SUSS BULL 46(4)

JANUARY — MARCH 2007

Lumen in Tenebris

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Cover Photo: **Water in the Bathroom — Figtree Cave, Wombeyan**
Photo Kevin Moore

NEWS AND GOSSIP

Annual General Meeting

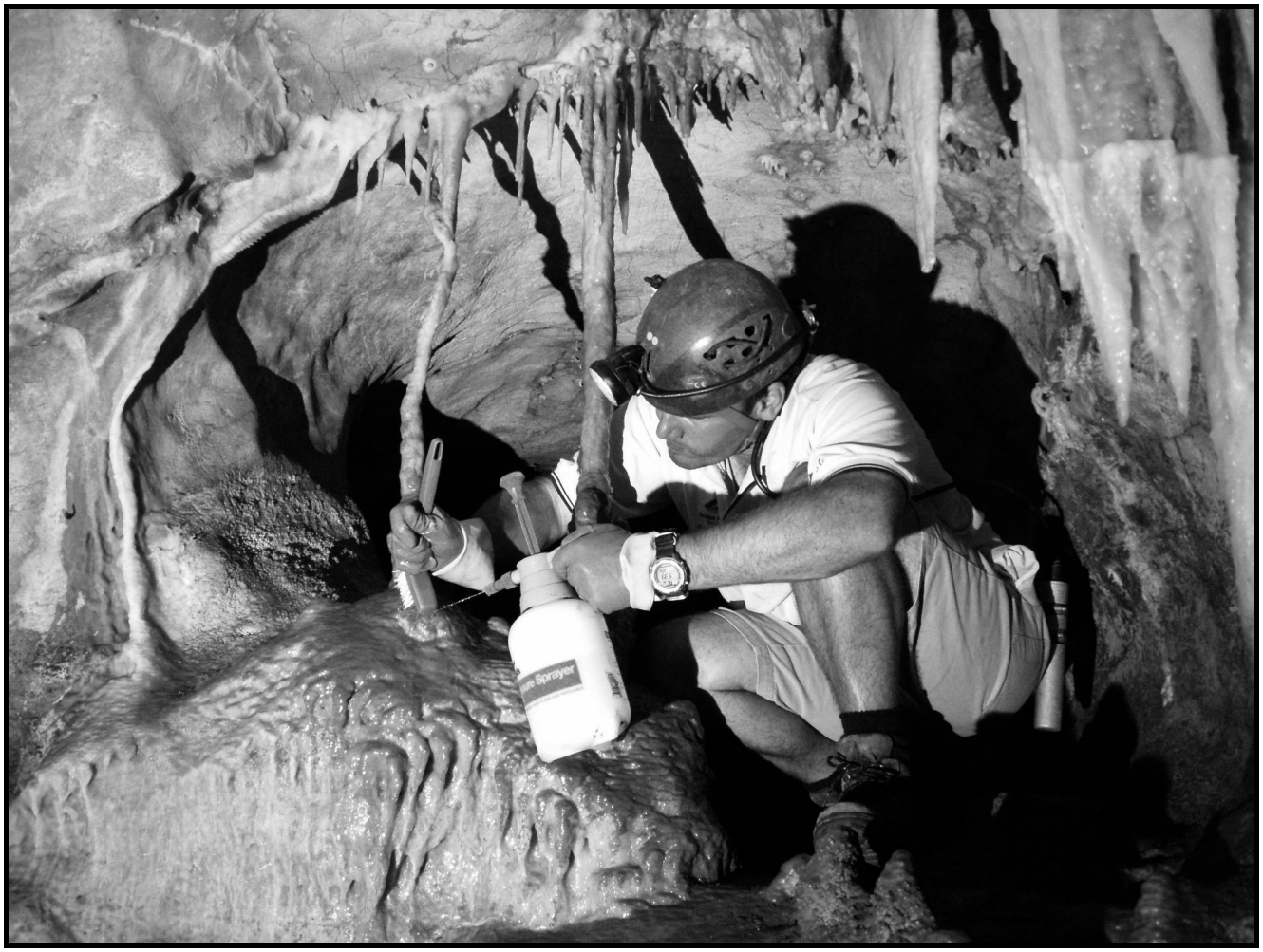
The AGM for the club will be held on Thursday, 3rd of May. Make yourself financial, come along to the meeting, and replace your committee with people you'd like to see running the club. Form a faction. Stack a branch. Better still, get voted onto the committee and run the club yourself. Did we mention that you need to be financial by the start of the meeting?

Diving, cleaning formations in Barralong

On the weekend of the 23rd and 24th of March a SUSS team went into Barralong to dive and to clean the cave. On Saturday I dived in upstream Blue Tongue. By going in the water about 2 m I could see around the corner reached after last trip and moved some rocks to the side. This confirmed that we can try and dive from upstream Blue Tongue to downstream Barralong to close the 37 m distance needed to make a connection.

Steve Roy , Stephen Kennedy and Myself had good results with cleaning of the entrance of Barralong Cave at the steps and just inside. We found it easy to remove a lot of the dirt off the large white formations and the flow stone below them with the cave water from Lethe sump being our source of water. We used new 2 litre pump bottles and small nylon brushes – there's no power or water to this part of the cave. I was pleased with results of the work done by hand.

I did find that some of the dirt would not come off – it may be from much earlier trips in the 60's to 90's and the dirt has been covered by more crystals over past years. We'll try again later, probably in June, and move further into Barralong with the cleaning tools. *Michael Collins*



Michael Collins cleaning formation in Barralong

photo Steve Roy

Tiny animals stop Australian mine

BBC, 29/3/2007

The discovery of tiny, cave-dwelling animals measuring just 4 mm in length has halted plans to develop a $10bn (£5bn) mine in Western Australia. Environmental protection officials rejected the iron ore mine proposal from mining giant Rio Tinto when 11 species of troglobite were discovered.

The troglobites are tiny cave-dwelling creatures which resemble spiders.

They feed on organic matter deep underground and will die if exposed to ultraviolet light outside their caves.

The chairman of Western Australia's Environmental Protection Agency (EPA), Wally Cox, said the proposed mine would cause the extinction of at least five of the newly-discovered species.

A Rio Tinto spokesman said the company would appeal against the decision.

"It's just part of being in the mining business," said the spokesman. "We support the EPA process in general."

Opposition environment spokesman Steve Thomas said the EPA ruling put future developments in the state at risk.

"Because [the government has] upgraded the requirements of the mining sector in the environmental approvals process to find what's out there, they go out there and find things," he said.

Troglobites have no eyes but have long front legs or feelers to find their way around in the dark.

Orbiter images suggest possible caves on Mars

NASA, April 2, 2007

Northern Arizona University researchers Glen Cushing and Jut Wynne, working at the U.S. Geological Survey, propose that photos from the Mars Odyssey mission reveal football-field size holes that could be entrances to caves.

"If there is life on Mars, there is a good chance you'd find it in caves," said Wynne, an NAU graduate student in biological sciences and project leader for the USGS Earth-Mars Cave Detection Program. He said the possible discovery could lead to more focused Mars explorations.

Researchers propose these images of seven black spots near a massive Martian volcano may actually be caves rather than impact craters. The images were taken from the Thermal Emission Imaging System aboard NASA's Mars Odyssey orbiter.

Martian caves are considered the "best potential havens for life" because they would be protected from surface radiation and other factors, he said.

"The Martian surface is an extremely harsh environment, so the significance of caves is in their protective nature," said Cushing, a graduate teaching assistant in NAU's Department of Physics and Astronomy, who was the first to spot the black areas on the photographs. "Caves on Mars could become habitats for future explorers, or could be the only structures that preserve evidence of past or present microbial life."

[*The features on the pics look like the entrance of Koonalda Cave – big collapse structures. See SUSS Bull 46(1). ed.*]

COOLEMAN PLAINS

26TH JANUARY 2007, AUSTRALIA DAY WEEKEND

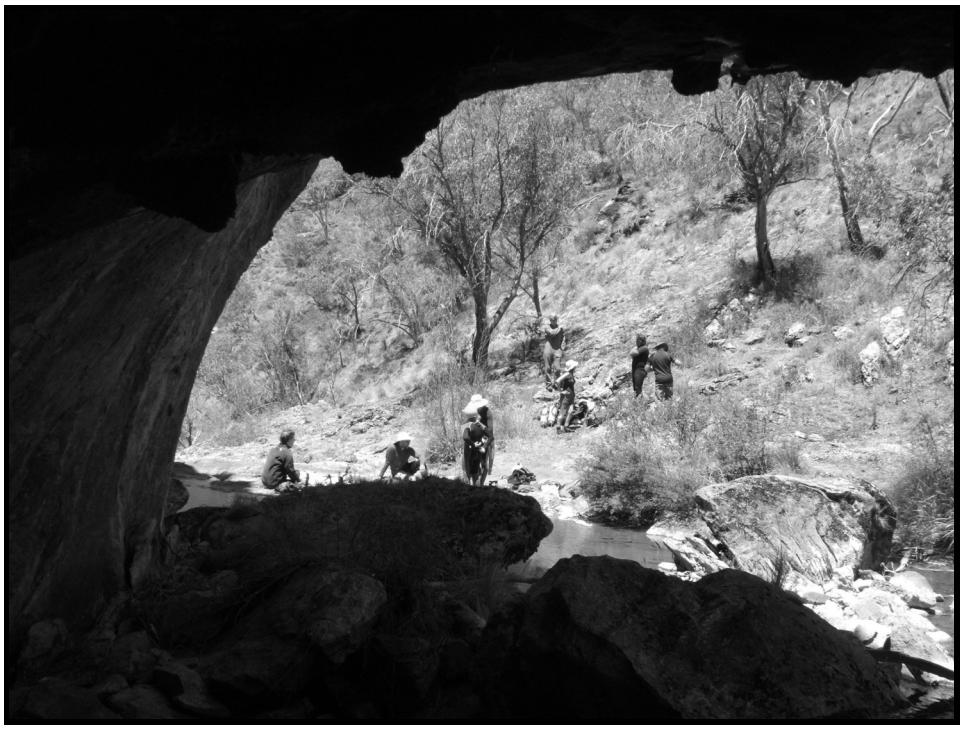
BY KEIR VAUGHAN-TAYLOR

Participants: Keir Vaughan-Tayor (TL), Jason Cockayne, Sharon Pearson, Ian Houghton, Caroline Houghton, Andrew Houghton, Michael Houghton, Paul Lewis, James Little, Shannon Crack

Diving in Whitefish Cave

Blue Waterholes is the place where Cave Creek bubbles up through sand, out of cracks, fissures and broken rocky embankments coalescing to form a sizable river ten meters wide. The Blue Water Holes camp site has been fenced moving the camp site back from the river. This is a good thing because nitrates from a strong human presence has caused considerable algae growth in the river water and it's particularly bad in the drought.

The river's deep enough for a person to get seriously laughed at if you fail to meet the challenge of stepping stones along the way downstream. The river follows an undulating path below the rolling hills of limestone and gracefully arcs to the right into a subtly beautiful limestone canyon. The canyon walls rise perhaps maybe 60 m hosting a few small but delightful caves. For me, the cave that is particularly interesting is Whitefish.



Entrance of Whitefish
photo Keir Vaughan-Taylor

Jason at the sump in Whitefish
photo Keir Vaughan-Taylor

Four kilometers down river from the resurgence there is a cliff where water drops in a series of falls and cascades 30 meters to a lower level where limestone bluffs define edges of the river and lure the average red blooded caver with promises of an undiscovered cavernous realms. This place will certainly have a rewarding future for SUSS discovering its deep secrets. The vista of limestone opportunity lies out in landscape so far only gently explored by us to date. Our interest is captured at the top of the waterfall where half of the volume of Cave Creek unexpectedly diverts into a small cave called Whitefish. Once underground, river water falls into chutes to pools churning over sharp edges and boulders finding a quiet peace at waters' end

in a dark and mysterious sump. A dive line in the sump means someone has been through before and with the small community of divers I mull over in my mind who it might have been? Maybe someone from Canberra.

A squeeze just before the sump, on the left, marks a section of cave that can entertain a caving group several hours, paticularly entertaining forcing through the squeeze. Some of us prefer to pass the squeeze and take a short swim along a rift, a bit more than head room and perishingly cold. The rift widens to a place you could almost call a room. There is an alcove on the left that is the entrance to passage that by-passes the earlier squeeze. Many SUSS groups have explored up the climbs and crawls, however I have to this day not seen this part of the cave. Next time, next time, it's always next time.

The squeeze is not really really difficult but annoyingly uncomfortable, so take your pick. You can take a quick swim in 6 degree water or give your elbows and cave suit a bit more of a thrashing. An orange dive line marks the way on in the water . On previous trips we tried a perfunctory free dive into the sump but it went deep right away. On a later trip we took thermals and a 3 liter cylinder to do what we thought would be a short duck under.

A wet suit would be overkill and I elected to just wear my decaying set of chlorofiber thermals. Those first moments after emersion creates sensory overload, a dimensional change, a change of perspective, with goals and motivations governed by temperature rather than intellect. A small pure white fish busily wriggled to keep just ahead of my view, ushering me the full 15 meters to a constriction at the far end. This white fish must be why Whitefish is called Whitefish. The passage steeply descends but then slowly rises ending at a kinking squeeze partly blocked with logs and debris. The surface seemed to be just on the other side of the logs. I spent a little time pulling at logs and pushing bits of lumber to one side, losing body heat but after a short time managing to squeeze into the next partition and discovering a surface.

The sump surface might be a meter square with a small beach at one end large enough to store some dive gear. The sump's surface is the bottom of a pit from out of which you can climb straight up into the middle of a big chamber. I estimated this chamber to be 30 meters long. No-one believes the original guesstimates, especially mine. I am told that I have a reputation for exaggeration, a criticism that I strongly denounce and in my defense I can say that later measurements showed this room is at least 34 meters not counting little terminal passages at each end. [*But the reputation stands, because it's funnier. ed.*]

Balancing on wobbly boulders, there is only a little time available to explore. There are rock collapses and holes in the floor to explore but not without a bit of protective caving gear. My thermals' fashion style and thermal properties had faded after many past glorious cave trips, glorious in my mind at least and would be seriously destroyed engaging in rock-pile fossicking.

With breath forming clouds of fog in the Whitefish Room I experienced that strange conflict of wanting to go back because I was cold and not wanting to go back because the return journey through the water was also cold. That piece by a 70s band called Cream, "The White Room" ran through my head. "I'll wait in this place where the sun never shines. Wait in this place where the shadows run from themselves."

That was the year before. On this trip with the company of a good few persons the main goal for this Australia Day weekend was to find out where all the leads in this 30 m chamber were going. As it turned out we were to discover more than just one little secret in Whitefish.

Australia Day

The countryside on the way in was bare, not a skerrick of grass for some poor sheep to browse upon. We parked and camped at the nearest campsite to Blue Holes but thinking about it now, the campsite further up the hill called Magpie Flat might be more comfortable. While further from the water supply the area has more grass and larger flat areas to pitch a tent. In future I'll stake our patch there. It's easy enough to drive down the hill to fill water containers.

Clark Gorge
photo Paul Lewis

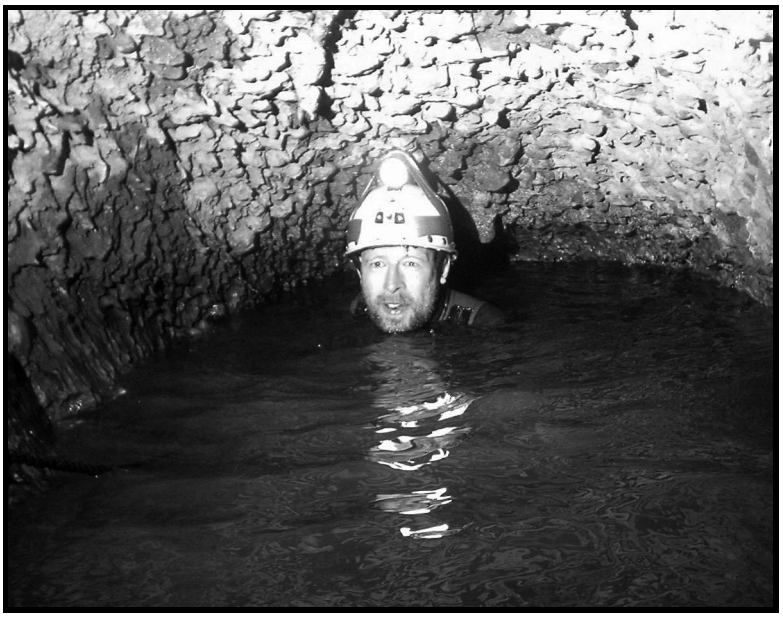
My diving buddy Jason and I were prepared to not do too much diving. It can overly try the pa-

tience of any companion standing around waiting for divers to come back from some adventure that the rest of the group can't completely share. Nevertheless I wanted to at least dive through into Whitefish Chamber to try following the path of the river. The rest of the group could visit Whitefish and then Easter at the bottom of the waterfall where the water ultimately rejoins Cave Creek.

Without the usual flow in Cave Creek crossing the stepping stones was easy even with dive sets for me and Jason. This time the freezing waters would be less debilitating because I had a spring suit as well as my "glorious" thermals undersuit.

Jason and I geared up in the alcove on the left just before the sump. Water visibility at Cooleman has not been good on any of our previous visits and this time in the sump it was hard to see anything. A few shapes and colours are discernable up to about 25 cm. We followed the guideline to the end of the sump parking our gear on the small beach in the bottom of the pit.

I had cached a small camera and some survey gear to measure the general trend of the cave passage in a watertight PVC tube. Sometimes the water pressure locks the PVC screw lid into place and only by wedging the lid in a suitably sized rock fissure is it possible to put a decent twist on it to get it open. While only going to a depth of about 5 m the PVC tube had leaked some and the survey paper was sodden. I think the O ring had grit on it from the last dive – I should have wiped it cleaner to start with. The pencil could not write on it, instead poking holes in the survey paper. Instead of the paper I sketched and recorded the few survey legs measuring up the 30 m chamber with a pencil on the side of the PVC tube.



Ian surfaces from the duck-under in Easter
photo Paul Lewis

Jason wriggled off into a rockpile, finding a crumbling gravel tube. He wormed his way into a small 2 m x 2 m room atop a six meter pitch. It is a slightly tricky climb down into a room. Not too bad but this is a very undesirable place to break an arm or leg. The room at the bottom is larger and more comfortable. You can stand and walk around, just a bit. At times this room floods and water channels into another sump at the very bottom of the chamber. In one corner of the sump was the ever present white fish. The sump appeared to head in a direction that surely connects back somewhere into the sump we originally dived through. There may be a way into this room by coming from somewhere in the first sump we dived in through. I didn't see any connection, but then I didn't see very much of anything.

Jason seemed to spend a long time in the rockpile and I would say there is little chance of finding an easy way on through that jumble of rock. I believe the best opportunity is to find something in the first sump. We returned to join the others in the main cave but were not surprised to find they had become bored waiting and went off to find their own cave at the bottom of the waterfall. Lifting and carrying our gear to the surface we met them having returned from having a great time in Easter.

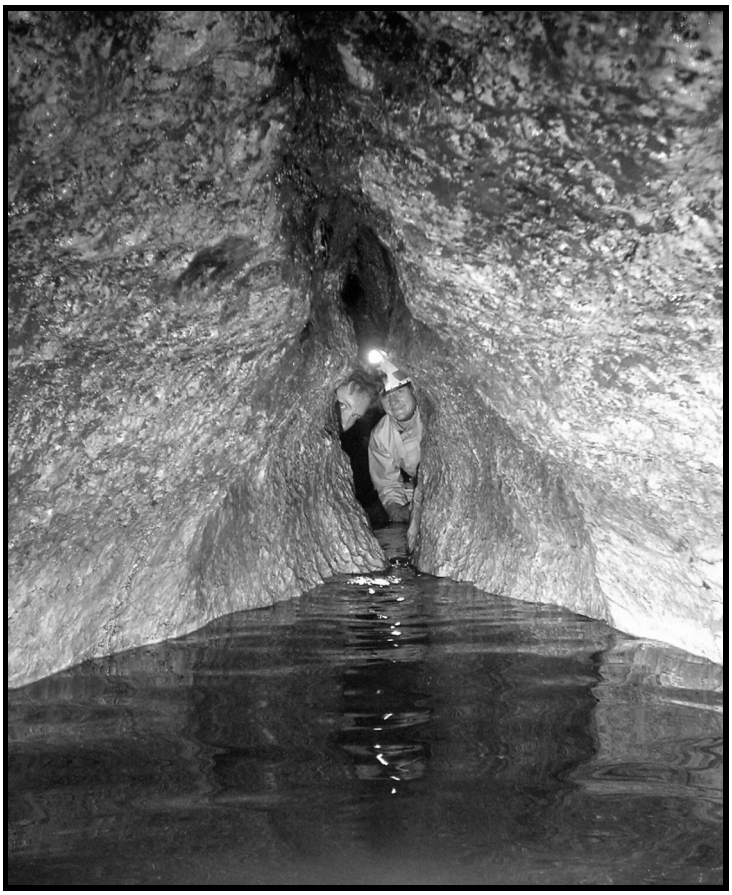
In the words of the Karst Index, Easter Cave has "a river type entrance". A short swim into the river type and then a duck under into the passages on the other side. Naturally Michael and Andrew led the way putting the appropriate peer pressure on the whole crew all taking the proverbial deep breath. As the cold water took their breath away they all went through. Always a little daunting to do this but ever such a rewarding feeling. They reported finding the little white fish. I found in the Cooleman literature that the little white fish is not some exotic subterrainean species but is just a trout. Apparently trout "bleach" white in the darkness of a cave but are nevertheless friendly company on a journey through sumps.

I judged that people had had a pretty good time and could probably sustain another day of Jason and I diving somewhere. A sip of port that evening after dinner and we decided that the next day we would investigate Jason's hot lead found in the cool upstream River Cave.

River Cave

From the Blue Waterholes upsteam the bed of Cave Creek runs dry. The rounded boulders in the bed are chock-filled with shells, fossil corals and some of the best crinoid or "sea lilly" fossils. Usually crinoids are seen as one centimeter circles outlined in the rock surface. This is the cross-section of the stem but with a little searching in the creek-bed good examples of the flowering tops can be found.

The limestone cliffs promise lots of caves and on the way to Murray Cave there is one cave at track level – Cooleman Main. The entrance goes into the cliff and another comes out further upstream and is probably the path of the river a long time ago. However there are no other caves apparent even from climbing up and down those high bluffs chasing alluring dark patches in the limestone that are only shadows. Somewhere inside those cliffs is a river, the river that comes out at Blue Holes. We have a few clues about how to find the river, which begin at River Cave.



Shannon and Caroline in River
photo Paul Lewis

It's easier to drive up the road from the Blue Holes campsite, park on the grass and walk across the plain, dropping to cross the creek a few hundred meters upstream from Murray Cave. We then climb the hill on the other side of the valley to join the Joe Jennings track. Jason and I carried our tank pairs and any help we can get with the other gear is always appreciated. Jason had dived in River with Al Warild on a previous visit. They were sharing gear to minimize how much had to be carried across the grassy plains. Jason had popped into River Cave for a quick see what was on offer on the up stream and run out fifty meters of line with every indication of the cave continuing. He wasn't using his own reel and didn't fix any line. This time we would begin establishing an exploration highway fixing line along which we could extend further on what we hope will be many future visits.

Paul Lewis at the fossils, sump 1 Murray

The group helped get dive gear into the cave and down to the underground river. The water level is very low at present with the river depth only a few centimeters trickling over the rounded basalt river stones. There is a bent-over walk upstream across the cobbles and the water soon gets deeper.

In the past the water lipped the roof closer and closer but today the level was low, revealing much more of the upstream journey to ordinary travellers. The passage appears to stop. On the left a rocky bank of basalt rocks have been thrown out of hole through a volcanic dyke. Through the hole a tunnel with a sump presents as the way on. The dive looks like it begins here. I fixed one end of my guide line round a stout bollard in the wall and set off into a shallow passage. Visibility was poor. Come to think of it, the visibilty while diving at Cooleman has always been limited, having a milky appearance before even entering the water. I am wondering if visibility might be better at other times of the year but I am reluctant to try it in winter. Besides, they close the road.

It was difficult to see where the main way on was going. Zigagging through shallow rooms, I took time to fix line on basalt pillars that joined floor to roof. Any number of possible directions could be taken. Only a survey would show and who is going to be able to survey in this environment? After all the mucking about, not much crow-flying distance was made but I did surface in an 8 m long air chamber. I crossed the chamber, fixing the line to the roof and then down onto a rock on the far side where the line on the reel run out. Much of the line length was consumed in wraps to secure tie offs in the zigzag passage. More was used just crossing the room with the air bell. I thought we would just leave it in place. Assuming global warming doesn't continue the harsh drought conditions, the air bell is due to spend its future life as a flooded realm.

After probing around in the the room looking for holes, we found a steeply descending hole at the opposite end of the chamber from where we had entered. My line was used up so Jason took over placing line from his reel, laying our highway into a deeper section of water reaching about 12 m depth. Making his way upstream he ran out of line with the passage still continuing. I followed along behind him in soup out conditions. There is plenty of room but the environment didn't present the visual experience you might expect with Imax cave dives.

Jason found nothing to fix line onto at his furthest exploration point. It's hard – the basalt protuberances break off easily when you try to wrap dive line round them and then you are left trying to find something else. Jason had to return a considerable distance back along the line where he could fix the line representing our furthest exploration point. In a mirky nothingness I caught up with him in some kind of door-way. He was trying to tie the line off but I had no idea what he was doing. After some confusion about which direction we were headed we turned back to the 8 m room.

Jason had been using that thin line which allows greater lengths on the reel but I much prefer the stouter orange 3 mm line. Clearly we should both have to get bigger reels. Our trip was successful in that we placed fixed line, pushed out our exploration point and it is good there is more passage and exploration for future trips. Unfortunately my line laying resulted in much zig zagging and that limited how far we pushed.

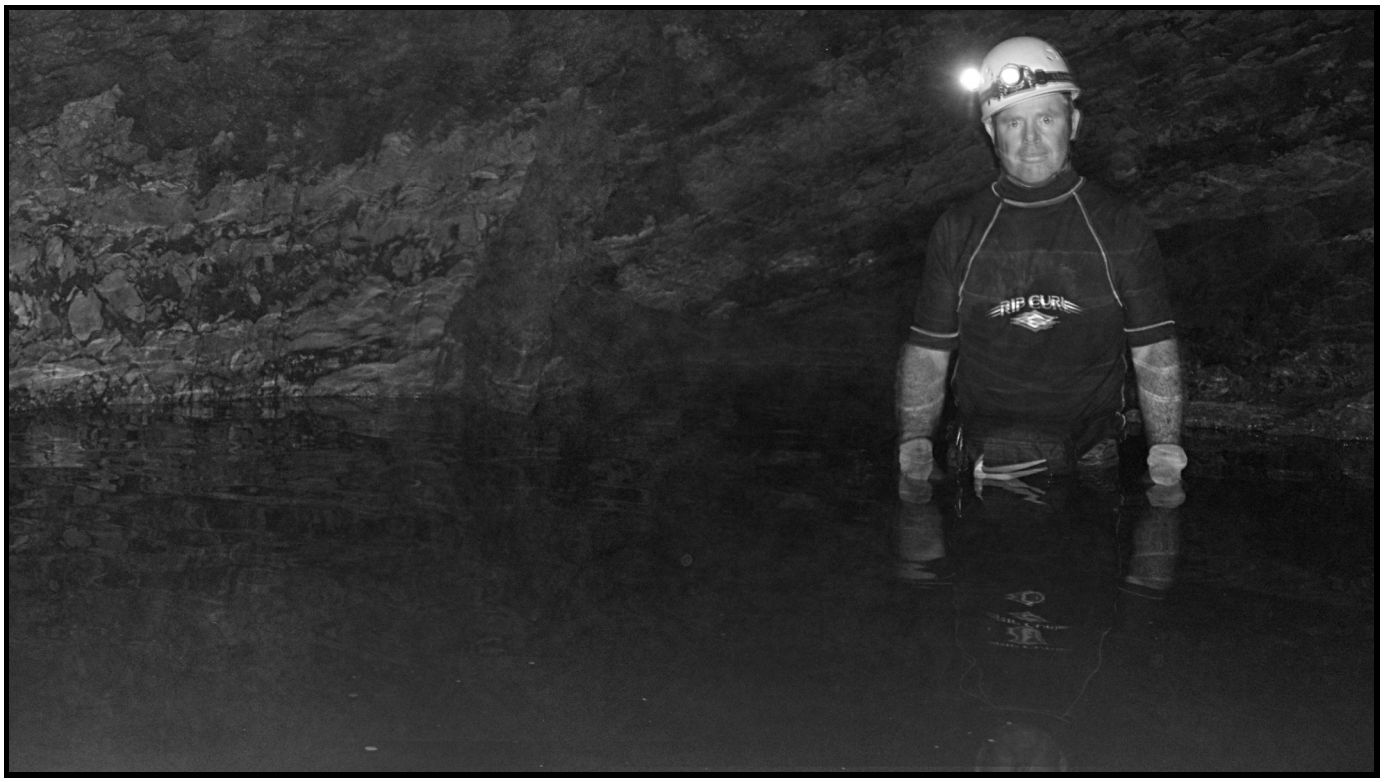


photo Keir Vaughan-Taylor

This was further illustrated when Paul and James climbed in and out through passages in the roof and found an 8 m long room with an orange dive line fixed to the roof. We could have started the dive from there. Uhhhh! It should be noted that we are also creating a path that we can return to again and again in time when the river level rises to the roof.... should it ever rain again.

Jason later said that the route that we took didn't seem to be anything like what he had explored in the previous trip. That may mean we have even more exploring to do. I love it!

Sunday January 28th

The sump in Murray's Cave is low enough to pass without scuba gear. The whole group visited the back section of the cave where the main river was seen to be at its lowest level ever. The place where the river disappears into a cleft is usually hidden in the depths of the water. Previous dives indicated that the fissure in the wall was narrow. With the water level right down running only at a slow trickle it is clear the gap can not be passed in any future exploration. The group continued up the main passage of Murray finally stopping at the third sump which could be passed with a breath hold, but was anyone game? Ian got in the water and swam about in the sump but the way through is not altogether clear.

We returned to the main entrance where the warm sun shines and the world is a beautiful place. I went wondering about on the hillside looking for karst features. Time was however running out to the perfect long weekend. Ian, Caroline and family headed back for Sydney but Paul, James, Shannon and Jason decided to crawl down a tiny fissure in the side of Murray's main passage.

We know that there is a second entrance to Murray in the hill. It's only a very small fissure that leads to the inner world where the others were headed. I believe the map we will publish will document this entrance as Patrick's Retirement.

I once wrestled through one tight part of the fissure network and knew well that there is a little-known sump somewhere in there. Too hard and too small to dive, however in this drought the sump was likely to be dry. It's the sporty squeeze that doesn't agree with me. Checking out nooks and crannies on the hill seemed like an agreeable activity by comparison.

To my amazement the lads down under were suddenly over on the hill with me. The siphon was completely dry and there was much new passage, a way on. Gallantry like this has never been seen in the caving fraternity whereby they had returned so that fearful leader could join them in glory. I was touched! Damn! Have to make the effort now.

The small crawling passages were as I remembered. At first you can walk bent over but only for a while, then it's on your side sliding along and then on your stomach and then there is the squeeze. On your back and the usual Houdini techniques. The squeeze was not going to let me get by unless I had a lump hammer. Not on this trip anyway.

The others scrambled on without me with tales of 300 meters of passage. I reckon this translates to at least 150 m. We were running out of time, Ian had already gone and we also had to make that 7 hour drive back to Sydney.

So now, I sit here in the comfort of my computer chair, wondering why I didn't push just a little harder in that squeeze and hang out for longer in that wonderful place. The bypass has a very good chance of connecting back into the river and that connection would be downstream from sump 2 representing the main drain towards Blue Holes. This is a really, really good lead and we have to get back as soon as possible. This lead re-invigorates exploration on the down-stream side from Murray's and may reveal more of the mystery of the river's path.

Walking across the plain with the dive gear
photo Paul Lewis

MT GAMBIER '07

AUSTRALIAN SPELEOLOGICAL FEDERATION

50th ANNIVERSARY CONFERENCE, JANUARY 5 – 12, 2007

TEXT AND PHOTOS MIKE LAKE

This was the ASF's 50th Anniversary Conference so it promised to be well attended, attract lots of good speakers and talks and be full of fun. The venue was Mt Gambier so Jill and I travelled down via Qantas to Melbourne and thence by O'Connell Airlines to Mt Gambier. The latter is quite fun as the aircraft is a small twin engined turboprop seating about a dozen people, although for this flight there were only about 6 on board. It's fast and I'm sure it climbs at 45 degrees on takeoff!

Alas Qantas lost our baggage at Melbourne and although the O'Connell Airlines pilot waited a bit for us we eventually had to leave. Thus our first stop at Mt Gambier was the local supermarket for toothbrushes, razors, socks and underpants. This minor inconvenience though was offset by the superb acommodation that we had arranged for our stay "Elizabeth's on Gray". We had this entire place to ourselves – a spacious 1945 art deco style home within a block of the town centre, restaurants and coffee shops. Most of the other cavers were staying in the crowded caravan park or boring motels.

Saturday and our baggage has arrived! O'Connell Air very kindly drove out to us to deliver it even though it was Qantas that lost it. We had a bit of trouble finding the venue, the Mt Gambier Racetrack Conference Centre – there are three racetracks. Anyhow, the venue was eventually found and once registration was over we spent time chatting with cavers old and new for the afternoon. That evening Andy Eavis showed us the DVD of the "Planet Earth" segment on caves . Andy is a British caver and a superb photographer and was involved in much of the filming for the BBC on this production. He filled us in with background information on the details and difficulties of the filming.

Thylacoleo display in Victoria Fossil cave, Naracoorte

Sunday was the opening of the Conference by the Mayor of Mt Gambier and the President of CEGSA that hosted the Conference. After lunch was the first of many presentations. Robert Bednarick gave one of the most interesting ones on the Aboriginal petroglyphs in the NT. There are millions of these strange patterns on rock faces, and clearly a site of world importance. However this area is being destroyed by NO_2 bleaching from a new natural gas processing plant being developed nearby. In the evening we had a 3D slide from Andy Eavis on caves around the world, some from Lechuguilla Cave.

Monday was more talks ranging from rock art, the Nullarbor, cave diving, caving in Vanuatu, the Kimberley and a great talk on using Google Earth to find caves. On Tuesday Jill gave her first talk on "Wall Cave Entrance Micro-organisms" which was well received and followed by lots of questions. Other papers were on Indonesian caves, flank margin cave formation, and UNESCO GEOPARKS.

Wednesday was excursion day! We travelled by bus to Naracoorte Caves. The day was quite hot at 40° but the humidity was fortunately low. First we visited the Bat Interpretation Centre. This, for those that have not heard of it, is a building built above a cave with closed circuit television cameras so that bat behavior can be observed in real-time. Bats do indeed line up to take their turn at the drinking straws! It's the second time that Jill and I have been to Naracoorte and this facility is well worth a visit. Many of the caves were open to us all day for this conference thanks to the manager Steve Bourne and the guides at Naracoorte. We visited Blanche, Alexandra and Cathedral Cave. The bus left in the evening to return to Mt Gambier about an hour away and managed to leave a few cavers behind.

Jill presented her second paper "Lake Speleothems of the Nullarbor" on Thursday. This was very popular and Jill nearly missed out on lunch as quite a few cave scientists and cave divers were busy chatting to her. I gave my talk on "The ASF's Karst Index Database – Under the Bonnet". Later on Thursday was the Council Meeting.

One announcement at this meeting is of particular note. The ASF has been given the half of Mt Etna that was the scene for one of the largest conservation battles in Queensland in the 1980s and 90s. This comprises a large area currently in the process of rehabilitation, the previous mine manager's house and land, and a substantial quantity of funds. The funds are to continue the rehabilitation of this land for the next five years. This is an extremely important milestone for the ASF – as a conservation organisation the ASF now has a significant responsibility and a large and valuable asset to manage.

On Friday there were several excellent talks from cave morphology and cave exploration to the volcanic caves of Victoria. Of course no conference wold be complete without a speleo sports and SRT competition which was held in the afternoon. The conference ended on the Friday with the cavers dinner. The food was excellent – and I am pretty fussy when it comes to food. (Oh by the way, Mt Gambier's restaurants serve very good crayfish and oysters.)

Other activities at the conference were a limestone sculpting workshop, wild cave trips, a 4WD trip to Canunda, art exhibition and photo competition, snorkelling at Ewens & Piccaninie Ponds and an auction night.

Of course the bar was open too.

Jill in Cathedral, Naracoorte

NOT QUITE THERE AND BACK AGAIN

FRED CAVE, WAITOMO, 19 APRIL 2006

BY CHRIS NORTON

Participants: Brett Davis, Michael Fraser, Phil Maynard, Chris Norton, Alan & Megan Pryke

As cave names go, "Fred" is like a beige cardigan – practical, simple, and with all the excitement and allure of a night out with the Godfreys vacuum cleaner guy. For that reason Fred hasnt normally been at the top of my list of caves to visit at Waitomo. However, many others who had taken the punt on Fred had declared it to be a Good Cave. In 2003, armed with some very sketchy directions, a map drawn in grass, a GPS unit that stopped working once under the rainforest canopy and a rope that was too short, I had headed off for the Sweat Shop entrance to the cave, only to find that without powers of levitation we were likely to make a very big mess at the bottom of the pitch and so pulled out (*see SUSS Bull 43(1)*).

This time, there were to be no mistakes. Due to various constraints we were not planning a through trip from the main entrance to the Sweat Shop, but would be in and out the main entrance pitch, around 65 m deep. The desire was to try to reach the Hobbit Extension (yes, the Peter Jackson Effect strikes again), an elusive bit of cave downstream near the Lunch Room that has caused some head-scratching in the past for people trying to find it.

Fred is about 30 minutes' drive from the HTG hut. This was enough of a car journey for Alan to think very carefully along the way about his packing and then suddenly remember that he didnt have his SRT gear with him. After

Megan in the Fred streamway

photo Alan Pryke

regretfully deciding that he didnt want to classic abseil the shaft, once we arrived at the carpark Alan hopped back in the car to fetch his gear whilst the rest of us located and rigged the cave.

I had not been to the main tomo entrance of Fred before, but had heard tales of people flailing their way towards it through vast thickets of blackberries. It seemed, though, that someone (or some cows?) had been practising some vegetation clearance, as the path to the cave was pretty blackberry-free, but was instead infested with a whole bunch of cattle which had to be shooed away from the gates so that they didn't escape. The doline itself, as with most Waitomo dolines, is an area of dense mostly native scrub fenced off from the rest of the farm. With steeply sloping vegetated sides running down to the edge of the keyhole-shaped entrance shaft, it's hard to see whats going on below – which is why, despite a couple of people having visited the cave before, we initially managed to rig the rope down the wrong side of the pitch, from where we would have missed the rebelay eyebolt about 10 m down (for future reference, the best route into the doline is over the fence on the side furthest from the airstrip, but you need to rig the pitch from the side closest to the airstrip).

It took a while to get everyone down the pitch, and Alan had already rejoined us with his SRT gear. Looking at his watch and remembering that hed given 5:30pm as the return time on the rescue board back at the hut, Phil said we would only have time to go to the Diamond Mines and back – an area of profuse gypsum formation relatively close to the entrance. I was a bit disappointed by this (given the trouble Id had in the past getting into this cave) and asked if I could go a bit further to see if I could find the Hobbit Extension, so long as I promised to be back by an appointed time. Phil ummed and ah-ed, and ultimately said that people could go and do whatever they wanted to do, so long as they were back at the pitch by 3:15.

The pitch drops you in a side stream, and there are several hundred metres of passage to traverse before reaching the main streamway. To start off with the passage is tall and thin, but there are several deep pools, including one that was pretty much a swim (if you just charged through the middle of it rather than climb gingerly around the side) followed by a long low section where the roof is generally around 1 m high. The heavy rain of the previous day had topped up the stream nicely and there was a respectable flow.

Once the side stream intersects the main streamway, the roof opens up and the going becomes a bit easier. Before too long a large room is reached where a significant rockfall blocks the stream, and the Diamond Mine is in a small passage leading off to the side. While Phil, Brett and Michael grabbed their picks and wandered off in search of carats, Chris, Alan and Megan headed off downstream muttering about hobbitses.

The streamway appeared innocuous enough to walk along, but the turbid rainwater masked the odd pool or rocky ridge that would occasionally try to trip you up. Then came the mud – nice goopy troughfuls of it, lurking just below the water and ready to coat everyones boots liberally with guck.

The cave then makes a marked change, with the streamway narrowing into a thin rift and the walls coated with crusty manganese. The cave also becomes much more sporty at this point. Once upon a time, Keir Vaughan-Taylor moaned that one day, a cave would come along that discriminated against short people by having handholds that were just out of their reach and walls that were just too far away to bridge across for people under about 6 feet. Keir needs to visit Fred. Through this part of the cave, one stays above the stream in the rift, in a manner similar to Tuglow between the pitch and KKK chamber, passing a number of awkward obstacles with very sparse holds that I kept thinking would be a snack if I had about 6 inches more reach.

By the time I reached the Lunchroom, I had gained a bit of a lead over Alan and Megan and went looking for the notorious Vic's Step. Although previous parties had had some difficulty finding this, it seemed pretty obvious to me. What also seemed obvious to me was that getting across it was a bit of a dicey prospect. It involves stepping from one side of the tall rift to the other about 5 m or so above the streamway, with plenty of things to bump yourself on if you dont quite make it. The problem, I decided, was not so much the getting across, but the coming back again. Getting across, one positioned oneself with one foot on a tiny outward sloping ledge on the side of the wall about half the size of the sole of the boot, steadied oneself on a small handhold, and swung the other foot across to a fairly broad ledge which was about an inch or so out of reach. Not too difficult to get to with both feet in a dynamic move. Coming back, though, one needed to leap across without a bracing handhold and finish with one foot poised elegantly on the tiny semi-foothold. I decided to sit down and eat lunch.

Upon arriving 20 minutes later, Megan confirmed that this was indeed Vic's Step – she'd been there before with Mark Lowson and Martin Pfeil a few years ago. I invited Alan to go across, which prompted all sorts of moans, protestations and muttered expletives. Megan, convinced that Alan and I were both wimps, hurled the odd caustic remark at us, but upon swapping places suddenly noticed how much further apart the walls seemed to have become in the last 3 years. "Come to think of it", she mused, "I think Mark may have given me a hand getting back last time...."

With three certified short-limbed wimps and no certified long-legged climbing hero to prop them up, or rope to give protection, and with a little over an hour until we had to meet Phil, it was time to give up. Alan and Megan sat down for a snack whilst I shot off back down the passage for a chance to get a quick look at the Diamond Mine

before returning to the pitch.

Now this is where things got a bit tricky. After a tour of the Diamond Mine, I waited back in the main passage for Megan and Alan until about 3pm, when I decided that time was getting short and I needed to make sure I met Phil as promised. I arrived back at the pitch to find Brett almost at the top and Michael and Phil getting ready to ascend, but no Megan and Alan. As the others ascended, and with no sign of the Prykes, I wondered what had become of them. Had someone decided to try Vics Step only to find it a slide? Had they succumbed to the ravenous crayfish lurking in the streamway? Had they played riddles in the dark with an evil subterranean creature and lost? There was only one way to find out – go back and get them.

Back down the sidestream – splash, splash, splash, THUNK as I forget about that big pool, splash splash splash. Now the crawly bit. I yelled out a couple of times in the forlorn hope that Alan and Megan would be just within earshot, but it was not to be. Extensive crablike scuttling followed. Finally – success! Megan was located at the junction with the main streamway, and Alan was apparently approaching from upstream in the main streamway after an inadvertent scenic detour. Some relatively heated words were exchanged but ultimately we all arrived back at the pitch just over an hour late, at 4:20. The delay was explained by Alan swearing black and blue that Phil had said 4:15, not 3:15. No matter – we would have been bang on time if the cave had been shifted laterally halfway to Sydney, or if we were on daylight savings time.

The verdict on Fred? A substantial streamway cave with some nice gypsum in the Diamond Mine but visitors to the downstream section are recommended to be over 5ft10 high. Be prepared for a bit of goopy thickshake mud, and practise your riddles just in case. Despite its name, the Hobbit Extension is unlikely to feature in the near future on any of the commercial Lord of the Rings tours of New Zealand.

Sunrise from the hut, Waitomo

photo Michael Fraser

THE DROUGHT BREAKS

WOMBEYAN CAVES, 17TH – 18TH MARCH 2007

TEXT JILL ROWLING, PHOTOS KEVIN MOORE

Participants: Jill Rowling, Mike Lake, Kevin Moore, Grant Farrell, John Dunkley. Cameo appearances from Peter Dykes and Ian Lutherburrow on Sunday.

Friday night was very warm for March, about 30°C at Carlingford with a slight drizzle. The weather system appeared to be the tail end of Cyclone George, which I'd been tracking on the Internet for the past few days as the depression moved from the Pilbara, to the Nullarbor, then across to NSW. A few weeks earlier, Canberra had been deluged with piles of hail, making drifts like snow. This was significant for Wombeyan, too, as Wombeyan Creek had flooded.

The camping ground was packed with people due to the Canberra long weekend. Grant had arrived earlier on Friday, from Queensland via Wellington Caves. Kevin arrived on Saturday morning. Jill went to the kiosk to get some tokens for the Fig Tree Cave, and drop in a map showing progress to date. Back in camp the usual disorganisation ensued, and we were eventually underground by about noon.

Mike, Kev and Grant proceeded along Wombeyan Creek in Victoria Arch, noting a few puddles and lots of debris. Kev waded through the Bath Room (up to his chest), but the others preferred to stay dry and wandered back as Jill came in. After some discussion, Jill convinced them to instead start surveying from the W150 tag (thanks to John Wiley of SSS for showing where it was.... it's a BIG entrance!) and Jill would go over the hill to 'rescue' Kev at the W149 entrance. While Jill went over the hill, Mike discovered he was missing the tripod for the forestry compass: it had apparently fallen from a pack. Grant backtracked towards the Bath Room and found it in one of the pools along the way.

Meanwhile Jill had gone in the upper Fig Tree Cave entrance using a token, and was getting dark-adjusted looking for the cave tag, which is just inside the gate on the northwest wall. There were also several lycosid spiders and a leaf-tailed gecko. She continued along the path through to Bush Rangers Hall where she scrambled down to Creek Cave and looked at the other side of the Bath Room. It was rather full of brown water, and the area below it was significantly excavated. Walking along Creek Cave, flood debris was evident, and the ladder appeared to have been moved – it was good we used some fixed survey points such as rock pendants rather than relying on fittings. She found Kev at the W149 entrance. They quickly looked at Creek Cave overflow and determined that it had not been flooded. Although they did not go down to Sump Junction, it did not look as though it had taken water. The air was fairly still and humid compared to last trip. After some photos, they returned through the show cave to join Mike and Grant, who were busy surveying near the W150 tag on the NW side of Victoria Arch. Mike drove the forestry compass, Grant had the tape, Kev sketched the NE side and Jill sketched the NW side.

A thunderstorm blundered past, making it so dark we needed to use our cap lamps to read our notes. The thunder sounded tremendous, in stereo from the two entrances, and we wondered about ionising radon gas conducting lightning. It rained off and on all day, but fortunately for us, no flooding and the creek stayed dry. Jill examined some of the side passages. There are a few leads on the western side, one of which had cool air slowly blowing out. Another just joined up around the rockpile. On the eastern side, one long passage (bearing 180°, distance about 50 m) takes a lot of water from near the bridge and presumably dumps it into the rockpile near the Drought Breaker. These smaller passages will be surveyed with Suuntos later. We used a laser pointer to highlight the base of a stalactite at the far south end of the Arch, as a triangulation exercise.

Flood damage downstream from the Bath Room

As we headed back to camp, we met John Dunkley near the Arch entrance. At camp, Jill had provided some firewood but the drizzle meant that even with some liquid fuel encouragement it was a disappointment so we retired to bed.

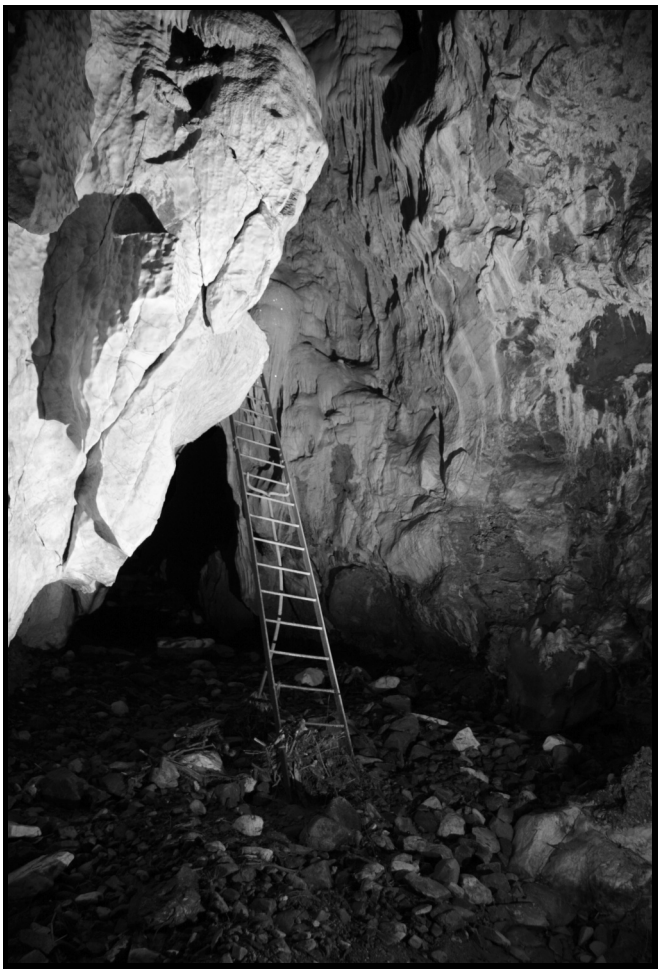
The next morning, in light drizzle, we set off for the Fig Tree Cave upper entrance (using the second token). The green hills to the east looked surreal, having been brown for years. While waiting to get dark adjusted, Jill pointed out some of the "holes to water" which are on the Trickett map. John had not seen the "new" lighting sequence. At Bush Rangers Hall, most of us scrambled down as per yesterday, while Kev left via the show cave as he had to go home early. The group inspected the flood debris around the Bath Room and Creek Cave, then walked through to Creek Cave overflow and down to Sump Junction. John had been reading selected articles describing "new discoveries" at Wombeyan in the 1960's in which two ways were described, leading down from the Fig Tree show cave, both leading to water and separated by a "presumed siphon". Jill was pleased to demonstrate that this "siphon" was now well and truly open. Only a small puddle in the northwest corner suggested recent water flow. On the southwest end, holes led back up towards the showcave entrance rockpile which we have not yet surveyed. On the way to the sump, the gours are fairly plastered with bat guano but the edges are still fragile so we stepped in the hollows. At the sump, calcite rafts floated on the surface, and the water appeared cloudy. Grant and Jill stayed to check the map sketches, while John and Mike wandered back up to Sump Junction, a bit of the upstream zig-zag area (Mike's legendary navigation!), returning to camp via the show cave. At camp, they met Peter Dykes and Ian Lutherburrow as arranged to discuss cave politics.

Meanwhile back at the sump, Jill and Grant checked the map and made minor corrections. The "dykes" were problematical structures. They could be all sorts of things from pyroclastic filled joints to weathered hydrothermal deposits. They are NOT magnetic. The wall of the downstream sump appears to be a "dyke", with fingers of bedrock poking out (see map). Similarly, the "siphon" of Sump Junction appears to be another. In one area about half way between Sump Junction and the downstream sump, one of these "dykes" is associated with the most amazing marbling and boxwork (it resembles the marble to the east of Sigma Cave which is north of a gabbro intrusion, mentioned in Jill's thesis). We discussed the black deposit on the white marble at the gour water lines. Was it carbon or manganese oxides? Jill thought it might be a reaction rim from bat guano or clastic sediment, since excavated by the (now dry) underground creek. It seemed to be a well-adhering coating. The ceiling bell-holes in this area appear to be the source of fresh air, not as pronounced on this trip compared to the November 2006 trip. Once possibility is it comes from Grants Cave. The recent flood may have blocked up the lower levels of Grants Cave again, decreasing the air flow. Curiously there seems to be little evidence of any other connection to Grants, other than one sediment cone.

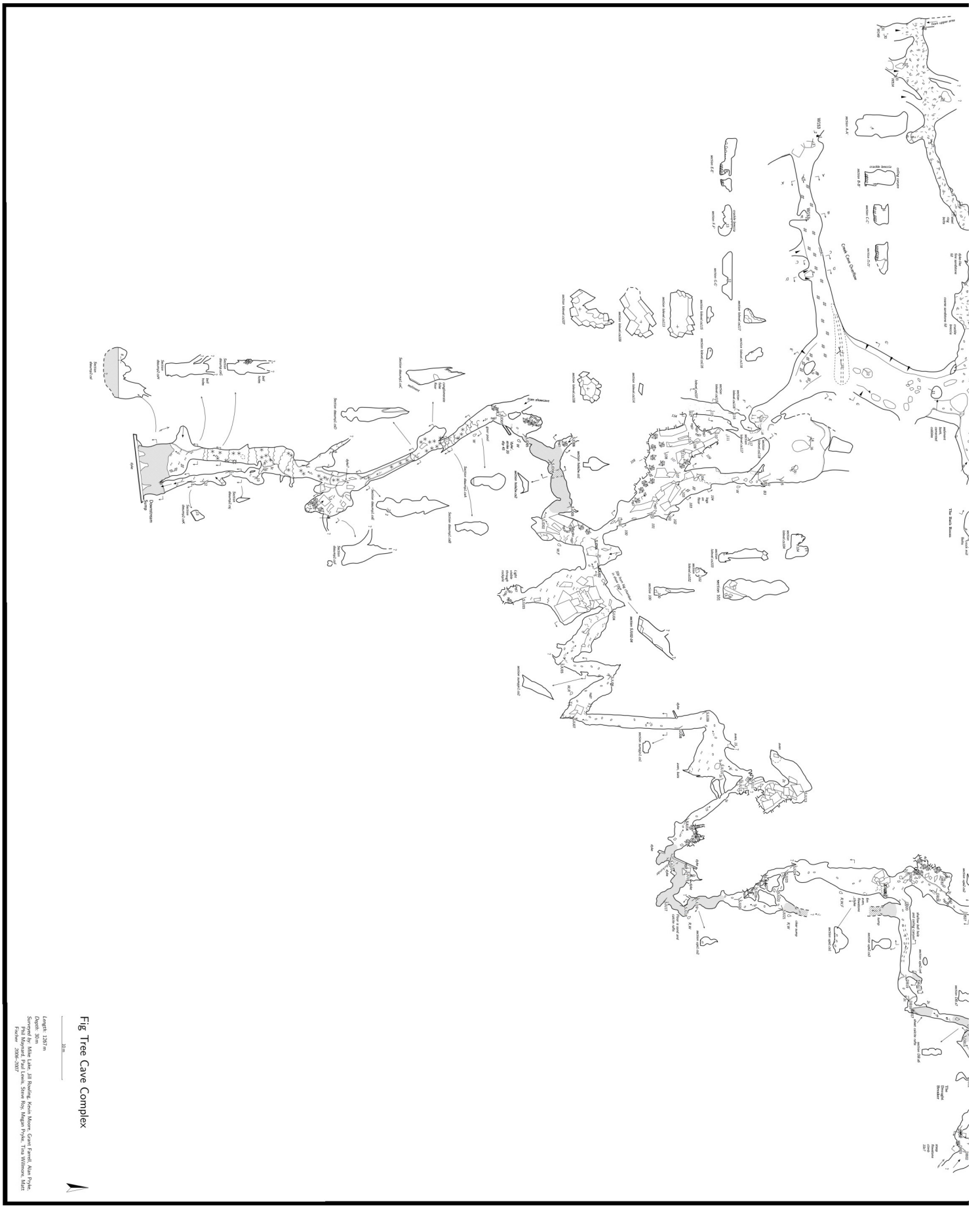
At the siphon, Jill checked the dip and strike of one of the "dykes" and checked that the material was not magnetic, including one of the survey stations. One apparently fallen block may have a pattern resembling slickensides, but it was fairly worn and could have been patterned as it parted from its parent block. They proceeded upstream along the zig-zags, making minor corrections. In the chamber below the large stalagmites - Opera House area, one could hear the tourists. Bats roosted here, only 3 or 4 (singly) and snickered at us. We went as far as the next low bit (usually a sump) and noted that the calcite rafts previously seen were replaced by fresh mud. There was no water, so presumably this had flooded through then drained away to an unknown lower level. Perhaps the gravel bed is quite deep.

They returned to Creek Cave and began the job of sketching the plan based on the previous survey. Jill relocated various survey stations, although one had definitely moved (the ladder) which was why we'd picked another point nearby at the time. Grant sketched from the W149 entrance inwards to the ladder, and Jill sketched from near the Bath Room back towards the ladder. The occasional tour went by above; they appeared to behave themselves a bit more than normal when they saw us, and were politely curious about our activities.

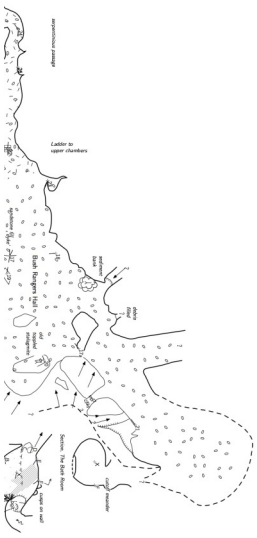
We finished up at 4pm or so and headed out via the show cave. Back at camp, Mike was starving (Jill had the car key) but the meeting was still in full swing. Apparently a lot was achieved. Jill wrote up the trip reports and dropped them into the office; we all went different ways (Canberra, Tricketts Arch, Blue Mountains, Mittagong). Jill and Mike enjoyed a Chinese meal at Mittagong in the drizzle.

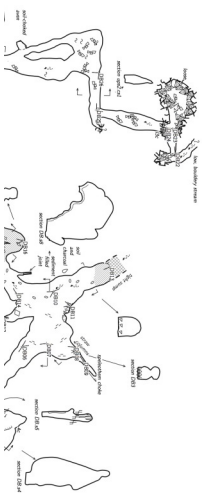


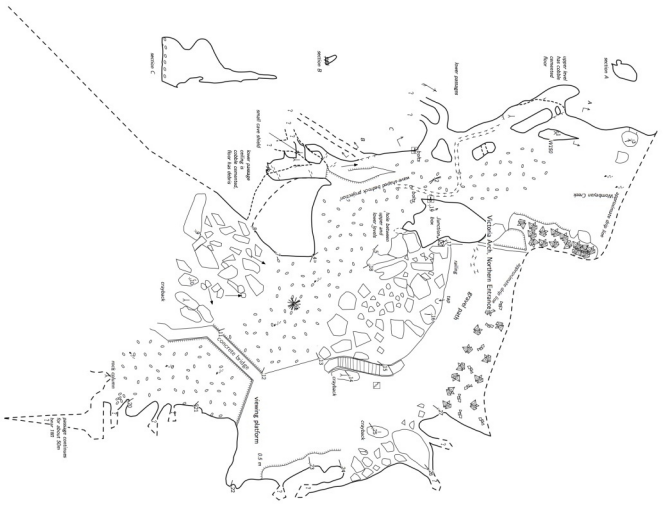
Flood-damaged ladder



Progress so far: Draft map of surveyed sections of Figtree Cave







Map Draft by Jill Rowling

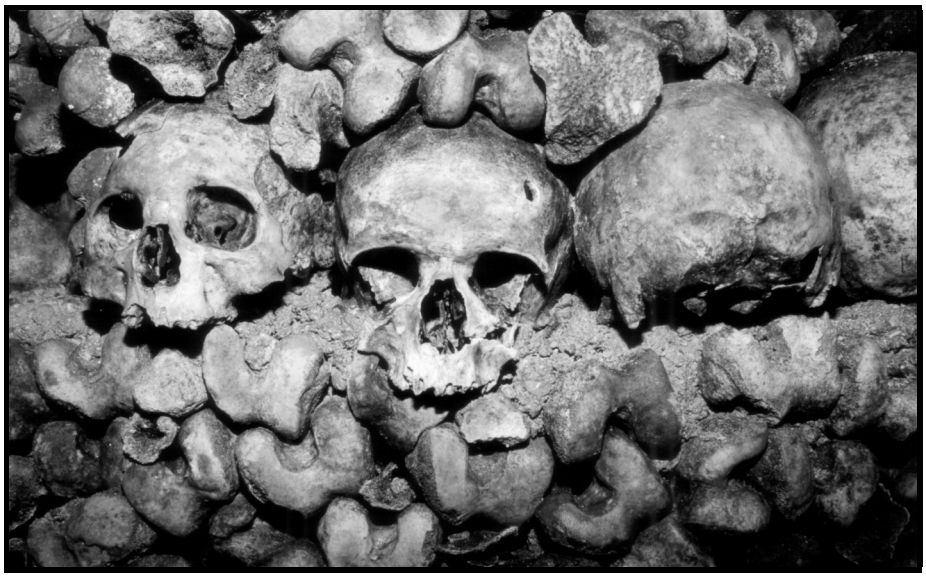
DOWN AMONG THE DEAD MEN

PARIS CATACOMBS, 27 OCTOBER 2004

TEXT AND PHOTOS CHRIS NORTON

Participants: Andrew Matthews, Chris Norton

When it comes to Parisian tourist attractions, most people would list the likes of the Louvre, the Tour Eiffel, Notre Dame, Sacre Coeur et al. If you were playing Family Feud, these would probably score you decent points. And I would hazard a guess that if you were to ask Bert to see if the Catacombs were up on the board, you'd score a big red cross. However, they're one of Paris' more intriguing sites.



Plenty of props for a spontaneous rendition of Hamlet

The catacombs had their origins back in Roman times. Stone was quarried from the tunnels over many hundreds of years to be used in the construction of buildings above ground. Whilst the initial quarries were in the open air, underground quarrying began in about the 10th century. The tunneling was generally random and uncharted, and in 1777 the office of the IGC (Inspector-General of Quarries) was established in order to map the quarries, monitor their stability and stop people digging new ones, in the light of unexpected collapses that were occurring. This office has continued to the present day. The catacombs are around 20 m beneath the surface, and have the potential to impact upon the structural stability of new buildings and upon underground railway tunnels. There are over 300 km of tunnels in all.

In the late 18th century, a new use was found for the Catacombs. The burial grounds of Paris were filling rapidly, and disease was spreading from improper shallow burials and mass graves, particularly in the Les Halles district, where the soil from the cemetery was piled up some 8 feet above street level. The Inspector-General of Quarries and Lieutenant-General of Police issued an edict that the remains from a number of cemeteries be disinterred, and relocated to the abandoned catacombs. Over time the bones of an estimated 6 million people were shifted into the underground corridors, with the practice finally stopping in about 1860.

Nowadays, you can walk through 1500 m of Catacombs, including some of the bone storage chambers, on an officially approved tourist route – so long as you make sure you know when it's open. When telling most people who know something about Paris that you want to go to the catacombs, they usually shoot back immediately "Have you checked when they're open?". Guidebooks will usually give you some limited opening hours, but the attraction can close for months on end – so prepare to be disappointed.

Upon my arrival in Paris on a Monday night, and with three days in front of me, I noted that the Catacombs were not far away, and so decided to go for a wander from my hotel in the Latin Quarter down to Montparnasse to see if I could find the entrance and verify the opening hours. There is a street address given but the entrance to the Catacombs is an unprepossessing metal door in a small building located on a traffic island at a major intersection along the Avenue Denfert-Rochereau, just over the road from the Denfert-Rochereau Metro station, looking rather like a small electricity substation or public toilet block. A sign taped to the door stated that the Catacombs would be open Wednesday through Sunday from 10am – but that from next week they would be closed for five months, purportedly for maintenance. Phew – good timing!

By Wednesday morning, Andrew Matthews had arrived, and was keen for a break from the hordes of kids on school holidays that he'd encountered at the Natural History Museum the previous day. After a leisurely breakfast, we wandered up to the door – only to find that we were queueing with 15 10-year-olds. Admission to the Catacombs is free for kids under 12, so this must have seemed a cheap school holiday excursion.

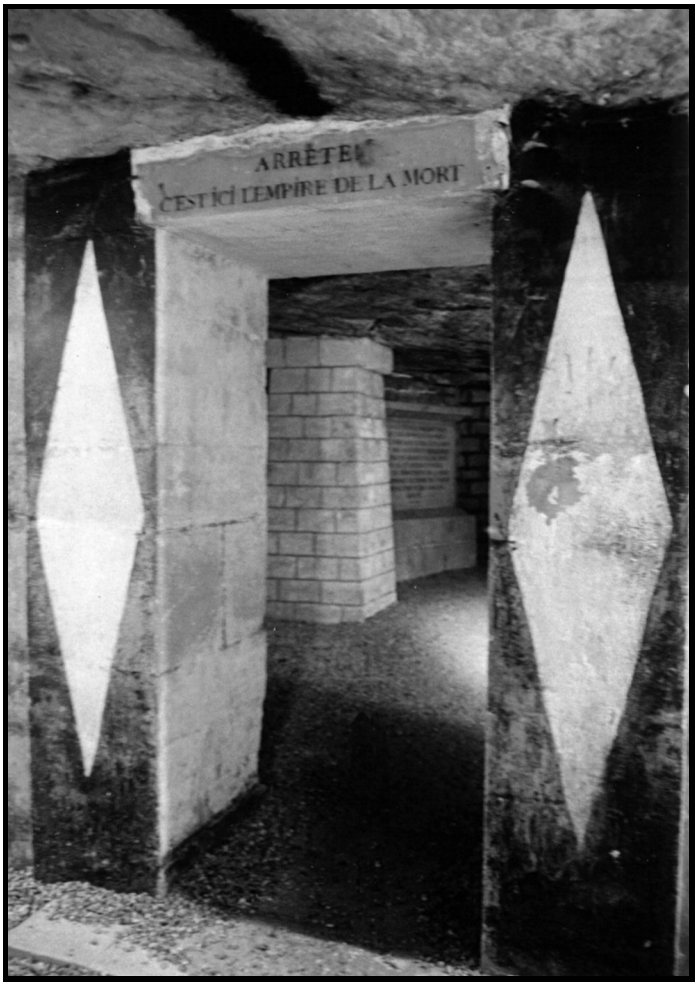
Those entering expecting a public toilet are likely to be surprised

The surface building doesn't house much – the admissions desk, a very basic display about the history of the Catacombs, a small office or two, and a spiral staircase leading downwards. Descending the stair is a disorienting experience, as it goes down for about 20 m and by the time you've completed several revolutions you have no idea in which direction you are pointing. At the foot of the stairs you enter a long corridor, very sparsely lit with electric lamps. The walls vary between brickwork and dry stone, built as reinforcing walls in front of the quarry face. Coded lettering and numbering on the walls gives the date of construction of reinforcing structures, and identifies the location and the official in charge. Presumably these codes could also be a great help if you were lost and wandering the labyrinth.

This part of the tour can be a little unnerving. Long galleries run for hundreds of metres before turning a corner. Shadowy figures can be seen wandering in the distance, and the damp gravel floor scrunches under your feet. There's also the occasional whoop from a child trying not to get too freaked out.

Eventually the corridor leads into a room with pillars painted black and white flanking a gateway. A sign above proclaims, rather portentously: "Stop! This is the empire of death." This is the entrance to the Ossuary, which contains just a fraction of the bones entombed in the Catacombs, displayed in a relatively public-friendly manner.

The Ossuary is a labyrinth of vaulted corridors and rooms which you navigate by a roundabout path defined by locked gates blocking off the places you're not meant to go. It's rather like a huge wine cellar – except that instead of wine, the niches at the side of the corridors are filled with human bones. Someone, sometime has gone to a lot of effort to arrange these bones in patterns. Generally, the face presented to the corridor comprises several rows of tibias or femurs, interspersed with the occasional row of skulls. However, in many places the stackers have got creative and have made more intricate designs, such as geometric shapes, X's and crucifixes, from the skulls. The stacks generally reach up to or close to the roof, but extend back for a distance. Presumably, the hips, vertebrae, ribs and so forth that aren't apparent at the front are piled in behind. It's not easy to see how far back the stacks extend but for the most part it seems to be some 2-3 metres, although at one point a lower stack can be seen to reach back for a good 18 m.



The Ossuary. Translation: Please remove shoes on entry

There are other decorations. Stone tablets regularly appear, engraved with information identifying the cemeteries from which the bones originated and their date of deposit, or bearing appropriately mordant quotes. Whilst gravestones are normally inscribed with relatively comforting words, hinting at a better life in heaven or an eternity of peaceful slumber, the quotes here are much more cynical and bleak, with multiple references to the dark silence of the tombs, the inevitability of death, and the futility of life given that the reaper will come and level all. Still, the quotations are apt, as the remains of many famous Parisians are said to have ended up here, marked with no elaborate headstones and no more identifiable than that of the lowliest paupers, their remains serving merely as building blocks for the decorative walls.

There are occasional open chambers decorated with altars, urns or fonts. There are occasional generic tombs which are the sites of occasional religious services, but no specific tombs commemorating individuals.

Not all the bone storage areas in the Catacombs have received as much attention to presentation. Off the public pathway, corridors are jammed full of bones that have been shovelled into place with no attempt to stack them neatly. At one point on the public tour, a corridor piled with bones tipped from a wheelbarrow is shown to give an idea of what things might be like. Undoubtedly, some people might find it tasteless to be using the bones of the deceased like lego bricks to create decorative designs on the walls of the Ossuary – but then again, those people are probably not likely to come down here in the first place. Andrew found the bones very intriguing and picked a few up for closer inspection. If ever you need a hip transplant, you might be able to get out of buying an expensive steel prosthesis by picking up a spare from the corridors here.

Upon leaving the Ossuary, the tourist path passes through another set of corridors, this time larger than the entrance series. There are occasionally high rooms of 11 m or so in height with vaulted buttress roofs for support. In some places, these large cavities have been reinforced in modern times with liquid cement. The IGC still constantly patrols the quarries of the Catacombs, inspecting for signs of failure and reinforcing to stop collapse.

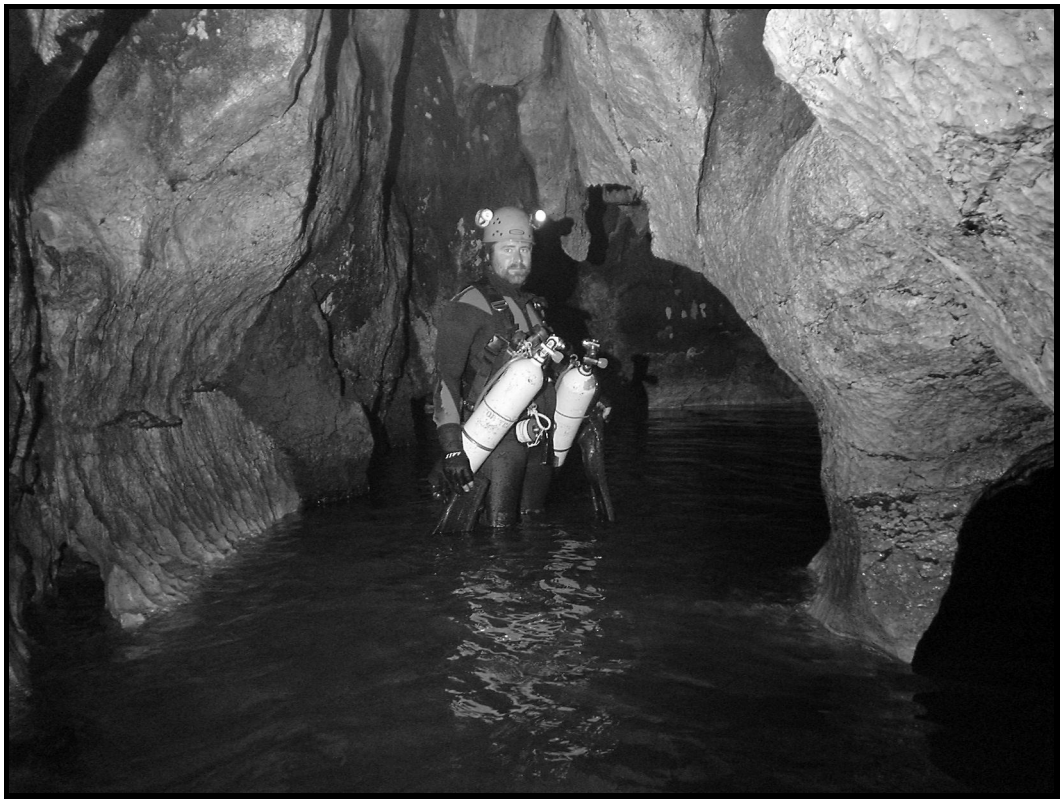
The IGC aren't the only ones who roam the Catacombs. There are many hidden entrances around Paris, and the labyrinth occasionally intersects the Metro and the sewers. Unauthorised entry is illegal but this doesn't stop a large number of "cataphiles" from conducting illicit visits. To combat the cataphiles, there is a group of police who patrol the corridors, known as the cataflics. However, with over 300 km of tunnels to roam, the cataflics can't be everywhere. Just a month before our visit, the cataflics stumbled upon an underground clubroom used by the artistic movement Mexican Perforation, equipped with a kitchen, bar, cinema, and electricity and telephone lines. There was a well-stocked film library. The police reported their find, but when they returned they found everything removed and a note saying "Do not try to find us." There is said to be a strong respect for the history of the Catacombs amongst the cataphiles, with vandalism and graffiti frowned upon.

Ultimately, visitors emerge from the tour into a narrow street in Montparnasse, departing through a plain door in an otherwise featureless stone wall between terrace houses that gives no clue about what lies underneath.

Martha Stewart's latest wall detail concepts – femurs are the new black

James Little in Murray cave, Cooleman

Photo Keir Vaughan-Taylor



Jason Cockayne in River cave, Cooleman

Photo Paul Lewis

TRIP LIST: APRIL 2007

SUSS General Meetings are held on the first Thursday of the month at 7:00pm (for a 7.30pm start) in the Reading Room of the Holme Building at the University of Sydney. The Holme Building is close to the Parramatta Rd footbridge on the northern side of campus. The Reading room is on the first floor (enter from Science Rd).

For updates to this list, check out the SUSS Website: *http://ee.usyd.edu.au/suss*. Detailed information on each caving area (plus other useful information such as what you will need to bring) can be found in the *Beginner's Handbook* section of the Website.

Please Note: it is YOUR responsibility to inform the trip supervisor of any relevant medical conditions which may in any way affect your fitness, such as asthma, diabetes and the like.

April

14 – 15 Tugalella. Tugalella was for years closed to everyone but is now open to some groups. We have one, possibly two divers ready to tackle the sump. We have an aven that was previously climbed to explore and surveying to be done to increase the cave's length. We are also hoping to make a connection between the sink and resurgence. How much we get done depends upon numbers. Great campsite and roaring fire in a great location and now we have a portable hut (sleeps 12). Contact Andrew Trafford. andrewtrafford@optusnet.com.au

14 – 15 Orange Food Week. Maybe some caving involved. Contact Phil Maynard Philip.Maynard@uts.edu.au or 9908 2272 (home).

21 – 22 Jenolan. Jenolan is SUSS's most familiar caving area, just past Katoomba in the Blue Mountains. There is a hut to stay in that has hot and cold running water, fully functional kitchen, and mattresses to sleep on – it's a luxury! So anyone who would like to really get into caving and take a hot shower afterwards, should contact Max Midlen mmidlen@aol.com or 0425 244 275.

28 – 29 Wee Jasper. Explore the unique features of the warm maze caves. Contact Phil Maynard 9908 2272 (home) or Philip.Maynard@uts.edu.au.

May

3 Annual General Meeting. Come and exchange the old committee for a new one. Holme Building 7:30pm.

5 – 6 Wombeyan. Well endowed caves near Mittagong. Contact Phil Maynard Philip.Maynard@uts.edu.au or 9908 2272 (home).

12 – 13 Wyanbene. Enjoy the magic of a stream cave. Trip supervisor to be announced.

19 – 20 Jenolan. Come and enjoy a weekend of crawling through the bowels of the earth, followed by a hot shower and entertaining evening banter. Contact Tina Willmore tinaw@chw.edu.au or 9845 2325 (work).

26 – 27 Colong. Come and camp for the weekend in remnant rainforest, listen to the lyrebirds, ward off the scavenging goanna. There is a bushwalk involved. Trip supervisor to be announced.

June

2 – 3 Jenolan. Diving, trip supervisor to be announced, pending.

2 – 3 Wombeyan. Well endowed caves near Mittagong. Contact Phil Maynard Philip.Maynard@uts.edu.au or 9908 2272 (home).

7 General Meeting. Holme Building 7:30pm.

16 – 17 Jenolan. Come and enjoy a romp through the dark holes of Jenolan. There is always more to be discovered! Trip supervisor to be announced.