried out, the most significant find being 'X3' with a depth of approximately 150m.

With the next two summers seeing trips to Gibralter and Ireland respectively, it was three years until YUCPC returned to Durmitor. This time 10 members joined the expedition, with the new objectives centred on prospecting new areas along with pushing and surveying X3. The area northwest of camp was fairly thoroughly prospected, the most significant new find being T34 at 43m deep with many other less significant entrances also being located. The snow plug at the bottom of X3 was dug, but only a small amount of progress was made. The surveyed depth was found to be 158m.

It's probably worth noting here that the expeditions after 2002 didn't yield quite the same successes as the visits in '84 and '85. Despite the huge potential for caves in the area along with the significant discoveries, the cave entrances largely lie in a tectonically crushed zone so there are a huge number of promising entrances which are choked with boulders and rubble at only small depths.

Back to the progress of YUCPC, holidays again took over for the next two summers which saw visits to the Berger in France followed by a stay at Speleocamp in Slovenia. When discussions of the 2010 trip got underway, however, enthusiasm levels for another expo were high so organisation for Durmitor 2010 began…

Aims:

Prospecting for new caves:

With large unexplored areas highlighted on the maps, one of the main objectives for 2010 was inevitably prospecting these regions. Some had seemingly never been prospected whilst others required more systematic prospecting. There certainly wasn't a shortage of places to search!

Pushing previous finds:

As X3 stopped at a snow plug, another significant aim was to revisit the cave to see what, if anything, had changed at the bottom. Besides X3, there were many other entrances logged in 2007 and from their descriptions some of them warranted a revisit. As well as the visited entrances, there were also several entrances high up on a ridge near camp that were logged but not accessed at the time as they required climbing gear which we decided to take for 2010.

Member development:

Between 2007 and 2010 there was a massive increase in membership of YUCPC so the final number of people signed up for the expedition was 23: over twice the number who travelled out in 2007. Combined with not having had an expedition for 3 years, this meant that only 5 of the group had any expedition experience, but with extensive expedition-specific training organised in the UK and a fairly significant amount of caving experience we were confident that as a group were suitably prepared. It was hoped that the expedition would provide valuable experience to many of the younger members which could be used and passed on for subsequent years.

Planning for future expeditions:

It's probably fair to say, whilst trying to avoid provoking too indignant a response, that the information remaining from the previous visits was somewhat sparse in terms of logistics and planning. This is probably summed up fairly well by the push required to get the 2007 report finished in time for the Ghar Parau application deadline in January 2010! After a few discussions it was decided that a sensible compromise between expeditions and holidays would be to alternate

between the two. With regular expeditions in mind we were keen to ensure that all the planning was documented in order to make organisation as easy as possible for subsequent years, so we aimed to produce a planning document after completion of the expedition.

Participants:

[TB] Tom Blakey – Organiser
[TFB] Toby Buxton – Secretary
[SH] Simon Herrod* – Treasurer
[MN] Maz Nutter – Treasurer
[LCB] Luke Brownbridge – Equipment
[CQB] Chad Bullivant – Equipment
[LDB] Laura Bennett* – Training
[AG] Alastair Gott – Transport
[JB] Jonny Booth – Sponsorship
[MS] Mark Sims – Grant Applications & Write-up
[AT] Ade Turner – Medical Officer
[SS] Steven Spall
[MC] Matt Chubb
[CIB] Caitlin Brumby
[MR] Marcus Roby
[MB] Matt Bouwmann
[RW] Rose Wilson*
[CH] Chuck Holder*
[MJR] Mike Rippon
[JH] Jennie Hill
[SG] Steve Gilbert*
[EJ] Ellie Jones*
[DF] Debbie Flowers*

* only staying for 2 weeks. Everyone else stayed for three

Transport:

Having chosen a location almost 2000 km from York as the crow flies, a major obstacle was sorting out how to get there. Obviously given the distance it was decided that the majority of the people would fly out. A valuable lesson learned from 2007 was that the quickest way to reach camp was to fly to Belgrade in Serbia and get the overnight bus to Zabljak, the local town, rather than flying to Dubrovnik in Southern Croatia and taking multiple buses to get to the North of Montenegro.

Given the size of the expedition it immediately became apparent that just ‘packing light’ and all flying with full pockets wasn’t quite going to be sufficient to transport all the required gear, so several different options were researched.

Two people driving the gear there was the way in which the two previous expeditions had been run. Whilst this had the benefit of giving us a vehicle in the area for shopping and emergencies, it wasn’t without it’s drawbacks: the cost is pretty significant in terms of fuel, insurance, tolls, ferries etc.; it required some willing volunteers who were happy to drive for 4 days each side of the expedition; driving all the gear out carried the risk that if the vehicle broke down, the expo may not be able to go ahead; finally, no one had a suitable vehicle for the job so one would have to be sourced somehow!

Sending the gear by sea was a method that had been used for expeditions in other areas previously and had the obvious benefit of negating the need for driving and the associated costs. Unfortunately the logistics of picking up the gear at the other end seemed to difficult to arrange so this option was fairly swiftly dropped.

Flying out with an extra baggage allowance again avoided the problems associated with a vehicle, but the high cost per kilo caused major problems, especially when things like a petrol generator were vital! Also this would have to be combined with a hire car which would have to be fairly large to take all the gear, again increasing the cost.

Steven with the expo car at Sedlo

Eventually it was decided that we'd have to drive and would try and buy a vehicle on the cheap close to the expedition dates and sell it immediately afterwards. Initially it was thought that a van would be most suitable, but the costs associated with vans themselves as well as for insurance, tolls and ferries proved to be too high. With a lot of weighing of gear we worked out that we could probably get away with an estate car which brought the costs down significantly.

A few weeks before the expedition saw us buying a Citroen Xantia diesel estate (2000 reg) which proved to be ideal. After allocating each person flying about 6kg of communal gear, the car was still completely full when we left, but it even had self adjusting suspension which (somehow) managed to compensate for the tonne it was carrying! It coped well overall and there were no real problems except for some issues with the fans. I guess that's easy to say now, but when the 'stop' warning light was flashing on the dashboard we weren't feeling quite so good about the whole car plan!

Gear:

Item	No	Weight (kg)	Total (kg)
PERSONAL			
Helmet + lights (camp + speleotechnics + dive light)	1	1.098	1.098
AA batteries (8xAA + 6 X AAA)	1	0.28	0.28
Battery charger (mine)	1	0.19	0.19
Oversuit (PVC Meander medium)	1	1.416	1.416
Undersuit (medium)	1	0.796	0.796
Wellies (size 9)	1	2.064	2.064
Kneepads (Beaver)	1	0.324	0.324
Wetsocks	1	0.278	0.278
Gloves (marigolds + liner gloves)	1	0.096	0.096
Balaclava (purple)	1	0.054	0.054
Cuffs	1	0.108	0.108
Survival bag (orange)	1	0.302	0.302
Harness + SRT kit	1	2.22	2.22
Knife + whistle	1	0.057	0.057
Spanner	1	0.16	0.16
Rescue kit (2 crabs + pullet + tibloc)	1	0.256	0.256
SRT bag	1	0.293	0.293
Sleeping bag (Mountain Equipment)	1	2.5	2.5

Roll mat	1	0.6	0.6
Eating Stuff	1	0.6	0.6
Clothes	1	2	2
Sandals	1	0.6	0.6
Head torch	1	0.071	0.071
1st aid kit	1	0.25	0.25
Wash stuff	1	0.5	0.5
Towel	1	0.2	0.2
Rucksack	1	2.5	2.5
Day sack	1	1	1
Sun cream	1	0.3	0.3
Water Bottles	1	0.3	0.3
Miscellaneous	1	1.5	1.5
Camera	1	0.3	0.3
Compass	1	0.1	0.1
TOTAL			23.313
COMMUNAL			
CAVING			
Rope (some will be as rescue, 100 m)	500	0.08	40
Sling	20	0.06	1.2
Rope Protector	3	0.04	0.12
Screwgates (some will be as rescue, 15)	60	0.07	4.2
7 mm Maillons	60	0.06	3.6
Snapgates	6	0.06	0.36
Hangers + bolts (some will be as rescue, 15)	90	0.16	14.4
Spits (some will be as rescue, 15)	200	0.02	4
Long lifes	25	0.1	2.5
Bolting Kit (one will be as rescue)	7	1.5	10.5
Daren Drum	4	0.25	1
First Aid Kit	3	2	6
Tacklesacks	6	0.6	3.6
Cord	50	0.01	0.5
24 V Drill + case	1	9	9
2nd drill (speculative)	1	9	9
Hilti caps	50	0.06	3
Car Mat + firing pin	1	2	2
Lump Hammers	2	1	2
Crow Bar	2	2	4
Trowel	1	0.3	0.3
Chisels	2	0.5	1
Stretcher	1	10	10
Climbing			
Rope	120	0.08	9.6
Wires	2	1	2
Extenders set	2	1	2
Hexes set	1	1	1
Harness + belay plat	3	0.5	1.5
Peg Hammer	1	1	1
Belay Stakes	1	2	2
Cams	1	1.5	1.5
Rock Shoes	3	0.5	1.5

U Channel Piton (100mm)	5	0.125	0.625
U Channel Piton (120mm)	5	0.125	0.625
Mixed Rock Piton (60mm)	3	0.09	0.27
Mixed Rock Piton (80mm)	4	0.09	0.36
Mixed Rock Piton (100mm)	3	0.09	0.27
Gradistep Etrier	2	0.146	0.292
Prospecting			
Compass/Clino + peli case	3	1.3	3.9
GPS	3	0.5	1.5
Tape measure	3	0.4	1.2
Radios	4	0.2	0.8
Maps/Logbooks etc	1	2.5	2.5
Permenant markers	10	0.02	0.2
Laptop	1	3	3
Sleeping			
9 man tent	1	17	17
10 man tent (no inner)	1	21	21
Club Vango (new)	1	4.5	4.5
Club Force 10	3	7	21
Orion Tent	1	3.8	3.8
Personal Tents	3	3.3	9.9
Tarpaulin	6	1	6
Bivibag	4	0.656	2.624
Repair Stuff	1	1	1
Energy			
Generator	1	11	11
Jerry Can	1	0.5	0.5
4 Way plug	1	0.3	0.3
Oil for generator	1	1	1
Living			
Stove	2	0.3	0.6
MSR stainless steel pan set (3 pans)	2	0.954	1.908
Large pans	4	2	8
Cooking Utensils (all)	1	0.5	0.5
food (from sponsorship etc)	1	100	100
Double burner	2	2.5	5
Gas	2	17	34
Wind shields	2	0.5	1
Water Filter	1	2	2
Funnel	1	0.2	0.2
Water Containers	3	0.5	1.5
Chlorine/Iodine tablets	1	0.2	0.2
Bothy	1	0.5	0.5
Gaffer Tape	1	0.8	0.8
TOTAL (communal)			425.824
Total (personal, per person)			23.313

Red text denotes estimated figures

Budget:

Below is the final (abbreviated!) expedition budget:

Detailed Expense Budget

		Total expenses		**£**	**10,474.11**
	Description	**Total cost**		**Section total**	
Flights				£	2,580.40
Transport				£	121.61
Personal insurance				£	1,897.20
Car and Associated costs				£	2,810.53
	Car	£	800.00		
	Insurance	£	1,009.25		
	Breakdown cover	£	163.15		
	Petrol	£	366.81		
	tolls	£	245.29		
	International Drivers Permit	£	21.50		
	Parts/Misc	£	92.46		
	Drivers' expenses	£	102.08		
	Cost of Selling car	£	9.99		
Food				£	820.81
	At camp	£	646.01		
	Pre-expo shopping	£	152.66		
	TVP	£	22.14		
Gear				£	1,388.15
	Emergency Equipment	£	159.92		
	Survey equipment	£	382.56		
	Drill & associated costs	£	290.24		
	Repairs	£	110.93		
	Orion Tent	£	250.00		
	Cooking costs	£	144.58		
	Other	£	36.58		
	petrol for generator	£	13.34		
Other				£	365.41

Weekend Away				£	347.50
	petrol	£	203.54		
	parking	£	44.00		
	Food	£	99.96		
Merch				£	142.50

The total cost for someone for three weeks, including flights, all insurance, food, transport, gear, a training weekend and one piece of merchandise was £517.34.

The main differences between the expected costs and the final costs are summarised below:

- Flights came in on budget
- Other transport was not included in the original budget, increasing expenses by £120
- Personal Insurance was £200 more than expected. This was partly due to credit card fees.
- Transporting gear by taking a car across Europe was £300 over budget. The car will however be sold in the near future, which will reduce expenses and allow for a refund on the insurance.
- Food came in £30 under budget.
- Gear was estimated £600 under actual costs, despite receiving a large amount of climbing equipment from Lyon. It is hoped that the Orion tent will be sold on in order to reduce costs.
- No provision was made in the original budget for miscellaneous expenses.
- In total, final expenses came in £1200 over budget.

The car was sold for £800 and £663 was claimed back for its insurance. Money was also received from the Ghar Parau foundation and York alumni fund, totalling £900. This amounts to a reduction in final costs of £2363 or £102.74 per person, equating to £414.60 each.

Diary:

{DIARY NOT SUBMITTED – TB}

Camp:

The same camp was used in 2010 as for the last few years, the location of which is largely determined by the location of fresh flowing water which is hard to come by in the region. It is about 250m above the nearest road and involves about an hour's walk (without a rucksack) up an exposed and steep path to get there.

Camp at night

It's fair to say that in most situations you wouldn't choose the area as a decent place to camp due to the steep, boulder strewn, uneven ground, but given the alternatives there wasn't really much option. It has been suggested several times that the camp could move to a new less prospected region, but finding a new water source seems to be the main obstacle.

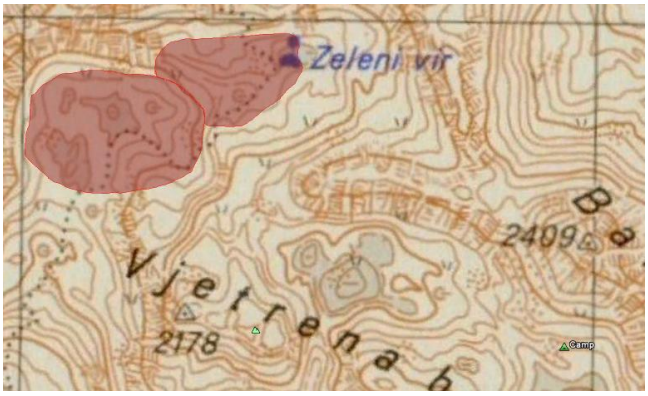
In terms of camp logistics, we took two communal tents with us: a nine man tent for gear storage and a ten man tent to be used as a mess tent. Both

proved invaluable, despite some concerns originally that a gear tent may be surplus to requirements.

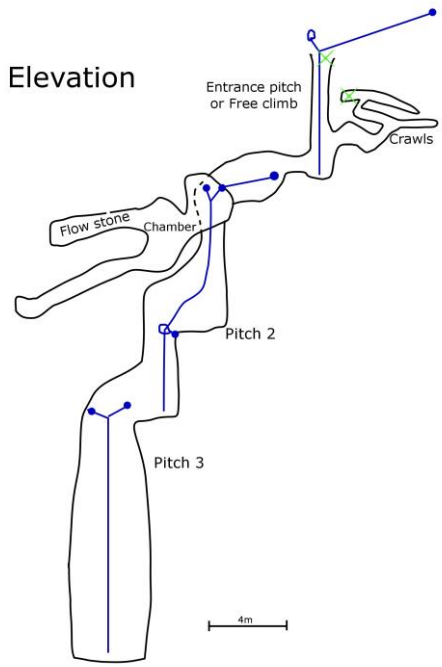
Prospecting:

Miljecni Do:

This was an area fairly close to camp that had been prospected a significant amount during previous expeditions including our visit in 2007. Despite this, a day spent here invariably yielded a few unmarked entrances or digs to have a go at, so it ended up being one of the more visited areas of the expedition.



The region itself is a glacial bowl on the Southern side of Bobotov Kuk, the highest peak in the region.

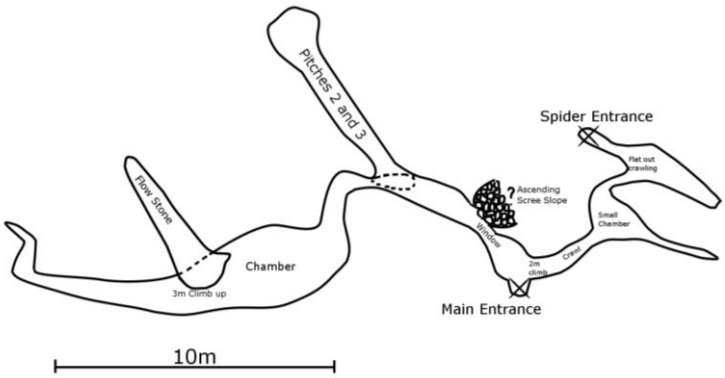


YB5: 'Short Pin Pot'

The first pitch can be rigged as a 6.5m decent from a spit in a boulder behind the entrance with a re-belay off a natural coming over the pitch, or treated as a free climb; care should be taken at the bottom section when climbing as footholds are hard to see.

A short climb up from the bottom of the first pitch leaded to a pebble filled ascending crawl, several bends take you to a second entrance (requiring a small amount of digging to fit a person through) in an adjacent boulder filled shake hole, and a hand connection has been made to the surface here. In addition two small side crawls soon close down, one of which offers something nice to look at from water drops on the walls making the crawl look silver lined!

The main way on is through an obvious archway leading to a protected traverse over a false floor. At the end on the traverse begins the second pitch. Traversing over the pitch however leads to several metres of descending passageway, with smoothed walls at a stooping height. The end of this passageway leads to numerous water carved holes in the ceiling. Half way along the passageway there is a tricky climb up in a sizeable chamber; this leads to a calcite flowstone, and has the potential to go further with digging.



Descending the second pitch, with spits in opposite walls, after a tight start (passing a ledge underneath the false floor) lands you on a solid ledge 7.25m down, a deviation off here gives a clean

drop a further 5.26m down to a second ledge. A short traverse across a crack in the floor takes you to the pitch head for the third pitch – Spits in the walls across the crack give a large 'Y hang' and after another small squeeze down gives a clean drop to the floor, this pitch 14.12m of drop. This pitch lands in a tall chamber, and gives an impressive echo, but unfortunately marks the end of the cave. The water can be seen to carry on in a small crack in the bottom of chamber, but this is nowhere near big enough for a caver. Care should be taken at the top of this last pitch as the potential for knocking down loose mud or rock is high. – *Description by CIB.*

Valoviti Do:

Peca, our main contact in ASAK, initially highlighted this area when he wrote, "*Valoviti Do has not been systematically prospected. Last year I suggested to the Belges to try Valoviti Do, but their impression was that it's too remote from the present camp. If you can make it at that distance, welcome :)*". This certainly appealed to some of our number and so despite the two hours walk to get there, this became the second most prospected area of the expedition.

Again, it is a huge glacial bowl, but to the North East of Bobotov Kuk. The walk there from camp was not easy due to the steep sides of Ledeni Do that needs to be traversed to reach it. The direct distance of 2 km does not give a good indication of the walk! As with many of the bowls in the area, the base was a huge boulder field which yielded no caves. In addition to this, the Southern slopes were just a sea of scree, but the Northern and Eastern slopes were much more promising and yielded several entrances.

Mike pointing out where to go in Valoviti Do

Our first visit to Valoviti proved to be not much more than a route finding exercise. Having looked at the map, we didn't really understand why people hadn't prospected the area in the past, but once we got up over the col it became pretty obvious! It must have taken about four hours for us to get to the edge of Valoviti, having encountered snow fields, loose climbs and steep traverses on the way. We were pretty surprised to find a few entrances right on top of the ridge when we got there though! With no gear we just marked the entrances and carried on down to the bottom of the bowl, where spirits went rapidly down hill. It just proved to be one massive boulder field which we reckoned could have been anything up to 50m deep! With the size of the area it was clear that something underneath it all must take an absolutely phenomenal amount of water, but the chances of coming across a route down through all the water were so small it wasn't even slightly worth looking. Before heading back, Mike suggested looking up in the gullys on the eastern side of the bowl, where he found a less than promising dig – but at least it was better than what we'd found in the bottom. We wandered up a bit further on to the eastern rim where finally we found some reward: two tight rift entrances that seemed to be linked (YC7) and a huge shake hole with various holes down between boulders (YA5).It was getting a bit late, but spirits were high when we headed back to camp. A return with some gear was definitely on the cards.
[MS]

YA5: 'Not Rowten'

Located in V-Do on the right hand mound to the valley as approaching from camp [Eastern rim of Valoviti Do] *on the highest section of the slope.*

Not Rowten itself is to the right hand side of a massive shakehole ca. 30m x 5m. The left hand side appears to fully choke.
The right hand side offers two routes, and eyehole to the nearest point of 'Not Jingling' [YA4]*. This has not been explored or rigged. Instead by walking left from the eyehole by 13.8m leads to a slope downwards, a sharp rock leading to a 2m free climb which is slippery and best handlined using a sling around a jammed block. At the bottom of this is an easy 8m free climb up a slope which leads directly on to another 4m free climb* [down]*. This then leads on to a genuine 8m pitch which is fairly light, especially on the return. This can be rigged around a natural and can be backed up on the previous handline. This pitch is 'Rippon's Pitch'. At the bottom of Rippon's Pitch is 'Bullivant Chamber', a nice 10 x 4 x 6m chamber which looks like it has been formed by the natural drop of jammed boulders. No natural light can be seen in this chamber. Immediately below Rippon's Pitch is a tight, narrow slot which when I first encountered placed a spit, abseiled down and got stuck. On a return trip Mark and Toby managed (!!!) to get down to find that it was 2m deep and 15.5cm wide* [Mark's limit on the squeeze machine!] *leading onto a small chamber followed by a 2m feeclimb. The way on is too tight, however it does draft but using hiltis would probably bring the whole cave down!'*
[CQB]

Toby emerging from the tight slot near the bottom of YA5

YA7: 'Concoction Pot'

This is probably the best find in V-Do, located on the same ridge as 'Not Rowten' [YA5]*. Directions are to continue beyond 'Not Rowten' through the bushes towards a small shakehole, which after turning right leads to an impressive 5m x 2m shaft with sloping limestone above.*

Upon initial discovery, rigging was simply off the limestone slope off naturals and a vast amount of rope protectors, below which rigging improved using a snow plug as a rebelay – this no longer exists!!!

The entrance shaft ('Pivo Pitch') is a 11.5m hang to the bottom split by a Y-hang at the ledge. Looking down the shaft opposite the limestone slope the rope follows to the right. To the left ca. 3m down is a rock bridge. There is plenty of evidence that water can flow down this entrance. At the bottom of Pivo is a slope of loose rock and scree. To the left is an unexplored eye hole which may(?) join with a traverse or chamber further below the in the cave.

Looking up the entrance pitch of YA7

Chad at the top of 'Razzle Pitch'

The natural way on is to the right, where there once was a snow plug. This is now bolted, allowing a traverse of 4m depth called 'TVP interlude'. At the end of this is the top of the next pitch - 'Coffee Pitch' - a 12.5m hang to the bottom split by a rebelay. The Y hang at the top is probably one of the most accessible ones in any cave with a very convenient ledge to stand on.

Standing at the Y hang of 'Coffee', to the right the cave slopes upwards ca. 3m. To the left the cave seems to undercut the entrance pitch, and there may be a traverse to the far left which may connect to the eyehole. Looking downwards is an impressive sight of a large snow plug in the centre of the shaft.

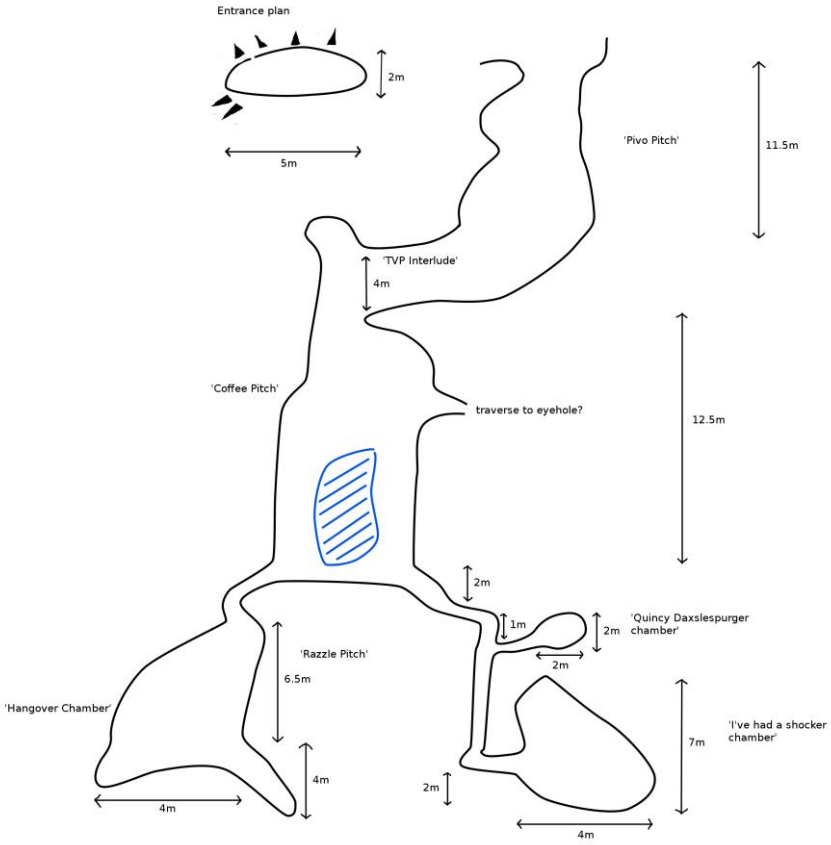
At the bottom of 'Coffee' are two possible routes, the more inviting one is to the left, where a handline can be rigged down a 2m loose slope. This leads straight into a tight rift which leads to a 6m tight pitch, 'Moustache Man Pitch' which can be free climbed on the return.

At the bottom of 'Moustache Man' is a 2m crawl to the left into an impressive chamber - 'I've Had a Shocker Chamber' - ca. 7m high , 4m long and 2m wide. The shape is interesting as it perfectly cones towards the top. There is now way on and there appears to be no connection from the top.

Going back up 'Moustache Man' about 1m from the top is a narrow slot which leads into another chamber which must sit on top of 'I've Had a Shocker Chamber'. This is a small 2x2x2m chamber - 'Quincy Daxzlespurger Chamber'.

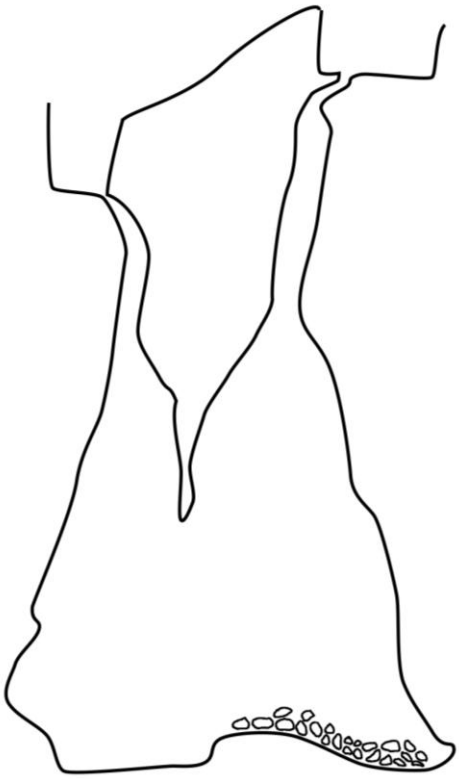
Back at the bottom of Coffee Pitch the right hand route can be described as a 'Not for the Faint Hearted' route, a narrow body sized slot, which is not pleasant on the return, the rigging can continue from coffee pitch. The pitch down the slot ('Razzle Pitch') is 6m. At the bottom it opens out into a nice chamber ('Hangover Chamber'), the height of which goes up to the slot of total 6.5m and 4x4m. There is a 4m slope (loose) which chokes which completes the chamber.

The cave has been fully SRT'd on spits and has a total depth of 36m. [CQB]



YC7:

Yc7, located on the ridge around the East side Valeviti Do, was one of the highlights of my trip. We found two large cracks in the limestone a few metres apart, and only about as deep. However, each one had a tiny hole in the corner. Though few of us were particularly accurate with them, rocks that made it down these holes kept going for some time, deeper and deeper into the hillside. Listening in one hole while rocks were sent down the other confirmed that the two connected at some point. Though we eventually agreed that we could hear a faint thump after all the rock-on-rock rattling, probably some sort of mud floor, the prospect of a big hole under our feet kept our spirits up. We (or at least I) were convinced we'd found something enormous. The one problem was the size of the holes - the bigger of the two was about the size of a triangular dinner plate, if such things exist. But we could hardly just leave our undiscovered system behind - it was clearly digging time.



Sketch plan survey of Y_c7. Total depth ~21m.

Donning our gloves and grabbing our crowbars, we hopped into the larger crack, which was about four metres deep. The hole in the corner was made up of the extremely solid walls of the crack on the sides and the rubble floor on the bottom, so we soon found ourselves digging out the floor. It was made up of tightly packed boulders and moss, which could have quite easily been a false floor. This led to many memorable comments, for instance 'The whole floor is moving!' and 'I think we should dig where your feet are, it's the best option'. We soon decided to stay attached to our ropes while we chucked the rocks about. Following the fantastic hauling of an enormous boulder, our digging project bore fruit. Or so we thought.

Though we had made the hole more than big enough height-wise, we could do very little about its width, since this was determined by the size of the rift. It looked rather narrow, and so I was the first to try to get through. I was confident (or cock-sure, perhaps) that I would manage it. I didn't.

Toby descending the entrance rift of Y_c7

It will probably help at this point to describe what was beneath the hole we had enlarged. The rift stayed narrow and curved to the right a little for a few metres. It's floor sloped steeply and dropped away just beyond the tight bit. For this reason I decided I'd abseil through it to avoid falling the unknown distance to the floor as soon as I made it through. But I certainly couldn't fit with my descender in the way. We enlarged the rift a little further with hiltis, though the rock was extremely robust and didn't give way at all easily. Unfortunately it soon became clear that I was never going to get through with my gear on.

Among some others, I think, this would probably have been the end of it, but some literal-minded thinking soon suggested a solution - I would go through without my gear on. I still didn't feel like falling down the hole, so we thought of a slightly unconventional way of getting to the bottom. I removed all gear except my harness, including my helmet, which barely fitted through when it wasn't on my head. We put a small rigging maillon through my

omni, and ran the rope through this and back up to Mark, who could then lower me through the hole using his rack. Sure enough, without all my SRT gear around my waist I managed, just, to squeeze through the hole and into the space on the other side.

The shaft beyond, which we later measured to approximately twenty-one metres, is really quite nice. It could be compared to something in Yorkshire, though it was rather spiky and the walls tended to fall on you when kicked. After a small tube at the top it opened out, and joined the shaft from the other entrance about two thirds of the way down. Being lowered down this was a somewhat surreal experience, as I was not entirely in control of my descent. But Mark, already acting as one or two deviations and several points of rope protection, did an excellent job. I reached the bottom with literally centimetres of rope to spare, as Mark had to lock off and undo one of the knots in the end of the rope. The floor I had found was regrettably as far as our new cave went. It was piled high with earth and all the rocks we had thrown down. After some digging in the floor, confirming that rocks going down the other hole ended up in the same place (scary), and generally willing the cave to go a bit further, I decided I had better head out and tell everyone on the surface what I had been up to. The rest of my SRT kit had arrived from above by this time, and with a more conventional set up I began my ascent, rope walking slowly and carefully to avoid the rope being damaged by any points of rub I might have missed in my excitement.

Upon reaching the top of the shaft and the narrow rift again, I realised that I might have even more trouble getting out now that gravity was no longer on my side. I gave it a go anyway, but quickly became stuck by my chest jammer. I informed the long suffering Mark, whose foot was starting to hurt from being used for rope protection, that he was going to have to haul me out. Removing my gear was rather harder this time since I was not standing in the sunshine as before but at the top of a deep shaft, a fall down which would have been something of an inconvenience. Fortunately there were one or two rocks to hold onto, so I wedged in quite safely and sent all my gear and helmet up and out.

Toby emerging from the tightest section of Y_c7

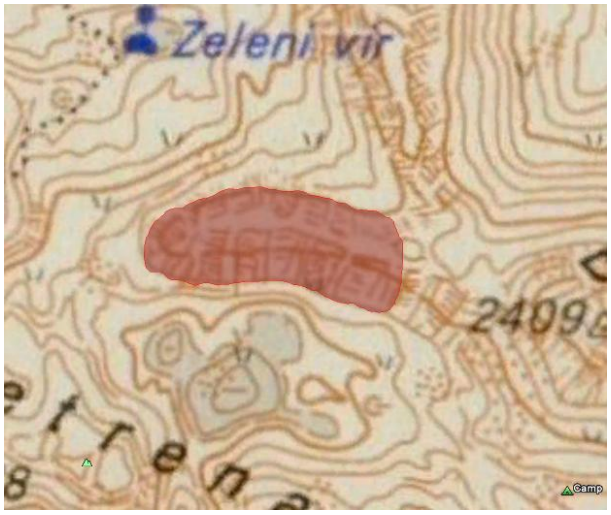
Despite reassuring Mark that I had at least four points of protection (both bum cheeks, an elbow and a knee, I think), undoing my harness at the top of the pitch was not something that came naturally. Thankfully I was soon sorted out with a maillon through my omni again and Mark sent down a loop of rope to clip into. He attached his chest jammer to the rope and, with a series of bizarre squats, began pulling me through the constriction. After negotiating the least painful way through, I popped out like a cork from a bottle, and lay in the sunshine for a while telling the others what I had found.

Though Yc7 is not a big cave, its twenty-one metre shaft was one of the largest we had found, and the experience in getting to it had been extremely interesting and a lot of fun. It is impressive how inventive and resourceful cavers can become when they are so close to unexplored depths!

[TFB]

Zupci:

This sharp ridge very close to camp was where several potential entrances were spotted in 2007 which were inaccessible at the time. This year we had brought a fair amount of climbing gear with a significant contribution of pitons & etriers from the Lyon Equipment Award and hoped to access these entrances.

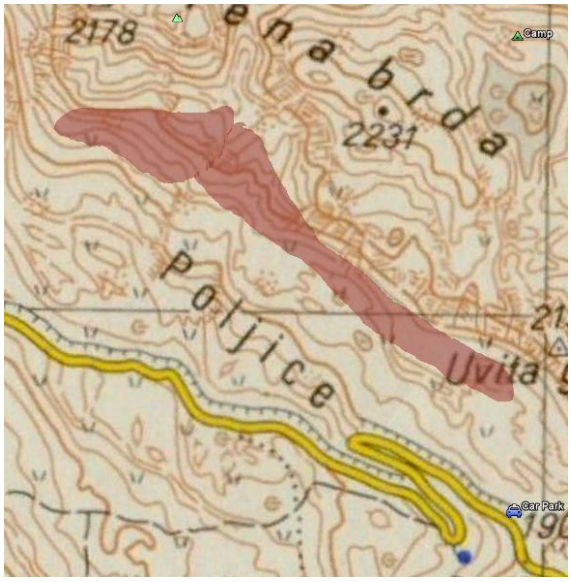


The loose and fractured nature of the rock meant that climbing to the entrances was not at all easy, but four were reached during the expedition. Unfortunately none of them proved significant.

Other Areas:

Poljice:

Most of the areas we prospected were to the north of camp, but it was suggested that the area on the slopes below the cliffs towards Poljice may not have been fully covered. The flatter area by the road was known to have nothing noteworthy, but the area on top of the cliffs yielded entrances such as JVB and X3 so it was certainly worth a search along the slopes below the cliffs.



There was a lot less rock on the surface below the cliffs, but to the west of the gully below X3 there were several shake holes evident. To the East of the gully there seemed to be a lot less potential, but the area was prospected all the way from Urdeni Do to the path up to camp.

Matt B prussiking up the Y_E3 pitch

This area held the entrance to X3, our deepest find, and so we thought it might be a good candidate for further prospection. I remembered prospecting part of the top section in 2007. The lowest region is quite flat and contains many inviting holes but we had been informed by ASAK that these lead nowhere and a quick look in 2007 appeared to confirm this. This left the middle section, which Mark and I took as our task for the miserable rainy day! The nature of the terrain, a set of wide steps with cliffs separated by flat regions, meant that entrances could only be spotted from

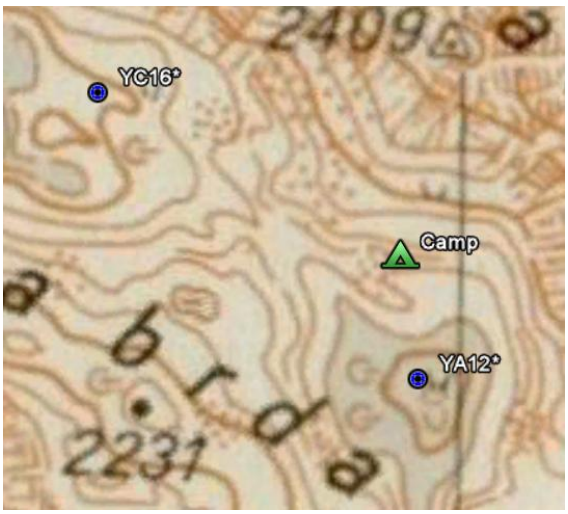
above or very close up. We found that prospecting as a pair with one person above the cliff and one on the flat region below worked quite well. The flat regions contained lots of shake holes that would provide hours of entertainment in the UK. We spent a satisfying but unfruitful while digging out one drafting shake hole (YE1). Then decided we had better get on and prospect the ar ea properly. The were some areas of limestone pavement (YE3) with large cracks in the rock with an average depth of approximately 8m but no continuations at the bottom. Then just as we were about to head back to the car to collect more provisions to trudge up the hill, Mark spotted a more promising looking entrance; a reasonable sized open hole. A bit of gardening and rigging followed by a quick descent showed the entrance to be approximately 12m deep with a crawl and another small chamber but the main chamber was full of snow!
[LDB]

Ledeni Do:

{NO INFO SUPPLIED}

Following water:

Near the end of the expedition the surface snow had melted sufficiently to be able to follow water from the two springs near camp to where it disappeared underground…



Yc16: 'Revelation Pot':

Towards the end of our stay in Durmitor, and with all the good weather we'd been having, the semi-permanent snow plugs in the area were becoming smaller and smaller. Tom used this to his advantage, and with the old technique of following a stream to see if it ends up going underground, he followed the water from the larger spring about 10 minutes away from camp. It flowed into the bottom of the valley, where it promptly disappeared into a small entrance previously covered by snow.
The first I knew about Tom's new cave was later that evening when he told me he had found something small and asked if I'd like to have a look. Had I known what I was letting myself in for, I might have told him to get stuffed, but we live and learn.
The cave descends through its small entrance into a small chamber with a rubble floor, into which the stream flows opposite where you descend the slightly awkward climb. The boulder floor slopes off into a lower corner, and the water follows this into a small passageway. On first discovery the day before this had been choked up with boulders, but it was quick work for me and Caitlin to remove the few that remained from the previous day. Slithering down the boulders through the constriction at the bottom of the chamber is best done feet first, as you emerge after a metre or two into a definite stream passage, just big enough to curl into a ball and turn the right way round. Beyond this the passage enlarges and a high rift can be climbed. It must come within a metre of the surface, so would be a potential, though somewhat unnecessary, second entrance with a bit of digging. A very small tube and a dribble of water suggest this takes water in certain conditions.
Dropping back to the floor the stream continues again in a passage that permits nothing more than flat-out crawling. After several metres of this the cave becomes so small that flat-out crawling seems a distant and rather pleasant memory. This section is about 3 metres long and is a very narrow slot. High enough for all but the seriously wide-shouldered, it's the width that provides the

problems. The stream goes straight into it, adding several inches of ice melt to the already numerous reasons for being somewhere else entirely. Convincing myself, for some reason, that the stream was beginning to flow faster and stronger, I left it for the next day and beat a swift retreat back to the chamber where I found Caitlin waiting, cold and unimpressed with my long absence and lack of communication.

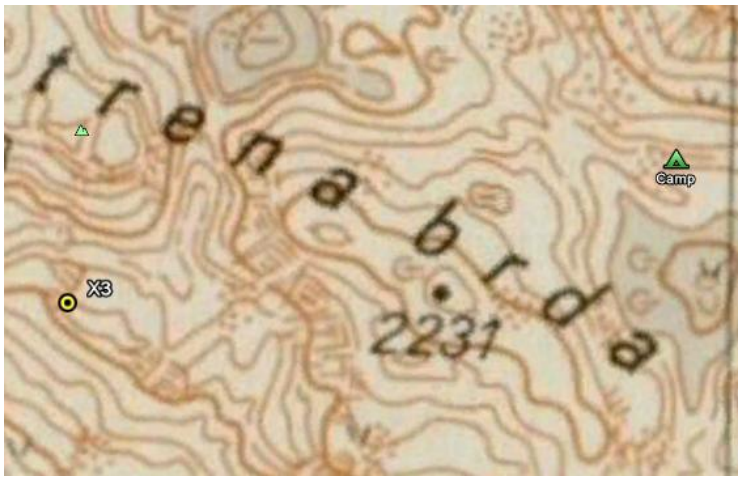
Having been reassured by Ade and Luke to the effect that I shouldn't get stuck, because they couldn't be bothered to come and pull me out, I re-visited the cave the next day. On reaching the slot, I left my helmet behind and gripped a cheap and cheerful plastic torch between my teeth as a light source. I went through with both arms by my sides to keep my shoulders as small as possible, with the annoying effect that every time I dropped my torch into the stream I had to scoop it out with my tongue. I tried not to think about the fact that the water had come from the spring where people washed. Fortunately I had plenty to distract me. Though progress through the slot was reasonably good, it was very gradually becoming narrower. But the end was in sight, and soon enough my head popped out of the other side into a similar sized rift to the earlier one. Unfortunately, this was as far as I got. The slot had narrowed to the extent that my chest only really fitted when I breathed out, and the deep breaths my body wanted to take since half of it was soaked were impossible. I was reasonably well stuck with no means of going forward. Any sort of mental cohesion at this point depended on the assumption that I could go backwards, but the cold water and my over-inventive imagination had not entirely destroyed my determination to get through. Trying to control my breathing and stave off possible panic, I wriggled about somewhat ineffectually in an attempt to go a little further. I had no success. So, after several minutes of this, and with my ribs promising retribution for what I had put them through, I threw in the towel and spent a complicated few minutes backing out of the horrible slot, through the crawl and into the rift where I could finally stand up and swear for a bit. Feeling a little better, I headed out. 'I don't fit,' I informed Ade, who was peeking out from under the strange tarpaulin shelter he had erected. I had had just about enough of admitting that in the tiny caves of Durmitor.

Since Yc16 had not been found until almost our last day, I didn't get a chance to give it another go. Considering the size of the slot, hiltis would have been impossible. I decided that without my oversuit and undersuit I might have made it through, those few millimetres possibly making all the difference. Being an active stream cave it is very different from almost everything else we found. Because of this I have convinced myself that it leads to the enormous master system that must (on the basis of little evidence, I admit) lie somewhere underneath the mountains. Needless to say, if we ever return to Durmitor Yc16 will be the first place I go.

[TFB]

Revisits:

X3:



Discovered by YUCPC members in 2004 and surveyed during the expedition in 2007, a revisit was always on the cards to see if there was any change in the snow plug at the bottom that had halted the progress on previous visits. People generally seemed to be waiting for bad weather so as not to miss a good days prospecting, but as the bad weather never came it wasn't until the last week that it was visited. Thoughts of just 'following the dots' to the bottom quickly disappeared when it was soon evident that snow movements relatively high in the cave and some significant amount of rust meant that many of the spits were either unusable or covered by snow…

After finishing my second food run of the expo, I was keen for it not to take out another full day of exploring, and when I got back to camp it really wasn't hard to convince Chad that X3 was a good idea! We were soon at the really impressive entrance shake hole and absolutely boiling in our PVC oversuits. Ten metres below on the snow plug however, things were a bit colder. Progress was relatively swift down to the base of the snow plug, but once there things got slightly less simple. At the 3rd single spit hang (this one at least 5mm out of the wall) we had reached the top of the big stuff with no spits to be found. I headed down as far as I was happy with, and after Chad had done the same and neither of us had seen any extra spits we decided a return with a drill was on the cards. So much for the afternoon jaunt we originally anticipated… MS ……

Chad drilling at 'Bad Air Y hang'

This time we were much more prepared, but given the state of the rock (it was hard to come across a section of wall 5cm across without a crack!) we felt like some Dales style rigging was justified at the head of what was effectively an 80m drop! 3 spits and a deviation later Chad had finally found some decent spits from 2004 and was rigging the next Y hang. The amount of snow around meant that the air temperature can't have been much over 0°C so we were having to make sure we swapped over with the rigging and bolting. Chad prussiked back up and I headed down with the rope for the next section and before long I was standing on yet another huge snow plug. What a cave though! It reminded me of several Bar Pot Big Pitches slightly staggered from one another and was just stunning. It was made even more impressive with the knowledge that only about 10 people had ever been there before.

The way on was a narrower section of the shaft where we were expecting to find Y hand on opposite walls. Once again, though, the spits were in poor condition and miles away from the floor, so we decided to place some bolts here too. It may well be that the snow plug was smaller here than before which led to the seemingly ridiculous placements! Once again we'd need to return with the drill.

Day 3 down X3 and this time we were hoping to reach the bottom. We fairly quickly bolted a Y hang to get us down to the next snow plug, but this was where what we were seeing really seemed to deviate from the survey. We were expecting something like a 30m pitch down to the snow, but after 15m we were stood on the next snow plug. There was an obvious hole down below in the snow which had been melted by water pouring out of the snow plug above which took us down to a ledge below with one wall of rock and the rest all ice, where clearly another rebelay was needed. After rushing out to have some lunch it was decided that since my oversuit was vaguely intact unlike Chad's (which was nearing two-piece status) and with the amount of zero degree water falling down, I was the person least likely to get hypothermia putting in the Y hang. With all the gear

organised before I went down it didn't take nearly as long as I expected to put in the spits and within 15 minutes I was back up on the snow plug. Chad then went down to have a look further down, but the feedback wasn't good: the ice narrowed against the rock wall and Chad had got a bit stuck. There did seem to be a continuation horizontally though…

During our last day down the cave I pushed on down the horrid ice section and managed to get myself into the horizontal section. Here the ice seemed to give way to snow, with lots of tiny holes going down about a metre or so in the floor. I was ridiculously cold by this point and everywhere I looked seemed to close down quickly so I decided to head back. This decision was certainly vindicated when as soon as my weight was back on the rope, a block of snow approximately the size of me fell from above and hit my shoulder on its way down! Definitely time to leave. My immediate thought was that the Y hang above me was one of the first bits of 'real' bolting I'd done, and with the impact of the snow I was quite relieved that nothing gave way. Especially given the state of the rock. The next bit of prussiking was probably faster than I've ever been up a rope, and soon I was back up to where Chad was waiting having derigged to that point (I figured neither of us would be that desperate for a revisit…).

Chad abseiling down the last pitch in X3

We were nearing our time limit in terms of exploration, as we only had one day left before we needed to start ferrying gear down to the car. With the plan to de-rig that afternoon, Chad decided it would be worth one more push to see what was down the opposite slope of the snow plug. He abseiled down, dragging the rope out of the hole in the ice and threw it down the other side before descending out of sight. Sitting on that snow plug just for the 15 minutes he was down was a pretty cold experience and I was just on the verge of prussiking up & down the pitch above me to keep warm when I saw his light returning. He estimated he'd been down about the same distance down the edge of the plug as I went down the hole, but the difference being he hadn't reached a floor… Unfortunately there was a vast amount of roper rub above him, and the rope he was on had run out. With time running out though, we had to call it a day so we derigged our way to the entrance knowing that frustratingly we hadn't managed to reach the floor…or did it just mean the may be a way on? With no one who had been to the bottom before at camp, we couldn't work out where we were in relation to the previous visits. What was for certain, though, was that we couldn't mark X3 with a ⊠.
[MS]

Officers' Reports:

Organiser:

{NOT SUBMITTED – TB}

Secretary:

I became secretary on the expo committee almost by accident. At the first presentation, almost a year before it began, we were told that the person who had originally wanted to be secretary was had discovered they could not come on the expedition. I have never heard such silence as the one which greeted Laura's request for anyone else interested. Fortunately, before I had really noticed, I had said 'Sure, I'll do it,' or something equally casual and naïve.

I soon realised that my new job largely consisted of doing jobs that didn't obviously fit into anyone else's sphere of (debatable) competence. Taking minutes of meetings was sort of enjoyable, as it seemed to give everyone else the (usually mistaken) impression that I knew what was going on. Sorting out personal insurance for members of the expo proved to be something of a pain, since I had to look into insurance for their equipment, including when it was in the vehicle we planned on taking. One of my proudest moments was convincing so many people to come along, though I suspect I can't claim all the glory for that! I also handled the database of personal details that we would need for insurance and general reference. A final duty was creating the emergency folder, which contained everything we might need if anything went wrong, and I suppose one of the many successes of the expo was that it remained wrapped up in my survival bag in the gear tent for the whole three weeks.

I also helped out when I could with some of the big tasks faced by the committee - finding a vehicle, finding insurance for it (one hell of an ask - insuring a car full of caving gear outside the EU), organizing the expo practice weekend and various other things. A sort of off-shoot of my job as secretary meant that I ended up taking my laptop to Montenegro, something I am still surprised I got away with. It was used for logging data about cave entrances and backing up photos and videos.

Rather than enjoying any of these things in particular, it was good to know that I had played some part in helping the expo go ahead. Looking in from the outside, it's hard to understand just what a monumental task it is to get 23 people plus caving gear, camping gear, three weeks worth of food and 500 metres of rope from York to the top of a mountain in Montenegro. I'm still surprised we managed to get any caving done. And that no one left any limbs out there.

Treasurer:

I took over the role of treasurer in March '10 after Si had announced that he wasn't going to be going on expo. A couple of weeks later he changed his mind and it was decided that we would share the role with him in an advisory position, whilst I covered the book-keeping.

The first challenge was to amend the signatories for the account which hadn't been switched over from Chuck and Laura who were the signatories from previous trips. After a few weeks of running backwards and forwards between the bank and the signatories, I managed to remove Matt G, but I was struggling to find time for the new committee to head to the bank together. It was decided at a committee meeting (in my absence) that we should leave the signatories as Laura and Chuck because it was too late and too much hassle. However, this led to many difficulties later down the line.

One thing I had been hoping to do was to set up internet banking for the account so that more people could access it and I could instantly check on payments, funds and implement BACS

transfers, rather than writing cheques for all the expenses as this would be quicker, more convenient for the payee and easier to keep records for. However, as I was not a signatory it wasn't possible to set this up. Instead, I made my own records, which could be checked retrospectively against payments and made notes of expenses claimed on the cheque stubs.

Ascertaining who had paid their trip fees was the first difficulty. The paying in book was erratic and cash payments weren't named, meaning that some degree of guesswork was needed. Also, those members who joined late and paid by BACS transfer couldn't be accounted for until after expo, meaning that there was a risk of running into the red whilst we were away.

Finances were further complicated by several large payments being requested with very little notice to assure sufficient funds.

In all I found that I was often working with my hands tied, I was forced to guess when money had cleared, and run around campus to get cheques signed. It was often quite frustrating and it often felt like I wasn't to be trusted with the money. Even once abroad, when I'd been told I would be responsible for petty cash, it was retained by the person who had exchanged it (despite the fact that I'd requested to take custody for it). Payments for tickets and food were arranged by them and then relayed back to me, rather than organising such payments myself. Again, it made it difficult to keep track of what was going on, especially when currencies were constantly changing.

Many decisions involving finances were made without consulting me, including the charging of the weekend away and merchandise to the expo account. These had not been included in the original budget and were difficult to accommodate with no planning. Also, my original budget was amended meaning that the contingency for expenses of £500 that I had allowed was reduced to £100 and no contingency money was left for the car as was originally planned.

Making repayments after the trip has also been difficult. Signing cheques and assuring payments had cleared was again difficult, but also dealing with insurance and damage issues that nobody wanted to sort out now that expo was over. I was left with people demanding money for damages and expenses, but no way of knowing whether I had the money to pay them, or when I would receive more.

Things which need to improve for next expo:

- Signatories should be the treasurer and president of current expo, not the previous one
- Responsibility of petty cash and expenses when abroad should be treasurer's
- Large payments should be agreed in advance so money can be set aside (£500+?)
- Internet banking established
- Record keeping in absence of treasurer should be maintained
- Financial decisions should be made in consultation with treasurer
- Contingency should be maintained
- Detailed budgets should be made early on to avoid expenses overrunning
- Expenses beyond those on the budget, or those which run significantly over budget should be agreed with treasurer
- Receipts should be given for payments. Refunds should be signed out.

Equipment:

{NOT SUBMITTED -CQB/LCB}

Training:

As a veteran of the 2007 expedition and one of the very few members who had previously experienced expedition-style caving, I was keen to take on the role of training officer for the 2010

expedition. Various training workshops and a mock expedition camp near Gaping Ghyll were organised in preparation for the expedition. In addition to self-rescue techniques taught during the weekly training sessions, a senario-based rescue weekend was organised. The Saturday saw casualty care and stretcher manouvering practise in Easegill, while Sunday provided an opportunity for setting up various hauling rigs in Bull Pot of the Witches. Surveying techniques were taught during a classroom-based session followed by a practice session in Excalibur Pot. Different bolting techniques were taught and practiced and there were also opportunities to test out prospecting skills. I would like to thank Matthew Ewles, Gary Doutwaite, Richard Wilsdon and Andrew Vick for their help during the training sessions and Yorkshire Dales Guides for the loan of a stretcher. Several members also attended the CHECC SRT training weekend and the Dachstein expedition training weekend.
[LDB]

Transport:

The Job, makes it sound like a Heist, was to get people and kit from A to B; more specifically from York to Zabljak in Montenegro (and then up the mountain).

After months of organisation and weighing up the best options, we had our set up and we were off to try and get over there, 3 people going by car and ferry and the rest travelling to an airport to catch a flight to Belgrade in Serbia and then down to Montenegro.

The car we bought for the job was a Citroen Xantia Diesel with turbo! It was an excellent car and did the job perfectly with only small bouts of tantrums when the fan wouldn't work. Filled to the brim with gear and people pressed against the glass.

For the group of people flying most of them travelled down to the flight from Heathrow on the Monday and left on the Tuesday morning, having had a brilliant night sleep in the pleasurable terminal building. Having been on two flights, with a transfer in Vienna, we arrived in Belgrade, Serbia. We then made our way into the centre of Belgrade by bus where we awaited the longer coach ride across the border to Montenegro, ten hours in total which got us to the mountain town of Zabljak.

Then there was nothing to worry about for three weeks until it was time to undo all of the good work we did to get over there. All of the travel by plane and coach went well apart from the organisation error that meant we had a rather long wait in Vienna Airport for the transfer to Heathrow.
[AG]

Sponsorship:

{NOT SUBMITTED – JB}

Grant Applications & Write-up:

With little knowledge of what potential support for the expedition was available we decided that it warranted an individual position on the committee – something that I think was certainly justified. The two main grants we applied for were from the Ghar Parau Foundation and the Lyon Equipment award.

In hindsight, one of the big bonuses of the GPF application was that submitting a preliminary application in August 2009 meant that a certain amount of organisation had to have been done, such as our objectives, a draft budget and an idea of how travel logistics would be worked out. The final deadlines for both were early in 2010 and a significant amount of work had to be put into both, but at least this was done early and didn't overlap with the general planning of the expo which came

much later on. The main problem here was probably finding the motivation to put in the effort when the expo seemed so long away.

The effort that we put in was certainly justified, however, with significant support offered from both the GPF and Lyon, without which the expedition would either have been less successful or significantly more expensive for all involved.

We did also manage to get an individual grant from the York Travel Bursary. For future reference, make sure that everyone applies regardless of whether the first person gets a reply saying they aren't eligible or not!

For future expeditions I would suggest looking into whether it would be possible to get support from any charitable trusts.
[MS]

Medical:

We were fortunate to have very few incidents during the course of the expedition. Those recorded included four incidents of cuts and grazes, one instance of diarrhoea, one instance of acute mountain sickness, and one instance of extreme breathlessness in an asthmatic that did not respond their medications but did improve as the person got more used to the altitude and when the person descended to lower altitudes.

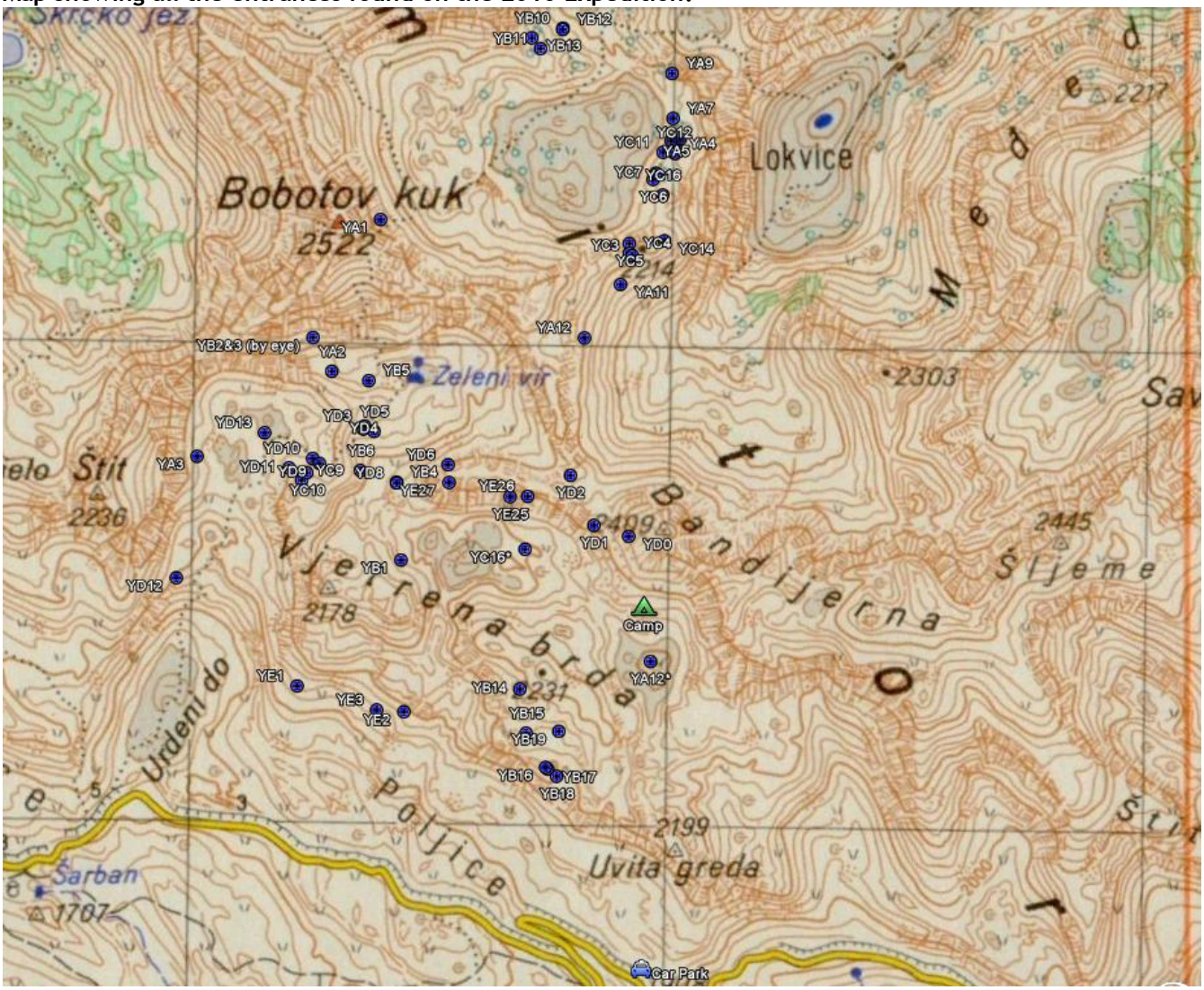
The medical kit taken was comprised mostly of equipment for treating trauma. I decided that in the event of an injured person requiring resus equipment the time constraints in reaching them and the prolonged extraction time (combined with the fact that the kit was being paid for out of my own pocket), meant it would be a case of requiring cave/mountain rescue personnel and equipment and would be beyond our capabilities. A full listing of the equipment taken can be found at https://spreadsheets.google.com/pub?key=0AmhxCKpRm957dGppazBOSEVMTVhBYUpUMzF0ZWl5N2c&hl=en_GB&single=true&gid=0&output=html. The kit consisted of two main parts:

- A peli box containing enough to stablise all but the most servere injuries, to be dispatched with a bag containing items for keeping a casualty warm and a bothy.
- Two tackle sacks containing the rest of the equipment and a Sked stretcher that we had borrowed.

In preparation for the expedition, we enlisted previous expedition member Andrew Vick to act as a emergency contact back in the UK. A document was prepared detailing procedures to be followed by participants of the expedition in an emergency. Medical records were also taken from all participants.
[APT]

Appendix:

Map showing all the entrances found on the 2010 Expedition:



York University Cave and Pothole Club
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GPS		Other Name	Date	Personell	N	E	Acc.	Altitude	>10m long/deep?	Approx. length	Approx. depth	Entrance markings	Directions/Entrance locators	Way on/termination	Drafting?	Description	Sketch	Photo
YA	1		30/07/10	EJ, MC, AG, LB	43 07.695	19 02.216	4	2260	N	3	2		Half way up scree slope between solid lumps of rock	Only worth it if you are desperate. Small entrance at top of boulder drops round to a narrow rift. Drafts. Rift would need widening & stabilisation	Slight - Good		►	►
YA	2		31/07/10	CQB, MC, MB, TFB	43 07.354	19 02.066	4	2078	Y	8	15	YA2 2010	Left hand side of ridge below Bobotov Kuk below scree slope	15m free hang leading to second pitch. 2nd pitch can be done off same rope as first with some rope-rub. Pitch descends 5m and is very tight. There is a passage at the bottom seemingly eroded by water, but is soon too tight to explore.	Not detectable		► ►	►
YA	3		31/07/10	CQB, TFB, MC, MB	43 07.163	19 01.651	4		Y	10	Not Recorded		Big hole at top of scree slope on left hand side of rock face	Terminates.	Not detectable		►	
YA	4	Not Jingling	01/08/10	CQB, TB, TFB, MS, EG, SG, MJR, MB, JB	43 07.843	19 03.123	5	2143	Not Recorded	Not Recorded	Not Recorded		Top of plataeu, near 'Not Rowten'	Needs looking at further	Not Recorded	Cave entrance slants to the left hand side - needs exploration		
YA	5	Not Rowten	01/08/10	CQB, TB	43 07.846	19 03.125	7	2145	Y	Not Recorded	5		Massive shakehole in between scrub	Digging potential, needs a rope at the end of the free climbs	Not Recorded	Right hand side is free climbable to a drop. Unknown extra section at bottom	►	►
YA	6	Curley Pot	01/08/10	CQB, TB	43 07.876	19 03.139	5	2140	N	Not Recorded	6		Beyond 'Not Rowten'	6m deep, then go to the side. Potential dig	Not Recorded	Possible dig. It can be seen to continue through boulder choke and floor	►	►
YA	7	Concoction Pot	01/08/10	CQB, TB	43 07.922	19 03.117	4	2129	Y	Not Recorded	40		Beyond 'Not Rowten' in sight of Sagorele Place label	May slant to the RHS so may be potential	Not Recorded	Shaft has a pillar like shape	►	►
YA	8		02/08/10	MR, MC	43 07.872	19 03.111	4	2127	N	Not Recorded	3	YA08 2010	Roughly 20m North of 'Not Rowten'	Free climbed half way down. Possible way on straight ahead. Threw rock down continuing passage, appeare to continue to bounce some way before coming to rest	Not detectable	Entrance free climbable most of the way down. Possible passage off chamber at bottom	►	
YA	9		02/08/10	JB, LB, MR	43 08.023	19 03.114	11	2096	Y	Not Recorded	Not Recorded	WRCG	WRCG markings on river bed	Already found	Not detectable		►	
YA	10				43 07.889	19 03.096				Not Recorded	Not Recorded							
YA	11		12/08/10	TFB, SH, MB	43 07.549	19 02.955	8	2181	Y	1	10	YA11	From YC2 head towards bowl of Ledeni Do near edge of YC2	None. All in YC2 are crap or marked	Not detectable		►	►
YA	12		12/08/10	YFB, MB, SH	43 07.429	19 02.844	3	2188	Y	10	10	YA12'10 O/	Above route to Valoviti Do. Grassy slopes with intersperse rocks. Not far below level of Ledeni-Valoviti col. Slanting shakehole with hole in snow plug.	Descends through snow plug hole to small chamber. 3 small holes may provide a continuation, oversuit required. A shovel would be good. Descent of holes is dangerous due to falling snow.	Not detectable		►	►

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YA	12*	12/08/10	TB	43 06.702	19 03.047	4	2184	N	8	7	YA12 '10 (red)	Follow the dug spring near camp until the end to find the entrance	Termination at end of crawl. Maybe in 1000 years…	Not detectable	The entrance is about .5 by 1 metres, and a climb descends to a roomy chamber of about 7 by 7 by 10 metres. I can't really remember how accurate that is though, probably not very :P the wall you climb down is flaky and sharp.	►	
YB	1	29/07/10	LDB, EJ, RW, JH	43 06.930	19 02.279	4	2109	N	4	4		Shake hole full of rocks. YB1 scratched on. Would expect it to be marked as it was obvious, but no painted marking was seen at the entrance	Choked with small rocks against a solidish wall	Slight		►	►
YB	2	30/07/10	CB, RW	43° 7'25.80"N	19° 2'0.50"E		2093+50 m	Y	11	2		On path to lake, turn off right up the scree at the side of Bobotov Kuk. After scree climb up, traverse right and up steep grassy bank.	None in YB2. YB3 could possibly be pushed upwards	Not detectable	YB2: Descend about 2m down the side of a small aven, 3m high & 8m wide. Crawl off to left closes down to rock face after small chamber 1m by 0.5m high. YB3: To left of YB2 entrance there is a crack ~6m tall (visible from path) with a hole in top. There is		►
YB	3	30/07/10		43° 7'25.80"N	19° 2'0.50"E		2093+50 m	N	6	1.5							
YB	4	31/07/10	RW, CH, JH	43 07.105	19 02.265	4	2129	N	1	2	YB4 '10 (blue)	1st little dip on the left after the lake as you walk towards Skrcko. Just after turn off for Bobotov Kuk. Same area as M10509	Needs bangers as it is blocked by boulders	Not detectable	Solid cave roof. Mossy boulders	►	►
YB	5	Short Pin Pot	31/07/10	CH, CB, RW, LDB, JH	43 07.333	19 02.180	4	2062	Y	57	30	YB5 '10 OX (blue)	Just north of M10509. Left off path which splits to Bobotov Kuk	False floor needs removing. Can see a further 3m	Slight		► ► ► ►
YB	6	The Chapel	03/08/10	AG, MC, TB	43 07.131	19 02.154	8	2063	N	4	0	YB6 '10	Hole in the cliff: the left one	None	Not detectable		►	
YB	7	The Church	03/08/10	AG, MC, TB	20m west of YB6			2063	Y	10	0	YB6 '10	Massive hole in cliff	No potential	Not detectable			
YB	10		05/08/10	DF, SH	43 08.103	19 02.682	6	2170	N	4	5	YB10 O	In a large rift in a sloping hill filled with limestone pavement. Next to a snow plug currently	Suit and helmet needed to get to the bottom of rift (possible free climb…). May be a way on at the bottom. Probably not worthwhile	Not Recorded		►	
YB	11		05/08/10	DF, SH	43 08.079	19 02.709	6	2155	N	2	6	YB11		Descend. Can see the bottom, can't see an obvious way on but can't see all angles	Not Recorded		►	

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YB	12		05/08/10	DF, SH	43 08.122	19 02.777	5	2117	N	2	9	YB12 O	Near YB13. At the bottom of a large ice rift , half way up the side of the hill. Massive scree bowl up visible to the NW.	Can fit down but need rope	Not Recorded		►	
YB	13		05/08/10	DF, SH	43 08.125	19 02.778	6	2115	Y	1	10	YB13	Near YB12	Can see snow at bottom. Looks like it opens up. Need rope. Can fit	Not Recorded		►	
YB	14		08/08/10	SH, DF, AG	43 06.640	19 02.645	3	2196	Y	1	20	YB14 10 OX		Small choke is a possible way on but requires extensive digging. Recommendation: don't bother!	Not detectable		►	
YB	15		08/08/10	SH, DF, AG	43 06.541	19 02.664	5	2143	Y	1	15	YB15 '10 O		Bottomed	Not Recorded		►	
YB	16		08/08/10	SH, DF, AG	43 06.464	19 02.724		2099		Not Recorded	30			Rope needed to abseil down snow at bottom. Bottomed	Not Recorded		►	
YB	17		08/08/10	SH, DF, AG	43 06.460	19 02.731		2079		20	5			From slope walk to end of snow and way on through hole. Tight at end. Needs a hammer	Not Recorded		►	
YB	18		08/08/10	SH, DF, AG	43 06.444	19 02.758	4	2094	Y	1	10	YB18 '10 OX		None	Not detectable			
YB	19		08/08/10	SH, DF, AG	43 06.545	19 02.765		2140	N	1	8			Dug through ice and descended to ~8m. Chokes up. End				
YC	3		29/07/10	MS, TFB, CQB, MR, MB	43 07.614	19 02.991	5	2181	N	3	5	YC3 '10	On top of col between Valoviti Do and Ledeni Do (NNE side). Choked rift marked by distinctive slab with rain grooves	Free climbed down until it got too tight/scary. Becomes too tight very quickly	Not detectable		►	►
YC	4	Obvious Pot	29/07/10	MS, TFB, CQB, MR, MB	43 07.619	19 02.982	5	2200	Y	3	10	YC4 '10	On top of col between Valoviti Do and Ledeni Do. SSW side. Round shake hole next to path.	Can climb down shake hole. Rope required from there. Abseiled down to ledge ~3m below bottom of shake hole. 3 or 4m below that is the botttom of the shaft. Covered in rubble with no way on	Not detectable		►	►
YC	5		29/07/10	MS, TFB, CQB, MR, MB	43 07.641	19 02.982	5	2196	N	3	6	YC5 '10	On Valoviti side of col from ledeni do. Traverse round the North side of the obvious grass gully	~6m shaft (2m x 1m). Requires rope. Ends in solid flat floor. No way on.	Not detectable		► ►	►
YC	6		30/07/10	TFB, MS, CQB, MR	43 07.785	19 03.055	4	2143	N	2	2		Large shake hole with standing snow plug on East edge of Valoviti do high on slope.	Requires (a lot of) digging. Loose boulder floor - large project	Not detectable		►	►
YC	7		30/07/10	TFB, MS	43 07.799	19 03.064	5		Y	7	21	YC7/10 OX	High on East ridge of Valoviti Do near prominent rock surrounded by scrub. 2 entrances: Rifts in pavement with small continuations.	Rocks continue for several seconds. Descended 21m to the bottom. No way on.	Not detectable		►	►

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YC	9	31/07/10	MR, MS, LCB, EJ	43 07.109	19 01.973	4	2027	N	4	7	YC9 '10	Rift on LHS of valley on opposite side from col. 230" bearing from YC10	Flat mud floor. Dig it if you're bored. No go	Not detectable		►	►
YC	10	31/07/10	SG, EJ, JB, MS, MR	43 07.126	19 01.989	4	2014	Y	3	11	YC10/10 OX	Rift in hillside. Clearly dug out. Just behind large boulder. 10m from YC9	Ends in a steep choked rift. Could continue but would be a bugger of a dig	Not detectable	Dug out shake hole with a lot of loose material around the entrance hole. Descend down a tight rift before squeezing through into a larger parallel rift which drops to the narrow sloping rubble floor.	►	►
YC	11	01/08/10	EJ, SG	43 07.846	19 03.086	5	2124	N	1	4	YC11/10 O	Traverse from col along ridge running north. Just before outcrop facing east	Mostly boulders with little solid rock surrounding diagonal shaft. Loose & dangerous.	Not detectable		►	►
YC	12	01/08/10	JB, EJ, SG	43 07.846	19 03.120	5	2144	N	1	5	YC12/10 OX	From 'Not Rowten': 20m at 200"	Not entered. ~5m shaft to the floor. Possible way on in rift direction & solid looking rock.	Not detectable		►	►
YC	13	01/08/10	JB, EJ, SG	43 07.849	19 03.133	5	2150	Y	4	16	YC13 OX	On a mound over 'Not Rowten' on the NE side. Mound marked with a cairn	Shaft going straight down. Earth floor	Not Recorded		►	►
YC	14	03/08/10	SG, EJ, MR, MN	43 07.647	19 03.090	3	2187	N	4	4	YC14/10 OX	On ridge path running west towards Minin Bogaz (~10m south of path). On south side of ridge in a scub clearing.	Rift (too tight) not really potential at all. Soil/rock floor	Not detectable	Rift entrance running 40" --> 220"	►	
YC	15(a)	02/08/10	MC, SS	43 07.885	19 03.085	8	2117	Y	10	0	YC15	Obvious hole in side of cliff. Larger of the 2 holes	Terminates. Possible way upwards, but doubtful.	Good		►	►
YC	15(b)	03/08/10	MR, MN, SG, EJ	43 07.647	19 03.090	4	2189	N	0	8	YC15, 10, OX	On the south face of the ridge	Terminates at a load of pebbles. A small rat-sized hole leads up hill	Not detectable	Slit in rock ca 3m long and 1m wide	►	►
YC	16	03/08/10	EJ, MN, MR, SG	43 07.750	19 03.085	4	2169	Y	0	16	YC16'10 OX	Just above YC15, near the top of a mini peak (S side facing the valley)	Ends at an earth/boulder floor with a small pool in one corner. No obvious way on, doubt there is one behind the ice plug.	Not detectable	Open shaft drops straight down to earthen floor. Ice plug at one side		
YC	16*	09/08/10	TB, TFB, CB, MC	43 06.954	19 02.661	13	1201	Y	20	5	YC16/10	Follow stream produced by spring	Gets too tight. Toby needs to lose a stone or two to get through	Slight		►	
YD	0	29/07/10	SG, JB, LCB, CIB	43 06.983	19 02.980	25	2247	N	3	2	YD0 '10	5m to the right of X24. Climb up scree off pathway to cliff face running N-S	Tight, obstructed by boulders. No potential	Not detectable	Climbed up to entrance on right. Static rope left in place attached to one anchor. Spit placed by Steve. Some draft felt, but unsure if it is just from a closed system. A smaller person + oversuit needed to push it. The entrance is a few metres below the	►	►

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YD	1		29/07/10	SG, JB, LCB, CIB	43 07.008	19 02.873	15		N	0	2		From camp up towards the col to Ledeni Do. About 40m (vertical) on left. Obvious tall rectangular slot (2m x 1m) in the right of the lower pinnacle	Stops after 2m, ie not a cave	Not detectable			
YD	2	T2	29/07/10	SG, JB, LCB, CIB	43 07.120	19 02.801	10	2254	Y	10	10	T2 O/	Lower entrance to T2 above (single spit in good condition)	2m stoop to ledge part way down pitch, 4m to the floor (light aven to T2 above). Stoney (not cobbles) floor with crawl leading off straight on. Already discovered	Good			
YD	3		30/07/10	SS, JB, MR, TB	43 07.231	19 02.167	?	2036	Not Recorded	Not Recorded	Not Recorded	YD03 2010 O/	Milijecni Do. Lower pair of sink holes at to of the gully below the large pavement. 100m up gully from X31 (Next to YD04)	Not Recorded	Good			►
YD	4		30/07/10	SS, JB, MR, TB	43 7.224	19 02.163	?	2036	N	4	2	YD04 2010 O/	In bowl at top of gully which is below large pavement in Milijecni Do. Next to YD03, ca 100m up from X31	Not Recorded	Not Recorded			
YD	5	Blender Pot	30/07/10	SS, JB, MR, TB	43 07.219	19 02.196	?		Not Recorded	Not Recorded	Not Recorded			Descended first pitch, very sharp and constricted, could see second deeper pitch but turned back due to lack of rope and possible difficulties at first pitch head. Recommend return with chisel & hiltis	Not detectable			►
YD	6		04/08/10	SG, JB, MJR	43 07.144	19 02.424	9		Y	20	6	YD6/10 O/	Obvious vertical rift. Climb to the right (scramble on to ledge). Face opens to 340"	Lower part becomes too tight/stops. Upper part was climbed but closes down	Good	Tall vertical rift in cliff that is too narrow at the foot. Scramble up to the right leads to a ledge into a wider part of the rift opening. SG, JB climbed up and traversed into the rift. At the highest point towards the back, it drafted cold and strong,	► ►	►
YD	8		30/07/10	JB, TB, CB, AT, RW	43 07.103	19 02.266	4	2132	N	0	1	YD8	New sink. Possible dig. Slightly South of the end of Zupci just off the path to Bobotov Kuk	Needs rocks shifting	Not Recorded		►	
YD	9		07/08/10	MR, MN, SS	43 07.147	19 02.028	?	2000	N	Not Recorded	2		Not Recorded	No Potenital	Not Recorded			►
YD	10		07/08/10	MR, MN, SS	43 07.158	19 02.007	?	2001	N	1	3	YD10 '10	Not Recorded	No Potential	Not Recorded			►
YD	11	Arse Hole	08/08/10	MR, MN, SS	43 07.137	19 01.934	?	2009	N	Not Recorded	6	YD11 '10	Not Recorded	No Potential	Not detectable			
YD	12		08/08/10	MR, MN, SS	43 06.890	19 01.587	?	2009	N	0.5	1.5	YD12 '10 O	Just off path in rolling area of valley	Tight entrance to short pitch	Not detectable			►

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YD	13	Glory Hole	08/08/10	MR, MN, SS	43 07.216	19 01.859	?	1947	Y	0	20	YD13 '10 O	To right of path next to broken stone	Dropped pebble sounds for about 5s. Pitch descends to a tight crawl to a second pitch.	Not detectable			►
YE	1		06/08/10	MS, LDB	43 06.647	19 01.959	4	1941	N	1	2	YE1 '10 O/	Small shakehole on plateau east of Urdeni Do	No real potential	Not detectable	Was a small shakehole with rocks at the bottom. We dug out lots of rocks from the bottom but only small rocks left. Holes can still be seen down between the rocks.	►	
YE	2		06/08/10	MS, LDB	43 06.589	19 02.288	4	2003	Y	10	12	YE2 '10 OX	Heading towards X3 keep goiing down the gully. When the gully ends it can be found in a small shakehole on the left	Boulder/rubble floor. No real potential despite the large size of the chamber	Not detectable	Abseil down rigging from boulders further up the slope. The 12m free hang lands at the top edge of a small snow plug on a rubble floor. At the bottom of the snow plug there is a low crawl on the left into a much smaller chamber, again with a rubble floor	►	► ►
YE	3		06/08/10	MS, LDB	43 06.593	19 02.204	3	1966	N	1	4		In limestone pavement area	No way on	Not detectable	4m down mossy boulders. Multiple rifts in the area all with no way on		
YE	25		05/08/10	LB, RW	43 07.072	19 02.615	15	2187	N	8	0	YE25 (red, RHS)	Large rift/crack in zide of Zupci	Little. Not much potential	Not detectable	3m wide, 8m long, 15m high. Could climb up but unlikely to be anything.		
YE	26		05/08/10	LB, RW	43 07.073	19 02.669	15	2199	Y	12	0	YE26 (red, RHS)	Big triangular entrance on S side of Zupci ridge	Could dig gravel crawl. Needs climbing. MSE3 markings found on second visit.	Slight		►	►
YE	27		05/08/10	JB, AG	43 07.104	19 02.427		2121	N	6	2	YE27, 10	Up from the little lake, find the big rock to the left of the scree slope. Climb up the scree above the big rock to come to an entrance straight ahead on the left	Unsure of pontential. Could be potential by digging the floor.	Not detectable		►	