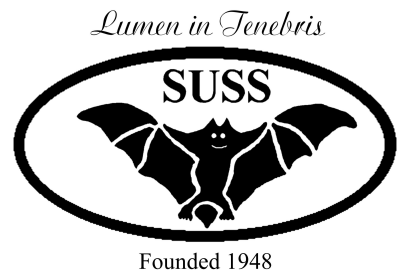


# *SUSS BULL 48 (4)*

*JANUARY – MARCH 2009*



Bulletin of the Sydney University Speleological Society

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**Cover Photo: Hangover Hole, New Zealand.  
Alan Pryke**

### **Brian O'Brien Publishes Data on Moon Dust**

We already knew that he'd stored the tapes of data that NASA lost, but now he's analysed them and is publishing the analysis. Brian O'Brien was president of SUSS in 1956 and discovered half of East Deep Creek cave at Yagby by failing to find the entrance on his way out of the cave.

"Lost Apollo moon dust tapes found in Australia", Computer Weekly, 10 Nov 2008.

<http://www.computerweekly.com/Articles/2008/11/10/233294/lost-apollo-moon-dust-tapes-found-in-australia.htm>

"Discovered After 40 Years: Moon Dust Hazard Influenced by Sun's Elevation", SpaceRef, Monday, April 20, 2009.

<http://www.spaceref.com/news/viewpr.html?pid=28005>

O'Brien, B. (2009), "Direct active measurements of movements of lunar dust: Rocket exhausts and natural effects contaminating and cleansing Apollo hardware on the Moon in 1969",

Geophys. Res. Lett., 36, L09201, doi:10.1029/2008GL037116.

<http://www.agu.org/journals/gl/>

Thanks to Phil Maynard for passing onto us this information.

### **Dr Matthew Hole Appointed to the International Fusion Research Council**

Dr Matthew Hole has been appointed by the Director General of the International Atomic Energy Agency (IAEA) to the International Fusion Research Council (IFRC).

"The Agency's International Fusion Research Council (IFRC) has the mandate and responsibility to periodically review the IAEA activities in fusion research, to recommend policies and programme priorities for these Agency activities and to oversee their implementation. The IFRC is a standing advisory body of the IAEA and meets once a year."

Matthew was an active and enthusiastic SUSS caver from about issue 36(2), 1996 to issue 43(1), 2003. He was Vice President and Editor (1997-1998), President (1998-1999) and Librarian (2003-2004). Below are some articles from the past that feature Matthew.

On the SUSS Website go to SUSS Bull 38(1), July-September 1998, "Editorial":

[http://ee.usyd.edu.au/suss/Bulls/38\(1\)/editorial.html](http://ee.usyd.edu.au/suss/Bulls/38(1)/editorial.html)

These Bulls can also be found on your SUSS 60th DVD (you do have one I hope!). Either browse via clicking on "The SUSS Website, April 2008" snapshot then the link "Bulletins" on the left or directly open the file from its directory on the DVD given below.

SUSS Bull 38(1), July-September 1998, "Editorial"

DVD: [www.ee.usyd.edu.au/suss/Bulls/38\(1\)/editorial.html](http://www.ee.usyd.edu.au/suss/Bulls/38(1)/editorial.html)

SUSS Bull 38(1), July-September 1998, "The Ellis Basin: A Holiday in Paradise"

DVD: [www.ee.usyd.edu.au/suss/Bulls/38\(1\)/ellisbasin.html](http://www.ee.usyd.edu.au/suss/Bulls/38(1)/ellisbasin.html)

SUSS Bull 39(2), October-December 1999, "Farewell President Hole"

DVD: [www.ee.usyd.edu.au/suss/Bulls/39\(2\)/hole.html](http://www.ee.usyd.edu.au/suss/Bulls/39(2)/hole.html)

Matthew also has a web page at <http://www.rsphysse.anu.edu.au/~hol105/>

### ASF "Karstaway Konference 2009"

The 2009 Australian Speleological Federation Conference "Karstaway" was held in Sale Victoria from 5–9th January. Usually Jill Rowling and Mike Lake attend and represent SUSS but were unable to go this year as they decided to go to the Linux Conference in Hobart. At the ASF Conference Mike Lake was awarded an Edie Smith Award for "Outstanding Service to Australian Speleology".

Some time ago Patrick Larkin had been made a Fellow of the ASF and Megan Pryke had been awarded a Certificate of Merit but they had not been presented with their actual awards. So at the May SUSS meeting Grace Matts, Treasurer of ASF, and John Dunkley, former President of ASF, presented these awards to Patrick, Michael and Megan.



Patrick Larkin, *Fellowship of the Australian Speleological Federation*. For outstanding service specifically to the Federation.

Photo by Alan Pryke.



Megan Pryke, *Certificate of Merit*. For specific contributions to the exploration, scientific study, conservation or documentation of caves.

Photo by Alan Pryke.



Mike Lake, *Edie Smith Award*. For outstanding service to Australian Speleology. The Edie Smith Award perpetuates the memory of Edie Smith who was a distinguished pioneer of Australian Speleology, a Life Member of the Tasmanian Caverneers Club and the first female President of an Australian speleological society, the Canberra Speleological Society.

Photo by Alan Pryke.

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## MOLE CREEK, TASMANIA

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BY SASA KENNEDY, JANUARY 2009

**Participants:** Phil Maynard, Chris Norton, Michael Taylor, Ted Matthews, Bec Lewis, Stephen Kennedy and Sasa Kennedy

### Prelude

The Mole Creek trip was timed to coincide with a very tight window of opportunity when three Jenolan guides could wangle some leave during the busy summer holiday period. It had taken months to plan, with permits to Kublai Khan being a rare and precious commodity (few are granted and a local guide needs to be organised) and a trip leader needed, along with more SUSSlings to ensure trip viability. Thanks Phil for making it all work!

On Saturday evening we met at the Mole Creek Hotel to compare notes of our various activities during the previous week; some had arrived at Mole Creek earlier and enjoyed the pleasures of Marakoopa, Lynds and others. Ted and Bec had been to Cradle Mountain and seen it in both sun and snow and Stephen and I had been touring and bushwalking around Tassie with my husband David. Two days before we had been in a snowstorm on Tarn Shelf at Mt Field NP and talked to my son and fellow SUSSling Richard, who was in the snow in Prague. Weird.

All seemed ready for the big trip to Kublai Khan scheduled for early the next morning so we headed off for an early night. Henry Shannon (SUSS legend) was on his way home from the ASF conference to be our local guide, according to permit requirements.

### Kublai Khan, Sunday 18th January

We arrived at the caravan park to hear that Henry was ill and unable to guide us, but had organised an alternative guide. (Thanks Henry, and we hope you're feeling much better!) David Butler, of the Northern Tasmanian Caverneers, was on his way from Launceston to rescue us from dire disappointment. We waited nervously for him to turn up. After what seemed like a very long time, but was in fact only an hour or so, David arrived and we set off. A new gate had been erected on the 4WD track and we had no key, so a longer walk than anticipated took us to the cave. More precious time lost! Hopefully the lock had not been changed!

Phil, Michael, Ted and David set off to rig the exit pitch and at last we were ready to head into the cave. David rigged the entrance pitches and we were on our way. The cave was living up to its reputation – absolutely stunning – as we abseiled in and went down the steps from the Khyber Pass to the Opium Den; huge formations, great colour and also lots of very delicate crystal. Next the Forbidden City, with the Jade Pool, and then the Silk Shop, full of the most beautiful, richly coloured, draped shawls. Michael, Stephen and David tried to maintain a patient demeanour as the rest of us tried to capture it with cameras. This was quite a task as the sheer size made it very difficult without several slave flashguns.

Flowstone floor alternated with muddy patches, which could easily be traipsed through the cave, so the NTC (caretakers of the cave) had installed a wading pool to hold enough clean water to refresh the several scrub down stations that are required to avoid potential damage. Quite a surprise, and rather amusing, to come across a swimming pool in the middle of a cave!

Xanadu, featuring the huge stalagmite known as The Khan, was a good place to rest, admire, take photos and reorganise gear. The Khan was enormous, with great colour, but hard to appreciate properly as it was impossible with our resources to light it in its entirety. Onwards, past the Khan's Army, a row of large stalagmites, to the Begum, another grand feature, this time a column over 30 m tall.

Thence to The Rift, which I crossed (very bravely for me, as I'm not fond of exposure over great gaping holes!); Bec and Ted wisely decide to go the alternative route, abseiling down, with Stephen going back across The Rift so as not to miss out on the fun of the abseil.

If there's one thing I like less than exposed climbs, it's cold water so I wasn't delighted at our next obstacle, Sally's Folly, which required clinging to the wall by minute projections with toes on a tiny shelf just below the water, to avoid falling into the chest high water. Miraculously we avoided a dousing and made our way safely to the Cairn Hall, where we de-trogged and scrubbed down for our visit to The Pleasure Dome, where Ted, Bec and I again tried the patience of the non-photographers in the group. Layer after layer of knee high to waist high rimpools glittering in our torchlight led us on. Totally beyond description, so if you haven't been yet, you'll just have to get there to comprehend the magnitude of this abundantly decorated cave.

After lingering at The Pleasure Dome there was no avoiding a soaking except by an exposed climb above the River Alph. After Michael and David failed to convince the rest of us that the climb was a good alternative we gritted our teeth and set off through the chin high water, which turned out to really be above head height, necessitating

a somewhat bracing swim. Somewhat tricky when it is too cold to draw breath! Not the most pleasant section of the cave given the temperature of Tasmanian cave rivers. Bec decided it had been worthwhile carrying a wetsuit through the cave; the rest of us just froze.

We were soon to warm up as we started the long climb up an old staircase to the bottom of the exit pitch, but cooled down as we awaited our turns to ascend out of the cave. Not much here in the way of features to take your mind off the cold. However, at the top of the exit the temperature was pleasantly warm as we awaited the last climber, daydreaming of the beauties we had seen.

Then off to The Mole Creek Hotel, where the publican kindly kept the kitchen open late to feed a starving mob of grubby, smelly cavers full of tales of a mythical paradise.

### **Croessus, Monday 19th January**

Only the prospect of another legendary cave got me out of bed the next morning. Our room at the pub was directly over the bar, and while the kitchen had shut the bar was most decidedly open for quite a while after we slunk off, exhausted, to attempt some sleep.

We met at the caravan park and set off for another glorious day, this time with Phil and Chris leading. The track to the cave is not well defined but we found it easily enough and after a struggle with the lock crawled through the low entrance passage. From here the cave is mainly a walk through, but largely through water, so we all had wet suits on this time.

Hard to imagine anything coming close to Kublai Khan, but Croessus, an active stream cave, is also full of beauty. The floor is mainly rimpools, with water flowing through them and often oolites to be avoided. The water was surprisingly clear and clean, given the pastureland that it passes through before entering the cave.

We observed platypus scats near the entrance, but sadly did not sight the platypus itself.

The Floating Cone provided much entertainment, as we tried to photograph it effectively; it is a huge cone of crystal, appearing to float in the stream.

In one of the deeper sections of water I managed to catch my foot in some mud, dropping my handheld miner's lamp into the water, instantly dousing its beam. This was the final straw in a two day saga, where all three of my lights had been giving grief. The switch on my Duo 14 had finally died that morning as soon as we entered the cave. I continued on with only the low beam of a Princeton Tec left functioning, grinding my teeth at unreliable technology. Luckily Bec had a great spotlight and everyone else also shared light with me, so the trip was still fabulous.

Apart from a low climb around a deep pool the cave continues along the stream, through more beautiful rimpools of varying depth, past some large formations, lovely shawls and dry beaches. We meandered along, taking photos and trying to drink it all in. All too soon we completed our tour and regretfully turned to make our way out.

Later that afternoon we regrouped for one last meal at the pub before heading off on our assorted ways home, mentally planning the next trip to this place of stunningly beautiful caves.



**Stephen Kennedy in Kublai Khan. Photo by Ted Matthews**



***The SUSS crew in Croessus; Michael, Chris, Phil, Bec, Sasa & Stephen.  
Photo by Ted Matthews***



***Reflections in Croessus. Photo by Bec Lewis***

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## TIMOR

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BY PHILIP MAYNARD, 14–15 MARCH 2009

**Participants:** Phil Maynard, Kevin Moore, David Lee, Nicole Lee

SUSS doesn't get up to Timor all that often - it's a long drive, and almost all of the good caves are on private land. On the other hand, NHVSS goes there all the time, and they are on good terms with the farmers, so when Jodie Rutledge from NHVSS suggested we come with them on a joint trip, I jumped at the chance. There's a hut available on Glen Dhu property for cavers to stay at, outside shearing season at least. It's comfortable enough but limited in sleeping capacity. We set up our tents outside and used the kitchen to cook.

The major aim of the weekend for NHVSS was a dig on the property next door. We went off to help them on Saturday morning, and found that the dig was an old pit toilet (very old, fortunately!) up the hill from the farm house. Down the pit shaft, we found a horizontal cave with a couple of leads. When NHVSS started this dig, the pit was full of rubbish – old beer bottles, loads of old medicine bottles full of pills, and a gun! There wasn't a lot of rubbish left in there for us to worry about, just a lot of dirt in the way of progress.

Led by Gary Smith, we took turns to dig and haul the spoil out of the shaft. A kind of lean-to tent over the entrance was designed to keep the hot sun off the haulers, but it soon came in handy when the rain came bucketing down on us up on the surface. We made a lot of progress during the day, but eventually left to get some lunch.



*David in the dig. Photo by Nicole Lee*

For the afternoon, we looked to get into Lake cave – it's the largest cave known in the district and tightly restricted. After chatting to the farmer, we soon got our exercise for the day, opening the gate at the lower entrance. The gate was rusted shut and jammed with leaves and other litter around the hinges and generally looked like no-one's been in there for a long time. Eventually some serious persuasion and Gary's WD40 were used and we pried the gate open far enough to squeeze in.

Below the entrance passage, the cave soon becomes a rift with a wet floor. The fact that the rift was wet was ominous – this implied that the squeeze into the main chamber and the good part of the cave would be sumped. Sure enough, I poked my head around the first two corners of the squeeze, lying flat out in the water, and could see the low point was a good 10 cm underwater. Curses! We backed out to a side passage back along the rift. This was also knee deep with water, and when Gary pointed out the way on, we thought at first he was joking. Half in and half out of the water, a tiny slot in the side wall dropped into a squeeze which was very, very tight and which only had a couple of centimetres of air at the low point. I tried to enter this feet first, and never really had a hope of getting through. Nicole tried next, and because she's smaller than me she managed to get well into the squeeze and much closer to drowning. Eventually we rescued her and decided to try to get to the other side of the squeeze via the upper entrance of the cave.

Outside, it was a hot and sticky afternoon, and the creek was tempting, but we went to at least look at the top entrance first. It's in a doline at the top of the limestone hill, and hasn't been used in a very long time by the look of things. There was plenty of blackberry in the doline, and the gate was even more recalcitrant than the main entrance. After quite a bit of effort, we had to give up and I went down to the creek while the others drove around to the caves on the reserve.

The large caves on the reserve are very popular (= vandalised), but worth an hour or two if you haven't been there before. The group even found some bats braving inhabiting the caves, despite the human tide. That night there was a cracking thunderstorm and light show over the hut, but sadly not enough rain to get the creek flowing.

Glen Dhu cave was the aim the next morning; a struggle to get to since it's 30 metres from the back door of the hut. We spent a couple of hours wandering through the largeish chambers and getting up close to the wildlife in the cave, while Gary led a team back to the dig next door. Glen Dhu cave has a very large gate across the entrance, but there is much evidence of vandalism from the past. Nevertheless, some good formation has survived, and the cave is high enough above the watertable to be accessible.

The sunshine was very tempting after that, so we went down to the creek for a swim, before packing up and scooting back to Sydney via the Burning Mountain. Thanks to Jodie and Gary for inviting us up to Timor and showing us their dig! We'll be back to see more of the area with NHVSS sometime soon I'm sure.



*Nicole gets to grips with Lake cave. Photo by David Lee*



*Glen Dhu Cave. Photo by David Lee*



*Glen Dhu Cave. Photo by David Lee*

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## BEGINNERS CANYONING TRIP, JUGGLER AND EMPRESS CANYONS, BLUE MOUNTAINS

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BY DEBORAH JOHNSTON, 14–15 MARCH 2009

**Participants:** Marcel Lando, Deborah Johnston, Nichol Hill, Tracy Jarvis, Thomas Glass, Marina Trusa, Tiffany Khoo, Tom Short, Connie Gurzeni, Lizzy Ryan, Linh Huynh

Marcel and I decided to take advantage of our day off and head up to the rainy Blue Mountains disgusting early on Friday morning aiming to squeeze in a canyon before our horde of newbies arrived. We set off to do Better Offer canyon but in our early morning brain fog we ended up walking to the nearby Birrabang instead. It was a nice day out despite the packs full of unusable vertical gear.

We got back to our semi-secret camp location before dark and set about making a fire with saturated wood. By the time we finally had it going the cars full of eager newbs had started arriving to meet, greet and set up camp. It was a late night with one group arriving at 2am and those not used to camping laying awake excited about the days ahead.

Saturday morning we got everyone up nice and early and set off for Juggler canyon, a slightly challenging but scenic and rewarding beginners trip near the Katoomba airstrip. I spotted a small brown snake during the short walk to the first abseil but it zipped away too fast for the others to see which was probably a good thing given how nervous some of the newcomers were!

The first abseil is an easy 4 m down a slope which could be free climbed which makes it great for first timers. Everyone picked up there technique extremely fast so we zipped through the several short but slippery abseils rather quickly, reaching the final 20 m free hanging abseil around lunch time.

This final abseil is a more daunting 20 m open free hang which slowed the group down enough that there was not enough time left to do Grand Canyon as well (to the relief of a few tired canyoners).

Shortly after exiting the canyon I heard someone slip on a wet ledge and gave the group a little lecture about being careful. Unfortunately two steps later, as I repositioned to take a photo of the exit of the canyon, I slipped on a log and faceplanted! Despite a smashed tooth and busted up chin it was more embarrassing than painful with Tom and Nichol delighted to use their oversized first aid kits painting my face with iodine and bandaging me up like a mummy. Demonstration complete!

We cruised up the river walk and were surprised to find that a giant collapsed tree had taken out most of the slope at the start of the Pilchers track. We rigged a handline to get everyone up and 20 mins later we were driving to Katoomba where we let the brief but heavy storm roll over. We returned to camp to play some WWF style thumbwar battles, relax in Nichol's giant hammock and enjoy the stars until the early hours of the morning.

On Sunday we dragged everyone out of bed again to get geared up for Empress. The water was as cold as always but this didn't stop most of the group bravely leaping from the optional water jumps. A few stumbles, wades, jumps and climbs later and we reached the dramatic end of the canyon, a 30 m abseil down a waterfall. We set up two single lines from the anchor on the left and started coaxing people over the edge while the rest of the group huddled in the shade and wind thankful for their wetsuits and thermals. Luckily they were far enough back to miss the many tears and screams from the commercial group being thrown over the more difficult abseil on the right. By the time the last people were down the freezing group waiting at the bottom were dancing around in an attempt to warm up but



**Group shot at the end of Jugglers Canyon.**  
**Photo by Deborah Johnson**

there wasn't a cold person left after the steep 20 min walk back up the tourist tracks to the carpark. The group filed back into their cars grinning proudly with their weekends accomplishments.



***Tracy Jarvis at the bottom of the Empress Canyon abseil.  
Photo by Lizzy Ryan***

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## FIG TREE CAVE, FIRST TRIP TO WOMBEYAN CAVES FOR 2009

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BY JILL ROWLING, 28–29 MARCH 2009

**Participants:** Jill Rowling, Mike Lake, Alan Pryke, Kandy Wang, Deborah Johnston, Mark Euston (SUSS/NUCC), Bill Lamb (CASM/NUCC), Kevin Moore

### **Introduction**

The aims of this trip were to do a surface survey from the Creek Cave entrance of Fig Tree Cave, to the daylight hole in Grants Cave; to survey Grants Cave to its daylight hole, and to add some more survey legs to the rockpile in Fig Tree Cave. This was achieved, plus a surface survey to Zephyr Cave (W133). It was fairly warm both days.

### **Saturday**

After visiting the guides' office, we split into two groups. Alan, Deborah, Mark and Bill went to Grants Cave, to survey the new bit. Kevin was saying something about some requirement to put a lot kilometers on the car in the next few days so he drove off. Mike, Jill and Kandy went to Fig Tree Cave via the showcave entrance. They explained some of the features to tourists, then went down to the Creek Cave entrance where they surveyed from the daylight hole in Grants, to the Creek Cave tag. They also did some surface surveying in the hot afternoon, linking the Zephyr Cave tag to the survey. The hardest part was getting the long distance shot in the sunshine, supporting and aiming the Disto very carefully and using the side view lens which shows an expanded view of both the target and the laser spot. Mark and Bill had not seen a golden orb spider before, and one had erected its large web near Zephyr Cave. It glistened in the sun, quite spectacular. Jill and Mike returned to camp for an early dinner.



**Kandy Wang and the marbled canyon. Photo by Jill Rowling with the assistance of Kevin Moore and Kandy Wang**

It glistened in the sun, quite spectacular. Jill and Mike returned to camp for an early dinner.

Kevin returned later that night with a fine bottle of Campbell's Rutherglen Tokay wine. Yes, it had come from Rutherglen, near Albury. After dinner, Kev, Jill and Kandy had a look at the lower sump in Fig Tree and found a large puddle just before the final deep sump. Upstream of Sump Junction was full of bats so we didn't proceed. Kandy led out, up through the rockpile, at first thinking this was a new passage . . . Jill looked at correcting some of the track survey in the Collonades area. The "Bath Room" was fairly dry this weekend.

### **Sunday**

Jill, Kev and Kandy went back into Fig Tree Cave and did a short survey connecting the top of the big rock near the "hole to water" area and a metal tag in the rockpile. Jill photographed some fungi and the interesting patterns in the marble along the canyon between the two sumps. Some of the fungi had reflective dots, silvery ones, gold ones and some reddish ones, presumably reflecting the concentration of beta carotene in the droplets.

Upstream of Sump Junction was still full of bats so we didn't proceed. As we were coming out of Fig Tree Cave, Jill "rescued" a baby blanket which had been accidentally dropped by one family.

Alan, Deborah, Mark and Bill were in Grants and Zephyr Cave, as the two caves are very close and there should be a way between them.

Mike, Jill and Kandy went home via Goulburn as Jill wanted to see a garden.

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## EVERYONE WAS HERE – FIG TREE, NICE, ZEPHYR, GRANTS AND JUNCTION CAVE

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BY JILL ROWLING, WOMBEYAN, 2–3 MAY 2009

**Participants:** Jill Rowling, Mike Lake, Deborah Johnston, Ian Cooper, Max Midlen, Tom Short, Alan Pryke, Megan Pryke

### *Introduction*

This was supposed to be a small trip with just Mike and Jill, so we planned to survey Fig Tree at night and, during the day, have a look at Nice Cave and check the water levels in the Junction Cave spring. We knew that members of NHVSS would be there, too, removing ivy. We arrived on Friday night to an almost deserted camping ground. The weather forecast was for mild weather and cool nights.

### *Saturday*

Dave Smith took great delight in getting Mike out of bed in the morning (“Get out of bed, you lazy ...”). They chatted about Mike’s proposed project. After visiting the guides’ office and obtaining tokens, we had breakfast then went over the hill towards Junction Cave, turning off to the Wombeyan Creek track near Grants Cave.

**Nice Cave** We had a look at the top entrance of Nice Cave (W425) as far as the start of a traverse with a steep drop, then exited the cave and returned to the track down to Wombeyan Creek. We followed the dry creek downstream, round a bend, then scrambled up to see the lower entrance of Nice Cave (W93) where cool air was coming out. Inside was nicely decorated but rather dry; an excavation near a T-junction had fresh wombat scats. We got to a large chamber with daylight visible; clearly this was the first of the drops which we saw from the top entrance earlier. Mike saw a small wombat, about 1/2 metre long, which ran into the crawlway connecting this chamber with the second one. We returned, noting the grey bedrock walls - not the usual creamy marble, then exited the cave. A little further down the creek bed we found two more cave entrances opposite each other, possibly developed around a joint, and very tight. Near here we startled a large moth, a large borer with attractive brown and grey mottled wings.

**Junction Cave Spring (W89)** At the Junction Cave spring, we climbed up the boulders and entered W89. There was no water at all. Instead, the floor was covered with deep calcite sand, and the walls were covered with rough pool crystal. Jill took the lower route, as far as some tight, pool crystal covered gours, then took the high route to join Mike. The chambers are fairly high. They had a quick look at the breezy rockpile, then returned to the large chamber to look at a small side passage. The way on is through the rockpile, and Jill remembers a “Floyd Collins” style rockpile many years ago, which bypasses the crystal-covered gours. But not today. They exited the cave and had lunch at Mares Forest Creek.

**Streamsink in Mares Forest Creek** From its junction with Wombeyan Creek, upstream to the Basin track crossing, Mares Forest Creek was completely dry. A couple of small pools were flowing from the west, sinking near the crossing, and it was a lot deeper further upstream. So there must be a fair amount of water going underground at this point. We walked up the track to the north west, to join the link track and the Bullio track back towards the tourist area, with a brief stop at a small hole near the track breathing out warm moist air. The cave appears to have been somewhat excavated. Its proximity to Palace Cave suggests a small connection.

**Saturday evening in Fig Tree Cave: Surveying the Ceiling Room** We had an early dinner, then got all the survey gear together and went into Fig Tree Cave via the Marble Way as the “Bathroom” was dry, then climbed up to an area near the CBUS controller in the “Drawing Room”, up the old wooden ladder to the “Ceiling Room”. We surveyed this from the iron bolt near the top of the wooden ladder, across a drop overlooking the “Opera House” and connecting the survey to the north end of the “Ballroom” survey. As the drop is a bit exposed, we rigged a hand line for safety. No bats were seen as it was night time, but Mike saw a cave cricket and Jill saw an isopod near the drawing room. Back at camp, Jill drew up the survey legs to help with the sketch.

There were a lot of feral animals about the camping ground that night: we heard a cat fight, and saw a fox.

### *Sunday*

The next morning, the NHVSS people were over removing ivy from around the trees. They’d had some success on Saturday gluing together a broken broomstick stalagmite / rootsicle in Wild Mans Cave. Jodie mentioned that there is a feral predator problem (cat or fox) in Glass Cave, as the guano mound is so high that predators can now get in and kill the bats, leaving only the wings. Baby horseshoe bats, she says, were seen in the bat chamber of Junction Cave, making this an important site. The other thing we discovered was, due to a paperwork bungle, the SUSS Jenolan trip was unable to go ahead. Instead, the Jenolan group drove to join the group at Wombeyan. As they did not have tents, they were sharing a room next to NHVSS in the dormitory.

**Surface activities near the Quarry** Mike went with Max and Ian to the quarry, to discuss Mike's project; they were joined by Tom who arrived a little later.

**Fig Tree Cave: Sketching the Ceiling Room** Jill returned to the Ceiling Room in Fig Tree Cave, to sketch what was surveyed last night and remove the flagging tape. This time, the bats were back, around the pit. They giggled, chirped and grumbled but generally stayed put, singly, so were probably horseshoe bats. The floor of the Ceiling Room is interesting with dirt or clay below a bedrock shelf, which may be an old paleo channel. There is a hole in the ceiling of the Ceiling Room near where you climb down to access the Ballroom, and Jill thinks this gives access to the chamber on the far side of the pit. One used to be able to climb into it when there was chicken wire there (since removed). So this would be the "Attic" I guess.

**Zephyr joins Grants Cave** Alan and Deborah managed to squeeze through the rockpile in Zephyr Cave (W133), to join it with Grants Cave, so Zephyr is officially part of Grants. This gives Grants cave three entrances: the main one near the creek, the daylight hole and now Zephyr Cave.

**Postscript** The only incident (apart from the surprising influx of cavers from Jenolan) was Jill's car which needed a jump start (thanks, Dave!) and a blown low beam bulb in Jill's cap lamp.



*Large moth on Jill's glove. Photo by Mike Lake*

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## SYNCHRONICITY, 2006: EXPLORATIONS IN THE MIDDLE BIT, J13 MAMMOTH CAVE

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BY MARK STARAJ

The resurvey of Mammoth Cave has trundled on for a few years now and currently sits at over 6 km with major areas still untouched. The 1971 and 1978 efforts have shown that Mammoth has many unreported or overlooked nooks and corners – new passage doesn't just come from the extremities. The majority of these leads show evidence of earlier nameless explorers but never made it to print – mostly as it fell in the “10 metres here, 5 metres there” category of find. They add up, though. And this, more thorough survey, is all about adding them up.

Mammoth is also the sort of cave that has repeatedly shown that substantial cave can lurk in well-trodden areas. Truly new finds are still hard to come by. In 1971 the Can't Get Lost portion of Railway Tunnel was rediscovered after 10 year of obscurity. The recent report in 2006 of “new” passage connecting The Junction with the Overflow was largely a repeat of Henry Shannon's mapped exploits of 1965. The exploration of Wilson's Rift off Railway Tunnel in 1975 was shown by signatures to have all been done before in 1891.

These days the Middle Bit is regarded by most as a 200 m long rambling series of rock strewn passage linking to more worthy exploration routes such as North West Passage and North Tunnel. It possibly is also associated with memories of tiredness and frustration and failing lights on a return from Great North Cavern while trying to find the way through – seemingly obvious on the way in. For most I suspect it simply conjures the foggy notion that there should be Beginning Bits and End Bits.

In the 1960s and early 1970s it was for a time of considerable interest to explorers as it was punctuated by a number of high avens. A major assault with the scaling poles yielded no passage of report but the possibility of something high level was not ruled out altogether. Unfortunately it was not made clear which avens had been dealt with.

Since then the area has held little interest. In reality the high leads would only bring one to new sections of Railway Tunnel to the north. Once upon a time this would have been of paramount excitement but the subsequent finding of further Railway Tunnel portions in 1971 of Can't Get Lost and 1977 of the Railway Tunnel Extension meant the potential rewards had shrunk considerably. Besides which the northern frontier of the cave had long since pushed out hundreds of metres to the north with the conquering of North Tunnel. Any other leads could only result in further additions to Central River between the mapped sections of First Crossing and The Overflow. By 2002 Central River had been completely mapped from one end to the other.

In December 2004 SUSS was working on the part of the Railway Tunnel Extension dropping from Railway Tunnel to Central River. A drafting hole was noticed, dug, and squeezes passed to pop out into a room with a lofty roof (Staraj 2006). It clearly looked like what it should be – a truncated section of the Railway Tunnel. In January ISS returned with scaling poles to try a high lead and a few metres of passage were gained but that seemed to be it. It turned out to be a modest addition of 35 m but was not then surveyed.

The Beginning Bits of this story lie with the 2006 forestry compass backbone survey when it was extended over two days from First Crossing through to the Dry Syphon. While Ian Cooper and Phil Maynard attended largely to the instrument readings my duties encompassed trail-blazing, spotting the old copper nail stations and investigating and documenting the side leads for a later Suuntos survey.

The number of such leads was surprisingly high. Some ended blindly, some invited digging, some required scaling poles, some looped around and a couple sported a breeze! Scaling pole leads had to be left for another day but I soon returned to lead a mop up trip 9th April 2006. After a day we had 40 m of new passage and had reached the Middle Bit Rockpile – about 1/2 of the way along Middle Bit. A promising start in terms of passage length.

Next was Middle Bit Rockpile itself. With Steve Roy and Paul Lewis on 20th August we took the survey up a boulder climb to a room in the rockpile. Standing atop a pile of boulders Steve climbed up off my shoulders up a short slippery climb to another level. With Paul's help I joined him. Paul was then directed to a drafting lead at the top of a climb I had espied earlier from further along the Middle Bit as it seemed to me they might connect. Instead of establishing a voice connection Paul managed to find and dig out a bypass to the exposed climb and soon joined us. We carried the survey into the new finds and were set to leave the cave when I decided to do a last look around. From one point in the last small room we had found I could see up into an aven – in reality a rock chocked rift intersecting the roof of this room. It looked a dead end but what the hell! I decided to give it a look. Climbing up was not trivial and involved chimneying up from further away and bridging back across onto a pile of rocks forming a drop back down into the small room. This was about 3 m up and the pile was not too stable. Ascent for the next 6 m to the visible end was pretty straight forward. At this point now 10 m up was a vertical hole out of sight from below. This 3 m climb was bridged on a pile of loose rocks and taken with care. Squeezing my head up through a constriction at the top (with helmet off!) I could see the passage levelled out and a crawl continued out of my sight. It goes! The descent was made with care and note made to return with hammer, chisel and tape. Another 62 m had been put in the book.

14th October 2006 I was back at the climb with Ian Cooper, Tina Wilmore, Alan Pryke and a hammer. I proceeded back up to the blockage and soon had it open enough to squeeze through. I carefully eased up and onto the lip of the sloping passage. A short distance away it narrowed down too much to pass but opened again for a short distance to a back wall. Dead end? A breeze could be felt. A couple of feeble swings with the hammer showed it would be far from easy to get through as I could only get at it with an outstretched arm. What to do? It really did look hopeless.

Meantime Alan was not content to await the outcome and instead had found his way around to another aven. There had been whoops and a yell of alarm and calls for support from Tina to bring him up a tape for a handline. They were going up somewhere in the opposite direction.

Lying up against the squeeze and about to call it quits I noticed a subtle but significant change. Alan's bedlam was coming from in front and no longer from behind! Sure enough we soon had voice contact and shortly after he arrived in front me! He had come out into a spacious chamber and found me from a pit in the floor. I passed him the hammer. He could swing at the squeeze standing up! A few lusty blows and it was all over. Still a squeeze but no longer impassable. I called upon the others to join me. This chamber was some 15 m across by 10 m high but only 3 to 4 m wide. It looked very much like more Railway Tunnel.

A few metres up a jammed boulder guarded the approach to a likely upper level. The opposite side led to a low tunnel of a few metres beyond where Alan and Tina had joined us. We surveyed back through and down the rift where I found that Ian's impatience had cleared away the chock stones overhanging the 3 m drop back into the small room below. With only about three legs to complete Alan requested a time check. Tina with watch handy replied it was 5.07 pm. I then requested the tape reading – Tina glanced down and called back: "5.07 m!" Well, how about that we said to ourselves. Surely not just co-incidence. Call it Synchronicity. The day's efforts netted a total of 61 m.

Next day a further 16 m in the base of the rockpile with Ian Cooper. We now had nearly as much passage in the Middle Bit Rockpile as in the Middle Bit itself!

The results were puzzling. Consultation with the Whitby's who had visited the 2004 extension twice and had taken some photos showed an uncanny similarity between the two finds. Nonetheless key differences left room for doubt. In December the Whitby's led a survey trip into their find and did not see any evidence of our visit. Their survey brought the sections within two metres of each other but seems to conclude they are separate finds. So Synchronicity – as our chamber shall be called, still requires investigation of the upper level with scaling poles.

Further surveying in Middle Bit by Ian Cooper and Shannon Crack of the side leads further on has added another 78 m and shows up a curious area above the drop down to the Dry Syphon. There is still at least one more major side passage to do and three or four leads for the scaling poles.

As for the End Bits? Who knows? Jenolan in general and Mammoth Cave in particular has a high density of passage. Higher sections already exist such as Brittle Bazaar and High Shawl Room. World of Mud proves that the cave as a whole extends at least another 60 m upwards inside the mountain. The possibility of significant extensions cannot be discounted.

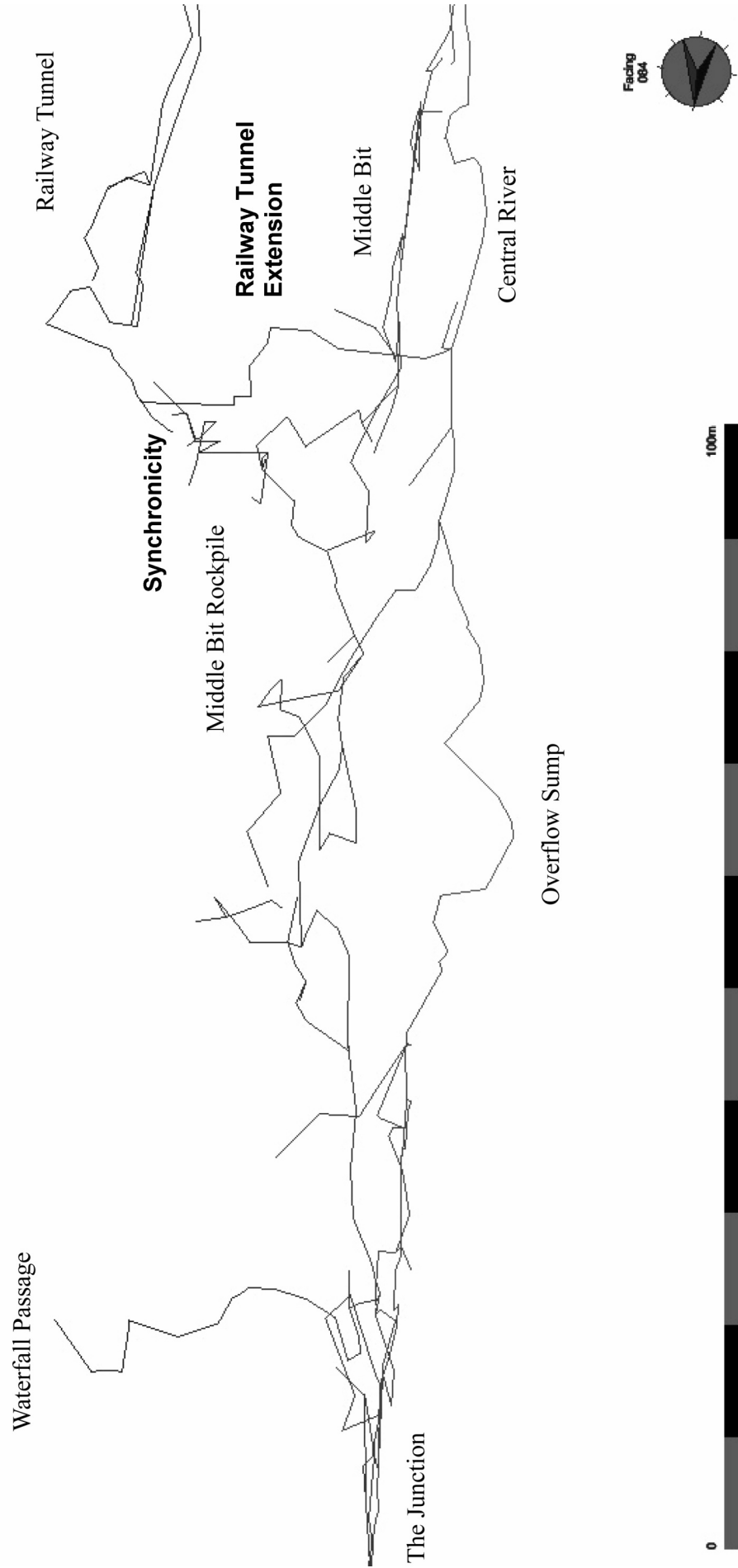
## References

Staraj, M., "Nine Days in the Secret Diary of a Survey Kit", SUSS Bull 46(1), April–June 2006

(An elevation map of Mammoth Cave and location of "Synchronicity" by Mark Staraj is on the next page.)

# J13 Mammoth Cave

J16 Bow Cave



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## METAPOST CODE FOR CLASSIC ASF SPELEOTHEM SYMBOLS

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BY ROWENA LARKINS

In Australian cave maps stals and pillars have classically been represented by certain icons. The ASF revised the icons in April 1999 to provide partial conformity with UIS International Cave Symbols (see [http://www.caves.org.au/m\\_stab-1c.html#6.0](http://www.caves.org.au/m_stab-1c.html#6.0)). This set of Metapost code provides classical SUSS style symbols (ASF) which can be used for the Therion Cave mapping application (<http://therion.speleo.sk>).

code metapost

```
# In Australian cave maps stals and pillars have classically been represented by certain icons.
# The ASF revised the icons to be aligned with the UIS symbols in 1999. This set of Metapost code
# provides classical SUSS style symbols (ASF) which can be used for the Therion Cave mapping
# application.
#
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# License, or any later version.
#
# This program is distributed in the hope that it will be useful,
# but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR
# A PARTICULAR PURPOSE. See the GNU General Public License for more details.

def p_stalagmite_SUSS (expr P,R,S,A)=
  T:=identity aligned A rotated R scaled S shifted P;
  thfill (.1u,0)..(0,-.1u)..(-.1u,0u)..(0,.1u)..cycle;
  # draw a circle with dashes
  drawoptions( dashed evenly scaled 0.15);
  # we want thin arms
  pickup PenD
  thdraw(.2u,0)..(0,-.2u)..(-.2u,0u)..(0,.2u)..cycle;
  # reset the draw options so other presentation items will not be affected
  drawoptions();
enddef;
initsymbol("p_stalagmite_SUSS");
# now assign SUSS stalagmite icon to the stalagmite in the model
let p_stalagmite = p_stalagmite_SUSS;

def p_pillar_SUSS (expr P,R,S,A)=
  T:=identity aligned A rotated R scaled S shifted P;
  thfill(.2u,0)..(0,-.2u)..(-.2u,0u)..(0,.2u)..cycle;
  p:=(-.4u,0){up}..origin{down}..{up}(0.4u,0);
  # we want thin arms
  pickup PenD;
  thdraw p;
  q:=p rotated 120;
  thdraw q;
  q:=p rotated 240;
  thdraw q;
enddef;
initsymbol("p_pillar_SUSS");
# now assign SUSS pillar icon to the pillar in the model
let p_pillar = p_pillar_SUSS;

def p_stalactite_SUSS (expr P,R,S,A)=
  T:=identity aligned A rotated R scaled S shifted P;
  thdraw(.2u,0)..(0,-.2u)..(-.2u,0u)..(0,.2u)..cycle;
  p:=(-.4u,0){up}..origin{down}..{up}(0.4u,0);
  pickup PenD;
  thdraw p ;
  q:=p rotated 120;
  thdraw q;
```

```

q:=p rotated 240;
thdraw q;
thunfill(.15u,0)..(0,-.15u)..(-.15u,0u)..(0,.15u)..cycle;
enddef;
initsymbol("p_stalactite_SUSS");
# now assign SUSS stalactite icon to the stalactite in the model
let p_stalactite = p_stalactite_SUSS;

endcode

```

#### Editors Note:

For those that are unfamiliar with Therion here is the Homepage: <http://therion.speleo.sk> Have a look at the zoomable map of the Great Canyon Cave (Velika Klisura, Gryka e Madhe) Cave at <http://therion.speleo.sk/2D.php> Therion can also output 3D cave models, examples of which can be found here: <http://therion.speleo.sk/3D.php>

SUSS's Figtree cave survey at Wombeyan is listed on the Therion site under "Projects made with help of Therion" <http://therion.speleo.sk/wiki/doku.php?id=proj>.

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## PHOTO GALLERY

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***Ted Matthews and Sasa Kennedy.  
Photo by Bec Lewis***



***Fungus growing on decaying organic material, Fig  
Tree Cave, Wombeyan.  
Photo by Jill Rowling***



***SUSS on the latest NZ trip. Photo by Tina Wilmore***



***Alan Pryke and an admirer. Photo by Tina Wilmore***



***Tina Wilmore in Kuratahi Cave, NZ. Photo by Alan Pryke***



***Kuratahi Cave, New Zealand, photos by Alan Pryke***



***Hangover Hole, New Zealand, photos by Alan Pryke***

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## THINGS TO BUY

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For postage and handling costs and the details of how to order go to the SUSS website <http://ee.usyd.edu.au/suss/> and click on "Publications". There you will also find a range of must-have maps and other publications.

### ***Maps and Bulls on DVD***

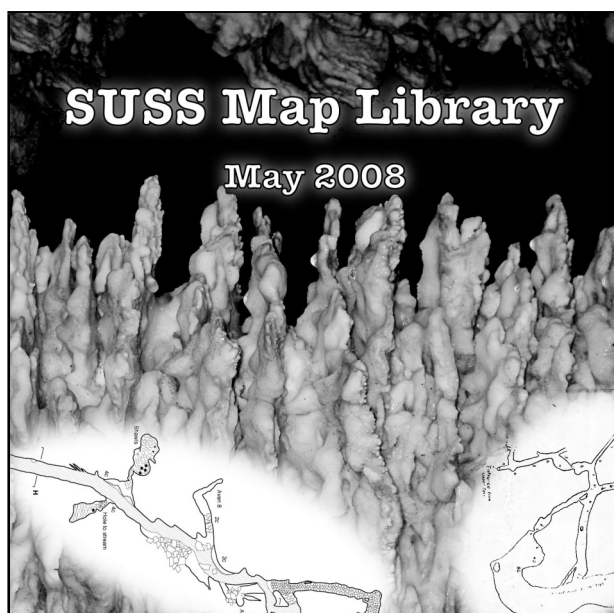
The entire SUSS cave map library of over 300 maps is on DVD and available for purchase. There are field sketches, ink maps produced on drafting film, ink maps produced on linen, as well as some of the latest digitally-produced cave projects. The DVD also contains all SUSS Bulls in HTML format from 35(1), July 1995 to 47(4), March 2008 and SUSS Bulls as PDF format from 42(1), April 2002 to 47(4).

Price is \$25.00 + PH. Pick one up at the next SUSS meeting or if you can't make that then contact the treasurer and they can supply you with the SUSS publications fund bank BSB and account number for a direct deposit.

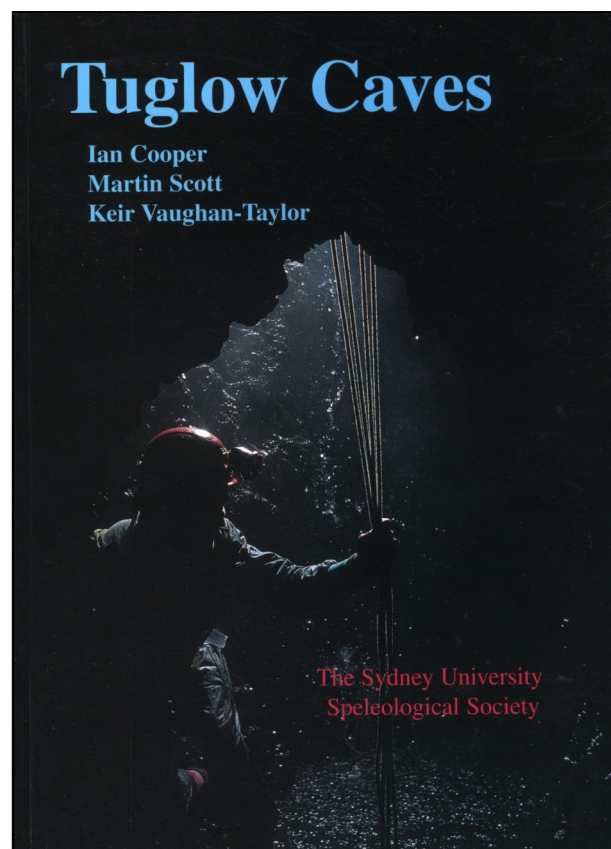
### ***Tuglow Caves***

By Ian Cooper, Martin Scott and Keir Vaughan-Taylor. 1998, 70 pages.

Examines caving procedures, site descriptions, history, biology, surveying and maps, geology and hydrology of Tuglow Cave and others. Cost is \$13 for members and \$16 for non-members + PH.



*A must-have reference DVD for all cavers*



### ***The Caves of Jenolan, 2: The Northern Limestone***

Edited by Bruce R. Welch. 1976, 140 pages.

We still have some copies of these books left. Contains maps and descriptions of many caves in the Northern Limestone section of Jenolan plus notes on the history of Jenolan and its geology, geomorphology and hydrology. Cost is \$8 for members and \$10 for non-members + PH.

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## TRIP LIST

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SUSS General Meetings are held on the first Thursday of the month at 7:00pm (for a 7.30pm start) in the Common Room in the Holme Building at the University of Sydney.

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.

### May

**2-3 Wombeyan** Good caves and a good campsite in the southern highlands. Contact Jill: rowling@ali.com.au

**7th General Meeting** Holme Common Room.

**9-10 Jenolan** Caves, a hut, a fireplace, more caves.

**16-17 Wee Jasper** Way down south, lots of caves. To be confirmed.

**23-24 Colong** Come and get lost in a large cave full of mazes. Contact Max Midlen.

### June

**4th Annual General Meeting** Holme Common Room, Sydney University

**13-14 Jenolan** Caves, a hut, a fireplace, more caves. Stay at the luxurious caver's cottage.  
Contact Deborah Johnson: birinxi@gmail.com

**20-21 Cliefden** A quaint shearer's hut for accommodation and lots of warm, decorated caves to play in.  
Contact Chris Norton: chris.norton@fjc.net.au

**27-28 Wombeyan** Good caves and a good campsite in the southern highlands.  
Contact Jill Rowling: rowling@ali.com.au

### July

**2nd General Meeting** Holme Common Room, Sydney University

**4-12 Jenolan** A week-long mid-winter escape to the wilds of Jenolan. Contact Mark Staraj: Mark.Staraj@pacnet.com

**18-19 Bungonia Beginner's trip** Contact Deborah Johnson: birinxi@gmail.com

**IUS conference, Kerrville USA** July to August, not covered by SUSS insurance as with any trip run in or primarily organised by a party from the USA, Canada or their external territories.

**25-26 Vertical Bungonia trip** TL to be confirmed. Contact Deborah Johnson: birinxi@gmail.com

### August

**1-2 Wombeyan** Good caves and a good campsite in the southern highlands. Permit pending.  
Contact Jill Rowling: rowling@ali.com.au

**6th General Meeting** Holme Common Room, Sydney University

**15-16 Jenolan** Contact Deborah Johnson: birinxi@gmail.com

**22-23 Wee Jasper Beginners trip** Contact Rowena Larkins: rowena1234@hotmail.com

### September

**12-13 Jenolan**

**26-27 Wombeyan**

### October

**24-25 Jenolan**

**26-27 Wombeyan**

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