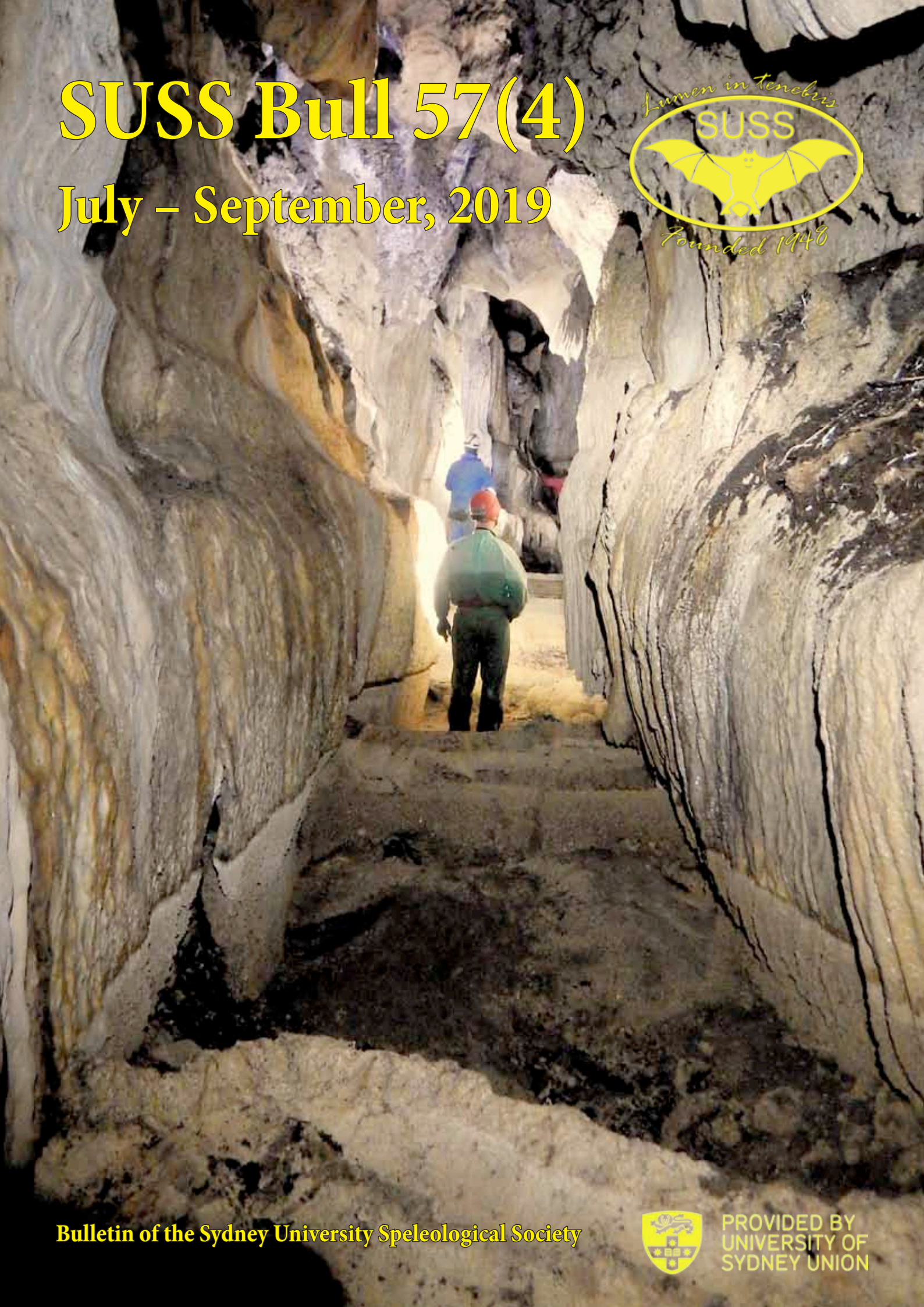
SUSS Bull 57(4)

July – September, 2019



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Front Cover: Figtree cave, Wombeyan

Photo Keir Vaughan-Taylor

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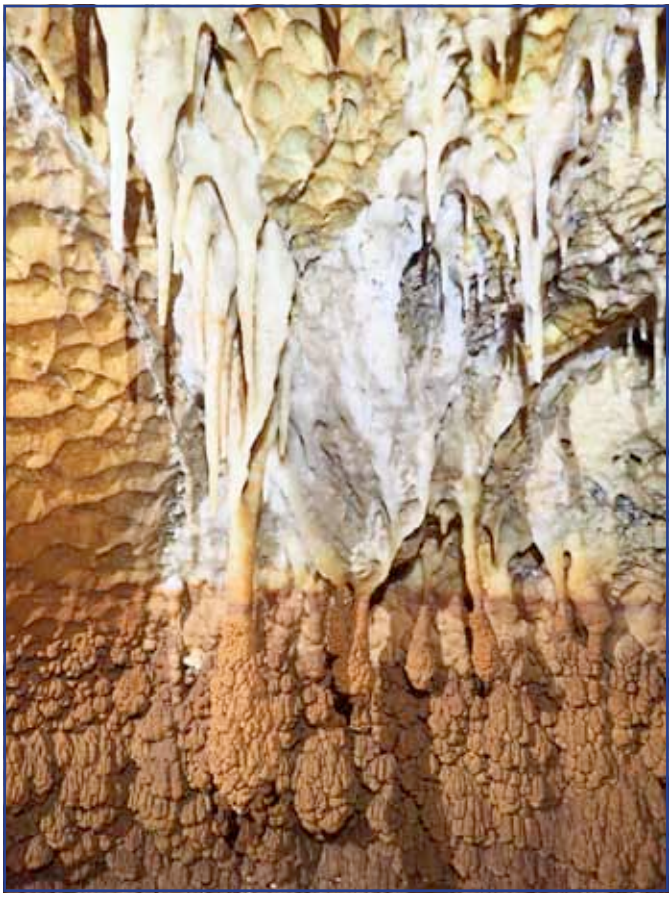


Bouverie Cave, Wombeyan

Photo Tina Willmore

The *Australian Journal of Earth Sciences* has published a special edition on Geoheritage in Australia. Several papers on klarst and caves were included, with the abstracts reproduced here:

Saving and conserving the caves: reflections on 37 years of listings, disputes, submissions and court cases

R A L Osborne

https://doi.org/10.1080/08120099.2018.1489895

In order of impact, the main anthropogenic threats to caves in eastern Australia are and have been for the European history of Australia: mining, inundation, vandalism, wear and tear, lampenflora, lint and dust, scientists and poorly informed decisions. Destruction of caves by natural processes is not a focus of this paper as it occurs over a geological time scale and there are few historical accounts of natural catastrophic cave failure. Saving and protecting caves are difficult due to the reliance and insistence on conservation by secrecy used by cavers and the organisations that represent them.

Other issues that inhibit cave conservation are: limited public exposure, perceptions of land managers and farmers about caves, a shortage of research-based information on caves and difficulties with establishing the significance of a cave. Cave monitoring and the education of managers and cave guides are known to enhance the conservation of show caves. Actions that would help to save and conserve caves throughout Australia include: changes to planning legislation, establishment of a cave conservation organisation, introduction of specific cave protection legislation and the establishment of a Research Centre for Caves, Karst and Geoheritage.

South Australian geology and the State Heritage Register: an example of geoconservation of the Naracoorte Caves complex and karst environment

Ian Lewis

https://doi.org/10.1080/08120099.2019.1608300

South Australia's State Heritage Register contains 2294 listed places, the majority of which are from the 'Built' environment, ranging from settlers' huts, community buildings, historical industrial sites to magnificent stone mansions. Only 96 places are linked to the 'Natural' environment. The Register listings protect heritage places from alteration, damage or removal without formal prior consultation, compulsory under the South Australian Development Act. 'Natural' environments are landscape-based and oriented towards Geological, Archaeological, Palaeontological and Speleological heritage ('GAPS heritage').

A process to provide a greater balance between 'Natural' and 'Built' listings has initiated a series of State Heritage 'Natural' environment assessments, mostly of single sites. Two individual caves in the Naracoorte Caves National Park are already entered in the State Heritage Register as single sites. However, an innovative broader multiple-site nomination has focused on the many different but significant GAPS features contained within the 25 caves of the Naracoorte Caves National Park, providing a further level of protection for the land and the caves' exteriors and interiors.

The example of the Naracoorte Caves draws attention to the number of important land and coastal karst (limestone) features across South Australia that were generated by steady geological uplift of three large sections of Oligocene–Miocene limestone—the Nullarbor Plain, the Murray Basin and the Gambier Karstfield (which includes Naracoorte and Mount Gambier), resulting in specific karst forms worthy of a broader coordinating management approach across South Australian karst parks.

Ordovician strata in the Cliefden Caves area, New South Wales: a case study in the preservation of a globally significant paleontological site

I. G. Percival, B. D. Webby, H. D. T. Burkitt

https://doi.org/10.1080/08120099.2019.1574271

The Cliefden Caves area in central-western New South Wales includes the scientifically most important and irreplaceable examples of fossiliferous Ordovician rocks in the State. Exposures of the stratigraphically lower parts of the Cliefden Caves Limestone Subgroup on the aptly named Fossil Hill are world-famous among paleontologists and internationally significant for preserving the earliest *in situ* shell beds documented in the literature. They also contain some of the oldest known rugose corals, and an exceptional example of one of the oldest coralline biostromes, as well as many examples of invertebrate fossils and cyanobacterial mat structures that either are unique to this locality or were first described from here.

Other stratigraphic levels throughout the total 363 m-thick Cliefden Caves Limestone Subgroup are

similarly endowed with highly significant fossils, such as a globally unique in situ shell bank with rare examples of the trimerellide brachiopod *Belubula spectacula*, a wealth of shelly fossils and trilobites on Dunhill Bluff (adjacent to Fossil Hill to the east), and the appropriately named Trilobite Hill.

Less well known to the general public, but of international importance to paleontologists, is the unique deep-water sponge fauna of the overlying Malongulli Formation that occurs at several levels in limestone lenses within this unit. Fossils from the Cliefden Caves Limestone Subgroup and the Malongulli Formation have been documented in more than 60 scientific papers and monographs since paleontological investigations into the site were first published in 1895. Despite concerted scientific endeavour in the region over the past 50 years, much more study needs to be done to fully document the paleontological riches of the Cliefden Caves area.

These sites are interpreted as the remains of a tropical island, fringed by limestone and flanked by deep-water environments in which the Malongulli Formation was deposited. Preservation of such islands is exceptionally rare in the geological record. It is therefore vital for the area to remain accessible to scientific researchers to continue their studies.

Flooding of the Belubula Valley by a proposed dam downstream from the Cliefden Caves area would hinder future research work on this unique geoheritage resource. Fortunately, a successful public campaign has led to listing of the site on the State Heritage Register that will provide essential protection of the caves from inundation while ensuring continued access to researchers.

Wellington working again

The Wellington Caves tourist area has been through a major re-build since the beginning of the year. They have completed the new Education centre and kiosk, and they are re-opening in the new buildings on the weekend of 16th – 17th of November. The new education centre looks like it'll be a good place to store and research and display the fossils.

Wellington Caves visitor centre

Photo Dubbo Council

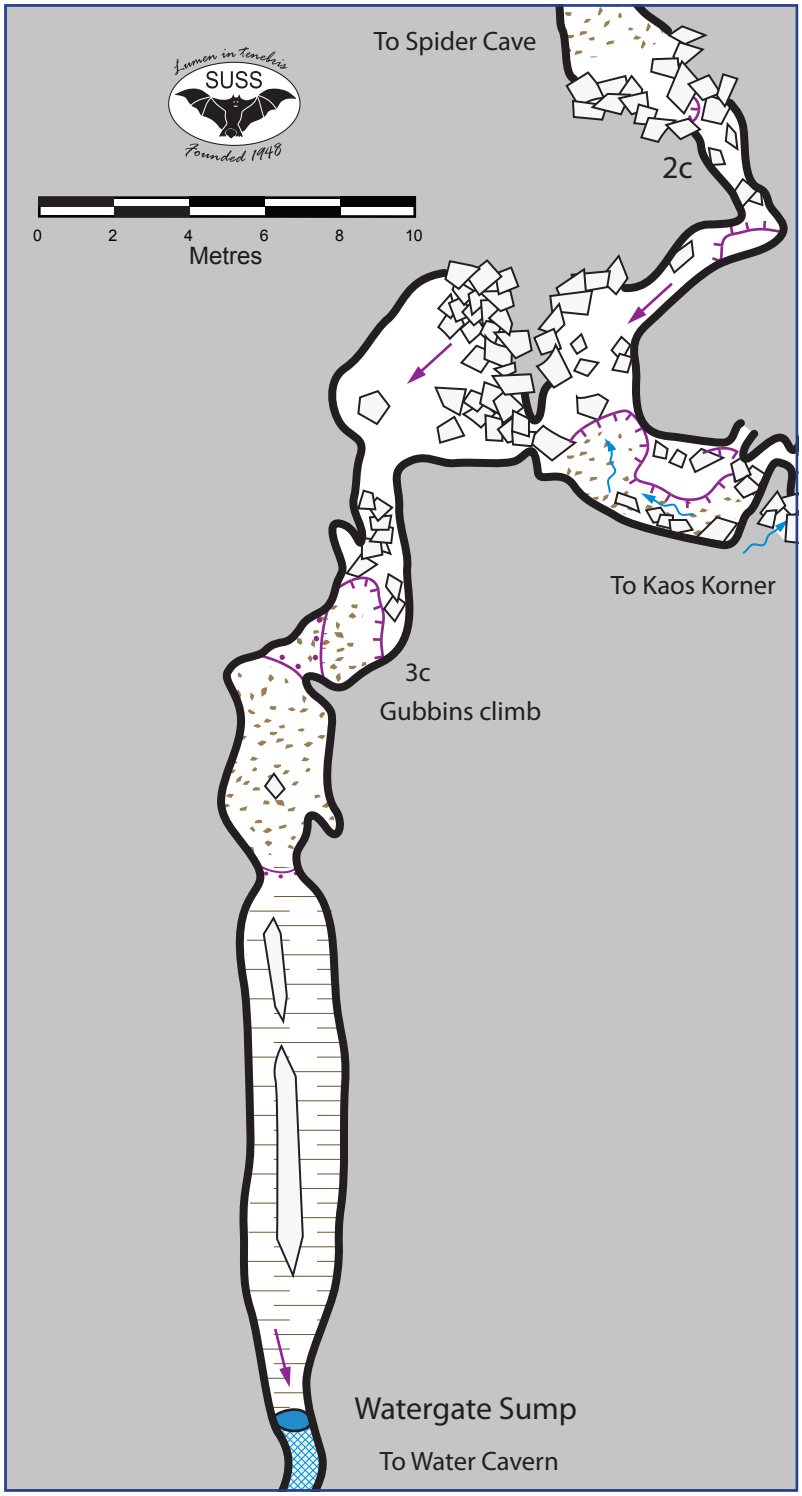
Not quite a gubbins

Spider to Watercavern through trip, 13/7/2019

by Stephanie Murphy

Stephanie Murphy, Rafid Moreshedi, Max Midlan, Charmaine Pang, and a lot of mud

On the second weekend of the Jenolan week-long trip we were excited to complete the Spider to Watercavern through trip. Spider Cave is a wild cave that links up to Watercavern; part of the showcave system branching off from Jubilee cave. The connection was known to be through a dry sump in the Kaos Corner area of Spider Cave but the through trip has not been done for a number of years. As the connection between the two caves is known to be particularly muddy we decided to enter through Spider and exit through Watercavern. In preparation for the trip we put clean clothes and shoes into Watercavern the night before – this would allow us to change out of our muddy cave suits and exit through the showcave system. We left one of the cars parked near the show caves to get us back to the cavers cottage at the conclusion of our trip.



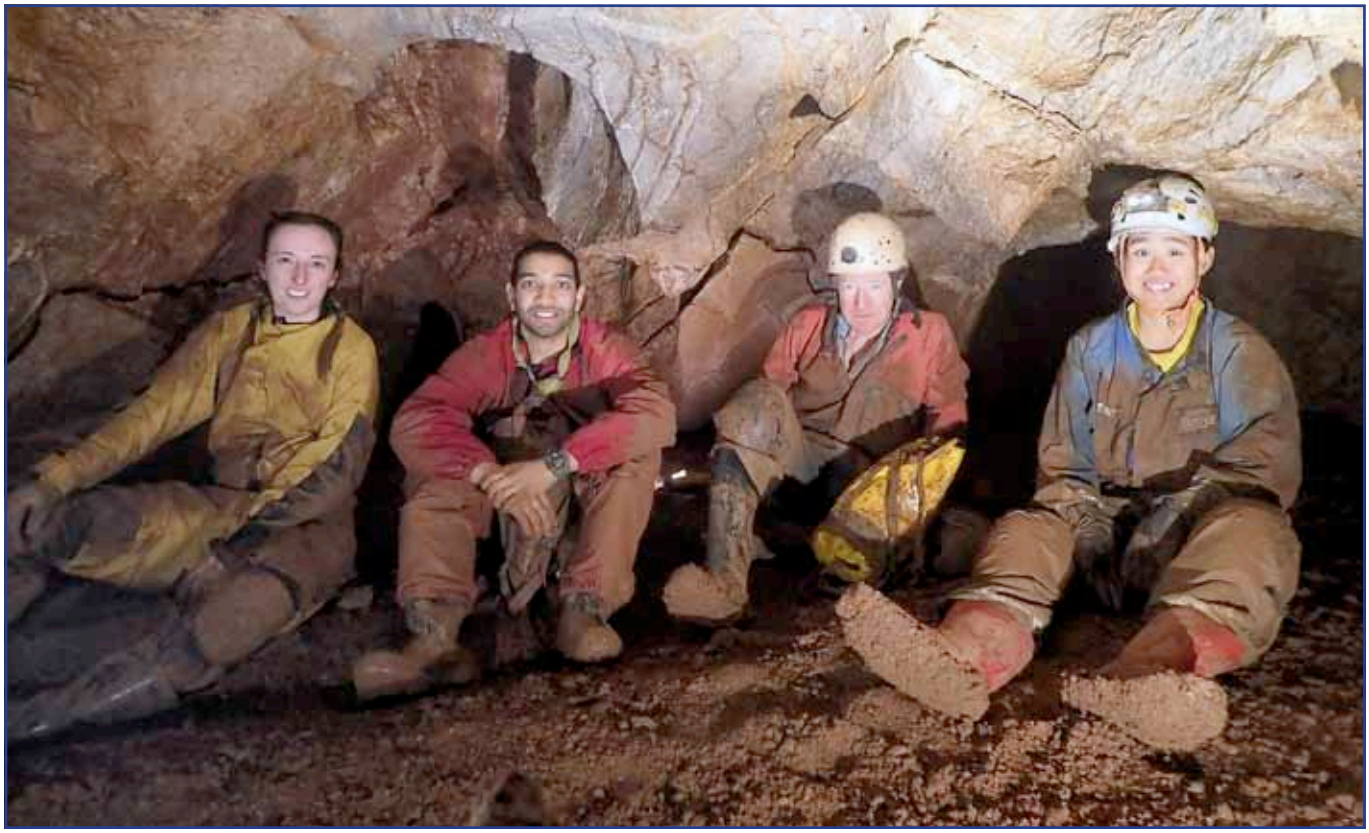
Extract from Spider cave map

Phil Maynard, 2009

Pleased with our preparation we got an early start Sunday morning. We found Spider Cave to be noticeably dry. Pirates Delight was completely dry and Glop Hole gallery was not "glopping". Luckily we had Rafid on hand to enthusiastically provide "glop" sound affects for Charmaine who had not been to Spider before.

We worked our way through southern Spider to the climb down just before the squeeze through to Watercavern. Max was first down the climb with an interesting technique that involved bridging across the pitch and then walking his feet in a spiral around the circular climb down. I decided that technique wasn't for me for height reasons and decided to climb down the face. I was grateful for Max pointing out foot holds on the climb down and even learnt some new words in the process. It seems "gubbins" translates to "really great, well placed, and reasonably large rock jutting out" while "not quite a gubbins" appears to translate to "there is nothing at all here to stand on".

After we all got to the bottom with varying techniques, comments were made on how glad we were that we didn't have to go back up there as most of the climb consisted of "not quite a gubbins". Next we were off to the squeeze, ready to emerge in Watercavern. I was first into the



The team below the climb

Photo Rafid Morshedi

muddy squeeze, which we found had the consistency of chocolate pudding. Certainly not something you want to crawl through. After about 5 metres of crawling, sliding and sinking we reached the squeeze through to Watercavern, which to our surprise and amusement was full to the roof. As always Rafid was not deterred and jumped up front saying we could dig it out. After sliding into the squeeze he found that instead of digging this out we would need to bail it out, as under the solid surface crust this was actually a liquid sump. Something none of us had considered was a possibility.

After a good laugh at Rafid swimming in the squeeze and comments about how heavy we all now felt carrying our own weight in mud on our cave suits, the reality dawned. Our clothes and shoes were in a showcave we couldn't access, our car was by said showcave, we were covered in wet mud and we now had to climb up the wall of "not quite gubbins" holds to get out of the cave. Not the trip we had planned but an amusing day. Anyone attempting this through trip in future should be prepared to bail out the sump or turn back.

The mud hasn't changed much.... Phil Maynard and Andrew Matthews in Watergate sump, 1994

Photo Don Matthews

Tick Haven, J360

Rowena Larkins

Surveyors: Ian Cooper, Josh Parker, Rowena Larkins, Rafid Morshedi, Simon Murphy and Miriam Noble

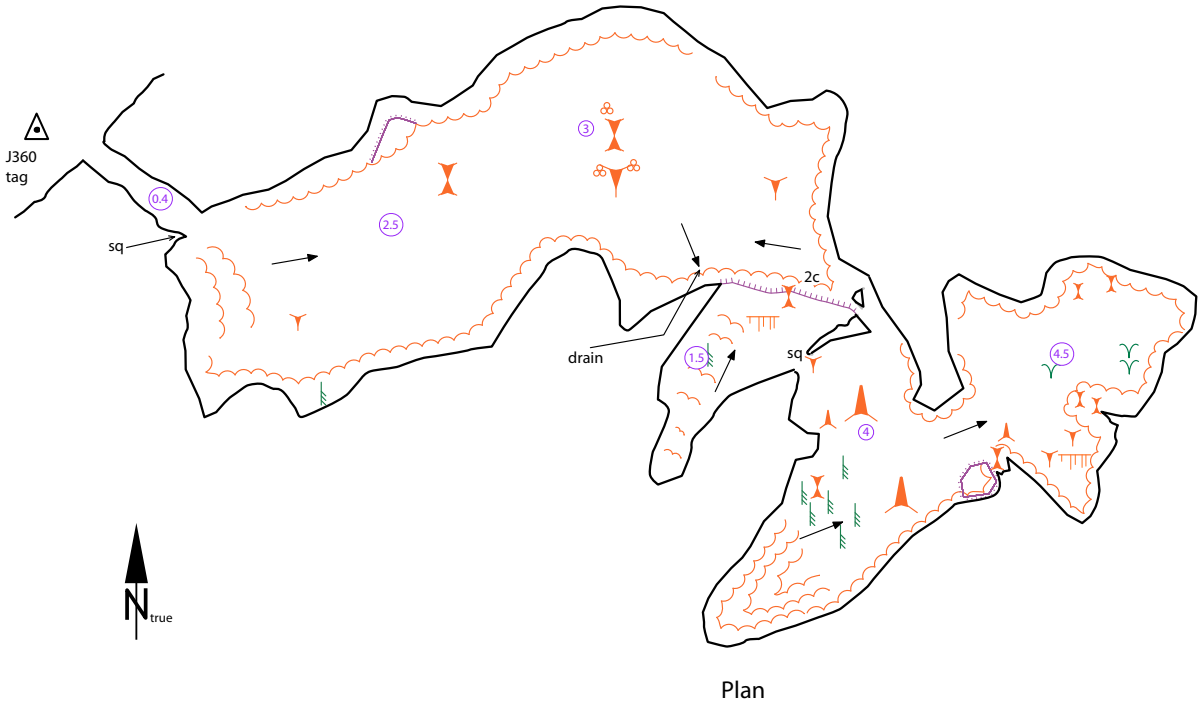
Rowena and Simon surveying in J360

Photo Rafid Morshedi

January 2019 saw Ian Cooper, Josh Parker, and Rowena on top of Lucas Rocks at Jenolan looking for a cave reputedly overlooking the old entrance to Lucas cave on the eastern side of the bluff. It was a hot summer's Sunday and we were wearing cotton pants/shirts to avoid a steam-bath in a cordura suit. We could hear the announcements for the cave tours being called a few hundred meters away, and could see cars driving down the road. Ian found a scrott hole on the western side of Lucas Rocks and called us over. Josh came first, crooked his arm between rocks and took a flash photo. It showed a nice-looking stalactite. Rowena came over, rolled a rock to one side and leaned in with the Disto X. The hole went in 6 metres. There was a very nice formation feature to be glimpsed at the end of the scrott hole which gave the impression of opening up after a couple of metres.

We discussed going to the car, getting caving gear and coming back and determined it would take an hour, and being Sunday afternoon we would leave Jenolan too late. We took a GPS reading, put a tag in, J360, and we headed back to the cottage.

Next month Rowena was back at Jenolan, but the other two had other activities elsewhere. The team decided to visit on Sunday, so Rowena headed back to the entrance on Saturday afternoon to confirm the cave was worthwhile. She crawled into a tight solution tube and paused at a squeeze three metres into the cave. She could see a well-decorated room with walk through passage, took some photos, and shot a Disto X ten metres down the room. Not wanting to risk getting stuck in the squeeze, she wriggled backwards uphill and returned to the hut.



Plan

Arga J360

Scale of original 1:200

0 10 m

2019 survey using DistoX2 to ASF grade 54 by Rowena Larkins, Simon Murphy, Asser Loutfi
Length: 39 m, Depth: 6 m. Drawn by: R. Larkins, August 2019

Sunday saw Rafid, Simon and Miriam accompany Rowena back to J360. The main body of the cave was about twelve metres long, heading NE, of walkthrough passage four metres wide and over two metres high. There were cave pearls on the floor, decoration on all the walls and a two metre climb on the SE wall. Up the climb was a very nice set of straws, directly opposite a high level window leading to an eastern room. Rafid went through the window while Rowena guided his feet so they didn't break the straws. The floor was covered with tree roots, there was a high aven, and at the far eastern end the roof and floor were joined in a formation choke. Rafid returned and Simon/Rowena proceeded to survey the cave.

That week at home Rowena noticed small tick bites over her body. She pulled a few off. Email correspondence with the others confirmed Simon also had ticks. One tick family is *Argasidae*, after which the cave is named – Arga cave. Visitors are recommended to use tick repellent when visiting.

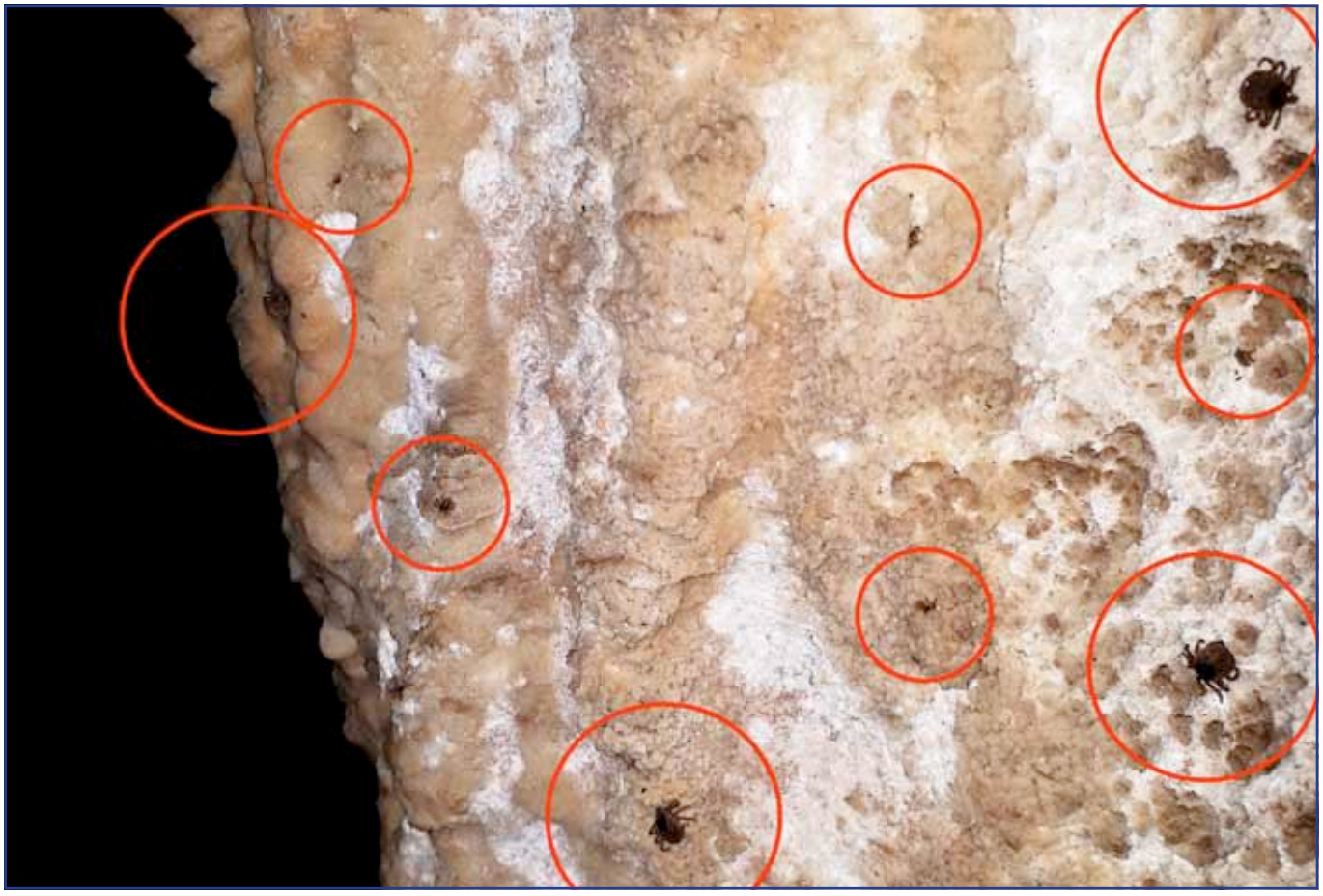
A follow-up trip in March saw the survey completed. On this trip the ticks were clearly seen on the cave walls, and were photographed.

Questions were asked as to how a walk-through cave could exist within sight of the Guides' office without being seen. The map shows that the cave is a very old, fossil level of the showcaves. It is unlikely to have been entered before as several large rocks right in the middle of the entrance crawl were rolled to the side, or into the main body of the cave. The back room had piles of guano, so bats have entered and exited the cave. No other entrances were seen, so it is expected they entered the tagged entrance.

There is a large fallen dead tree just near the entrance. It is likely the tree roots tore open a large area of surface when the tree fell, making the bat-sized entrance human sized and we were the first group to come past since. How many more entrances like this are there waiting to be found at Jenolan?

Simon in J360

Photo Rowena Larkins



Four adults and at least five nymphs in one photo – yikes!

Photo Rowena Larkins

Chevalier Cordelette set up

July 2019

by Rowena Larkins

Participants: Rowena Larkins, Lachlan Bailey, Jordan Fenech, Andy Waddell

Access to Chevalier and Loubens caves at Jenolan has traditionally involved carting in scaling poles through Glass cave and assembling these 1.2 metre steel pipes into a 7 metre long pole. A caving ladder is attached to the top and the pole hoisted up into the aven by several strong men (not misogynistic but the ladies don't have the strength). They support the pole while a light person climbs the ladder and anchors the top of the pole to something secure.

This technique was used by John Bonwick over 50 years ago when he discovered Chevalier and Loubens.

Don Matthews on the scaling pole in Glass cave, 2016

Photo Tina Willmore

Rowena rigging the cordelette

Photo Lachlan Bailey

In 2017 on a trip to Loubens with Andrew Baker, part of NPWS Jenolan Karst management team, he watched the scaling poles being dragged through the cave and commented on the damage they were doing. SUSS undertook to place a cordelette on the climb so as to avoid the need to cart scaling poles again.

Micheal Fraser had come up midweek and kindly donated the maillon, a poly rope for the Cordelette and the anchor rope. A short SUSS rope was donated to use as the top rope. The poly rope is too thin and weak to climb directly.

Some NUCC people had come up to the SUSS weeklong trip in July. The scaling poles had been setup earlier in the week. Jordan and Rowena climbed up the aven and proceeded to set up the anchor for the cordelette, and the cordelette itself. The NUCC guys were down

The ring/maillon, and the top rope

Photo Lachlan Bailey

the bottom of the climb experimenting with attaching a climbing rope to the cordelette and testing the pull through. It took several hours to get it all set and working repeatedly.

After successful installation the team of 4 disassembled the scaling poles, dragged them out of Glass for the last time, and carried them to the car as sleet fell gently as we walked. It was cold and dark when we got the gear back to the Cavers Cottage.

Rigging

A cordelette consisting of a polypropylene rope passing through a steel ring was set up in the pitch connection to Chevalier/Loubens and Glass cave.

The design consists of a 7 metre rope permanently attached to the top of the pitch, an anchor for the cordelette, and the cordelette itself. The whole system is anchored to a large jug handle at the top of the pitch.

Visitors need to tape their ascent rope to the cordelette with duct tape. The cordelette was run through a ring, attached to a maillon where the anchor rope was connected, allowing a free run for the polypropylene rope. When a crab is tied into the climbing rope and hauled up it jams, allowing for prussik up the rope.

A 7 metre safety line was attached to the top of the climb to allow safe transfer off the cordelette point. The safety line was attached around a pendant cemented into the floor by flowstone. The safety rope has a loop attached at the free end for clipping in after climbing the rope.

The maillon was positioned so as to be in sight from an observer in Glass cave to allow for checking for snagged ropes, tangles, etc.

Prior to fitting the poly rope a 3 mm rope was tested as a cordelette but there was not enough grip by the duct tape and the climbing rope failed to pass through the ring, the duct tape coming unstuck from the 3 mm cord.

Thanks to Michael Fraser for donating the gear. You are always welcome on a SUSS trip that I run.

Calcite crystal in Chevalier

Photo Rowena Larkins

The Rowallaby Survey

by Simon Murphy

Surveyors: Simon Murphy, Stephanie Murphy, Rowena Larkins, Rafid Morshedi, Katherine Li

"Is this it?" That's the phrase I've heard from every group I've taken to Wallaby Cave (J22/J167). You'd think that a grand room some thirty metres long with a twelve metre high roof would elicit more awe. Perhaps the tour guide is to blame.

If you've visited other caves in the gorge, or even seen them in the Blue Book, you'd realise that such a spacious cavity in the limestone is a rare treat. That's not to say it can hold a candle to the Devil's Coach House, but nothing at Jenolan parallels those gargantuan dimensions.

There is in fact a little more to Wallaby Cave than the main chamber, and some unexpected fun to be had. For normal-sized people (calibrated to cavers), the upper level in the northeast has a challenging squeeze and a roof tube to crawl along and through. This corner of the cave features the third, untagged entrance. For microbods, there's an extra squeezy flattener up there too. The other area that is not obvious upon first glance is the southwest corner of the cave, with generally smaller passages. There are tantalizing but inaccessible extensions of unknown length at the extremeties of this section.

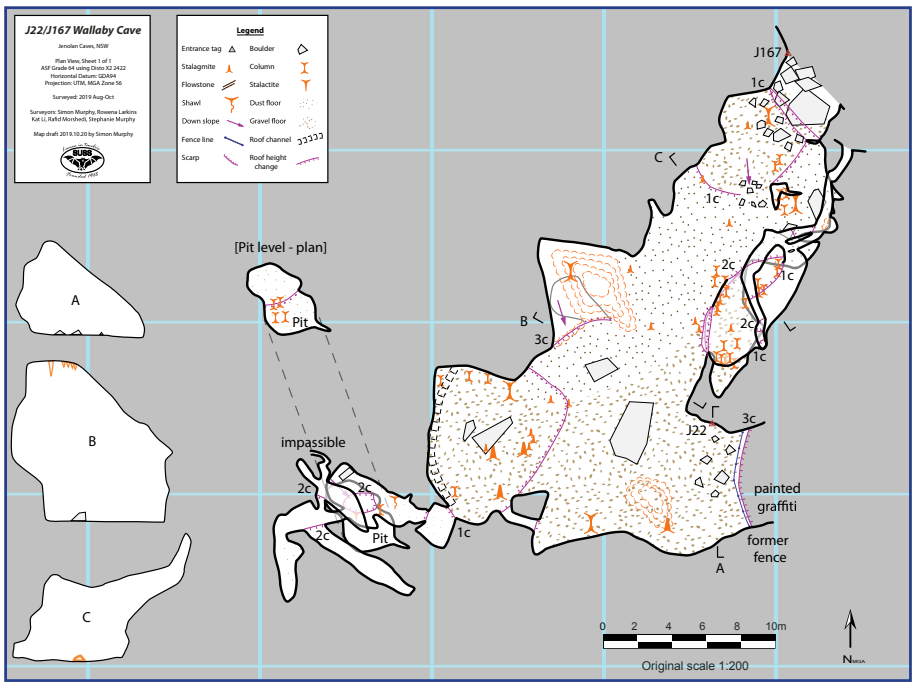
Wallaby Cave was surveyed in three trips during 2019. The main chamber was surveyed by Rowena, Stephanie and me in July. We entered via the J22 (southeastern) entrance, which is accessed up a steep grassy slope from the tourist track. The entrance is large and clearly visible. The Blue Book notes that there are references to this cave from as long ago as 1890, but some miscreant has painted graffiti at the J22 entrance proclaiming discovery of the cave *circa* 1950. The paint cans remain, well hidden, at floor level along the left wall looking in from the J22 entrance. The remnants of metal fence posts and some bolts lie across the easy J22 entrance climb.

The main chamber makes for easy surveying, with convenient boulders and stalactites to use as stations. Some of the speleothems are still active, particularly on the east side of the cave which is closest to the outside world and receives water after rain. The floor of the main chamber is remarkably level, and generally covered in fine dirt or a thin layer of gravel. A small dig, likely from a wombat, exists near the 3c in cross-section B, but doesn't go far.

From the centre of the main chamber, an upper level is evident. Stephanie and I were busy surveying the western part of the main chamber when we looked up towards the balcony. Rowena was peering down at us, not saying a word. "Hi Rowena", we called out, but she gave no reply. That's odd, we thought, and also impressive that she had climbed up there. I turned my light to full power, and Rowena hopped off. Wait, that's not Rowena, that's a Rowallaby!

We surveyed our way to the northern (J167) entrance, which is characterized by large boulders, some of which are precariously balanced on the cliff edge. Stephanie took a break here whilst Rowena swapped in on Disto. Steph got the fright of her life when she and the wallaby she was sat near suddenly became aware of each other's presence; Steph did well to compose herself and not fall down the precipice behind. Some old broken glass can be found within the cave at the J167 end.

The second trip was with NHVSS, who kindly accommodated Rafid and me for the purpose of continuing the survey. We had just a couple of hours, which were rapidly consumed with survey of the upper level. The passage here is complex, with three overlying layers and two look-downs. Heading north, the passage ascends and narrows where a small pillar bisects the crest into



two squeezes. Microbods may negotiate the eastern of the two, but most will find the western squeeze challenging enough. Both squeezes emerge at the same position on the crest of the slope. A very low east-west flattener just north of here will challenge even the microbods, but its negotiation is optional. From here, there are two passages to explore. The northeastern route leads through a narrow walkway to an entrance, via a low squeeze and small boulder climb. This entrance does not appear to be tagged and makes for somewhat perilous access.

The other, western passage comprising the most elevated layer is clearly used as a wallaby hideout, with well-polished rock tapering down to a narrow but accessible tube. The tube can be followed down and south, whereupon the floor disappears, leaving a two metre rift-like exposure. One can bridge their way across this 'rift' and follow the roof-tube across the chamber. Despite the initial difficulty, it is necessary to do this feet-first, because there is not sufficient room on the far side to turn around and the 1c descent on the far side would not be wisely attempted head first.

Rowena and Kat accompanied me on the third survey in October to fill in the southwest corner. Beyond the 1c, the walls are covered in old cave coral and the roof is considerably lower. A pit occupies the width of the passage but is easily bridged across or climbed down. The pit contains old bones and has a dirt floor but contains no obvious lead.

Beyond the pit is a three-way junction. Straight ahead (west) then around a corner is a crawl with bedrock walls that terminates in flowstone. There are views through to further passage in the roof above that are not accessible from elsewhere, and the holes are too small to enter. It is not known whether there is substantial cave beyond. South of the three-way junction is 2c down into a rift that is too small for most cavers to consider descending. Kat had no difficulty and followed the dirt-floored passage to its end, which is a narrow bedrock constriction.North from the three-way junction is a short climb, with one branch heading out over the pit, and another continuing up to a truly impassible squeeze. Not even Kat could negotiate this one. There are several pencil signatures in this part of the cave but we did not record their content.

Wallaby is an interesting cave whose position in the gorge would perhaps once have made it similar to the southwestern side-room of the Devils Coach House. Its location and ease of access makes it worth spending an hour or so here to look around, and perhaps spot a Rowallaby.

Simon surveying in Wallaby cave

Photo Rafid Morshedi

W3 Bouverie cave

Kevin Moore

Bouverie cave is well-known as one of the best decorated caves at Wombeyan. It is also well-known as the site of a major rescue, during which some damage was done, and some parts of the cave had to be modified to allow the stretcher to pass[1]. SUSS has re-surveyed the cave as well as scoping it out for cleaning/restoration/track marking.

Cave description

The entrance is a small pit, and is gated. After a short crawl, the cave opens out into a steeply-sloping room with a gradient close to the coefficient of friction between gumboots and cave floors. There are a few stals, but nothing much to stop you from sliding into the rockpile at the bottom of the room, so be careful. There is a fairly obvious route through the rockpile, down to a ladder pitch which is about 7 metres. The ladder can be bypassed through rockpile by small people who don't mind dangling their entire body over a 7 metre drop while feeling for a gap in the rockpile with their tippy-toes.

Hydrothermal deposits and marble breccia

Photo Tina Willmore

Donkey tail

Photo Tina Willmore

After a few more metres of rockpile, you find yourself on a ledge in the wall of a large, very muddy room. You could go that way if you hadn't left the ladder behind [*!! You don't want to be muddy going through the rest of this cave. ed*] but there's a better option: Follow the track markings through a low crawl back into the rockpile. This soon opens out, and you start to encounter crystal-covered walls and flowstone, and a 2 metre drop where your vision is obscured by the roof until your feet are and uncomfortable but safe distance from the floor.

This leads to the Elephants Rump room, a large and very well-decorated chamber with shawls, stalagmites and columns. There's also a large, crystalline boulder, gently sloping, to cross. It's slippery when wet. There are some roof channels here to give the geologists something to pontificate about. There is a climb down from the boulder, and a couple of ways on.

Down through rockpile and heading north east out of the chamber, there is a superb crystal streamway which needs de-trog to traverse. This is full of microgours and pool crystal. There's little catchment on the hillside, so

1 Cave search and rescue report: Wombeyan, May 2008. SUSS Bull 48(2), 5 – 9.

Kevin Moore in the Elephants Rump room – The trackmarking is from the rescue and needs work!

Photo Tina Willmore

this was probably formed when Wombeyan Creek was at a higher level.

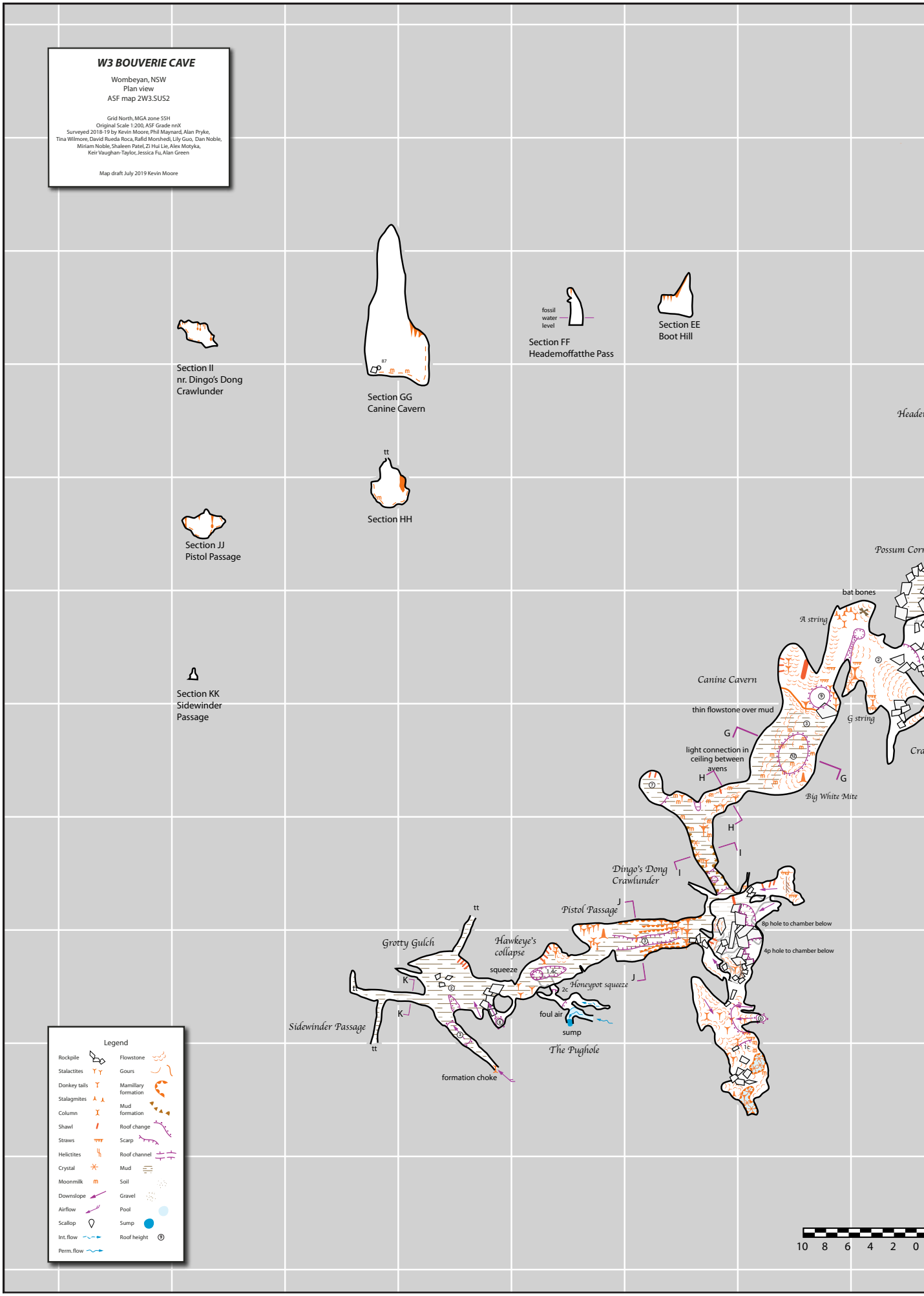
The main way on from the chamber is to the south west, down a climb to a stream passage that meanders to the north west below the Elephants Rump chamber. Following the main route, you reach a small room with a decorated passage (Flowstone Flats) leading on and a pit in the floor (the Plughole). The Plughole is well-decorated but doesn't lead anywhere. Flowstone Flats was extensively damaged during the rescue and shouldn't be entered from here, as further damage would prevent any restoration attempt.

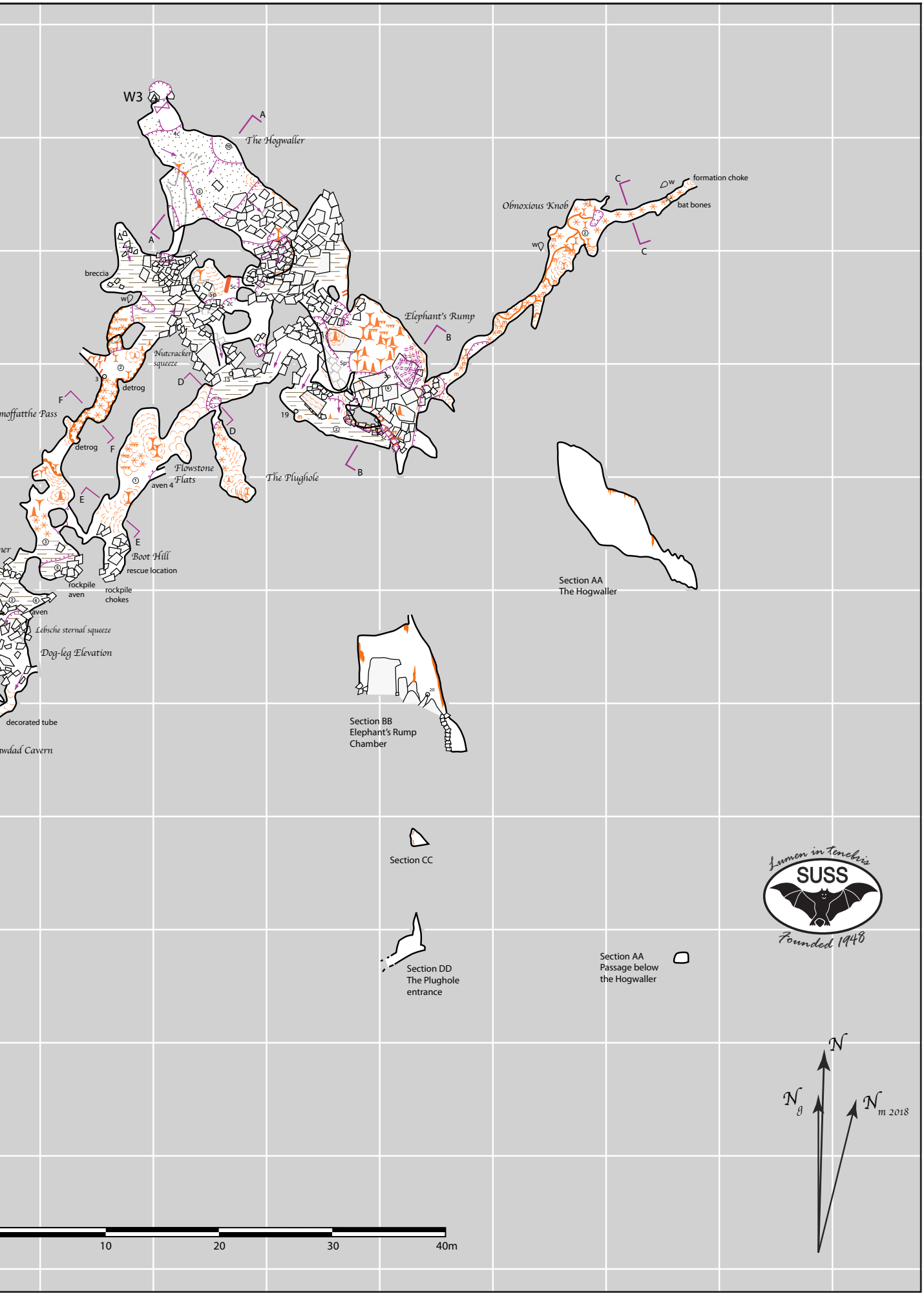
The better way on is up a climb onto the large slab that has dropped out of the ceiling. There is a side passage heading to the muddy room before the Elephants Rump, but the way on is across the slab and through the rockpile horizontally. This leads to a large room with brecciated walls, and a parallel creek passage, Heademoffatthe Pass. This is a well-decorated area with donkey-tails, crystalline floor and gours. We treat this as a detrog section.

Heademoffatthe Pass and Flowstone Flats converge to a small room with a rockpile wall. If you follow the passage back towards Flowstone Flats, you can visit the other side of the rockpile wall, which is also the rescue location, and ponder the folly of pulling rocks out of the roof at that particular spot.

The way on is through a small slot in the western wall, which leads to a collapse chamber. There is a choice here, between a dodgy climb or a squeeze up through rockpile.

Continuing through the cave you drop back down to creek level in Crowded Caverns, which is nicely decorated with flowstone and stalactites, and contains the A String and G String – two notable straw columns. Turning a corner to the south you reach Canine Cavern, a large, well-decorated room with high avens, a mud floor with thinly-crusted flowstone, and some excellent moonmilk. The floors in this part of the cave are very delicate and cavers should tread lightly and stick to the established paths.


W3 BOUVERIE CAVE
Wombeyan, NSW
Plan view
ASF map 2W3.SUS2
Grid North, MGA zone 55H
Original Scale 1:200, ASF Grade nnX
Surveyed 2018-19 by Kevin Moore, Phil Maynard, Alan Pryke, Tina Wilmore, David Rueda Roca, Rafid Morshedi, Lily Guo, Dan Noble, Miriam Noble, Shaleen Patel, Zi Hui Lie, Alex Motyka, Keir Vaughan-Taylor, Jessica Fu, Alan Green
Map draft July 2019 Kevin Moore
Section II
nr. Dingo's Dong
Crawlunder
Section GG
Canine Cavern
fossil water level
Section FF
Heademoffatthe Pass
Section EE
Boot Hill
Section HH
Section JJ
Pistol Passage
Section KK
Sidewinder Passage
bat bones
A string
Canine Cavern
thin flowstone over mud
G string
light connection in ceiling between avens
Big White Mite
Dingo's Dong Crawlunder
Pistol Passage
8p hole to chamber below
4p hole to chamber below
Grotty Gulch
Hawkeye's collapse
squeeze
Honeypot squeeze
foul air
sump
Sidewinder Passage
The Pughole
formation choke
Legend
Rockpile
Stalactites
Donkey tails
Stalagmites
Column
Shawl
Straws
Helictites
Crystal
Moonmilk
Downslope
Airflow
Scallop
Int. flow
Perm. flow
Flowstone
Gours
Mamillary formation
Mud formation
Roof change
Scarp
Roof channel
Mud
Soil
Gravel
Pool
Sump
Roof height
10 8 6 4 2 0


W3
A
The Hogwaller
A
breccia
w
5c
5b
2c
Nutcracker squeeze
3
2
detrog
F
D
D
F
detrog
Flowstone Flats
aven 4
E
E
Boot Hill
rescue location
rockpile aven
rockpile chokes
aven
Lebsche sternal squeeze
Dog-leg Elevation
decorated tube
wdad Cavern
Elephant's Rump
B
19
5b
2c
3c
B
The Plughole
Obnoxious Knob
C
w
formation choke
bat bones
C
w
Section AA
The Hogwaller
Section BB
Elephant's Rump
Chamber
Section CC
Section DD
The Plughole
entrance
Section AA
Passage below
the Hogwaller
10
20
30
40m
N
N g
N m 2018
Lumen in Tenebris
SUSS
Founded 1948

At the end of the chamber you reach a T-junction. The right branch leads to a very high aven, [*under the surface gulley. ed.*] but the left branch is Dingos Dong Crawlunder, with extensive mud and suggestively shaped formation. The Crawlunder opens out into a small room with a horizontal way on to the south west and a climb leading to a steep passage up to the south east. This finishes in a series of high avens and a well-decorated room.

The horizontal way to the south west leads to Pistol Passage. Early explorers described this as having a particularly carnivorous form of mud, but it has some nice decoration up high and many more donkeys tails. It leads south to Hawkeyes Collapse, a rockpile, and the Pughole, a tight hole down through a squeeze to rifty passage with a sump. We haven't pushed Pughole extensively due to foul air. The Pughole lies directly under the dry surface creek.

Avoiding the Pughole by stepping over it leads through a rockpile to Grotty Gulch. This is essentially the terminal chamber. There are several leads off it, for well-trained ferrets or enthusiastic beginners.

The survey

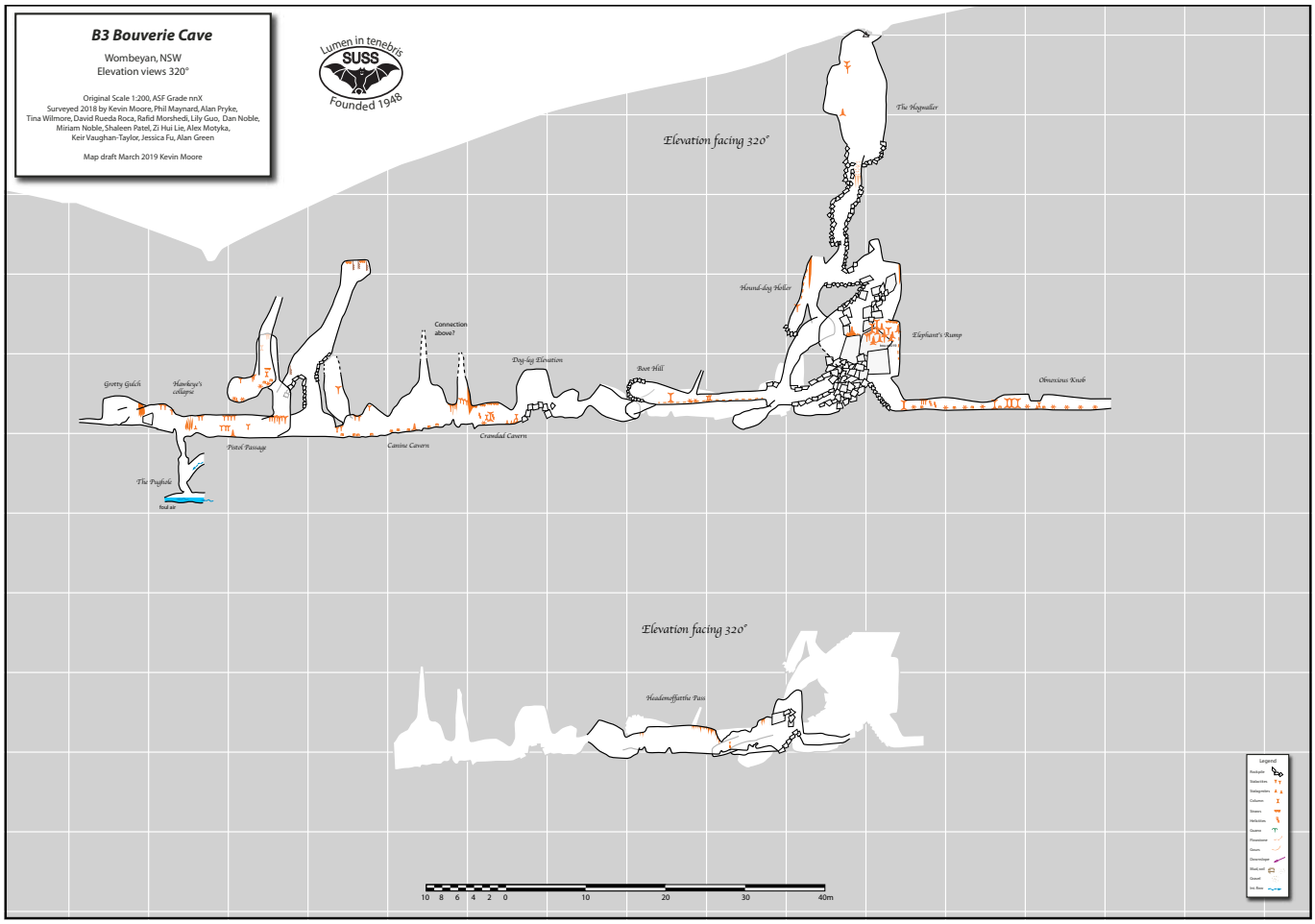
There were eleven trips to survey the cave during 2018 and 2019. Thanks to the thirteen people who took part in surveying this cave! We also surveyed the surface between Bouverie entrance and Bullio entrance to check the hydrology of the two caves. Bouverie cave was surveyed as 553 metres in length, and 57 metres in depth. The highest point in the cave is the tag, and the lowest point is the water in the Pughole. The Pughole sump is at exactly the same altitude as the upstream sump in Bullio cave, and the horizontal distance between the sumps is 85 metres.

Survey:

7th of April 2018 – 29th of June 2019

Surveyors:

Jessica Fu, Alan Green, Lily Guo, Zi-Hui Lie, Phil Maynard, Kevin Moore, Rafid Morshedi, Alex Motyka, Miriam Noble, Daniel Noble, Shaleen Patel , David Rueda-Roca, Tina Willmore



Alan Pryke in the entrance of W3 Bouverie cave

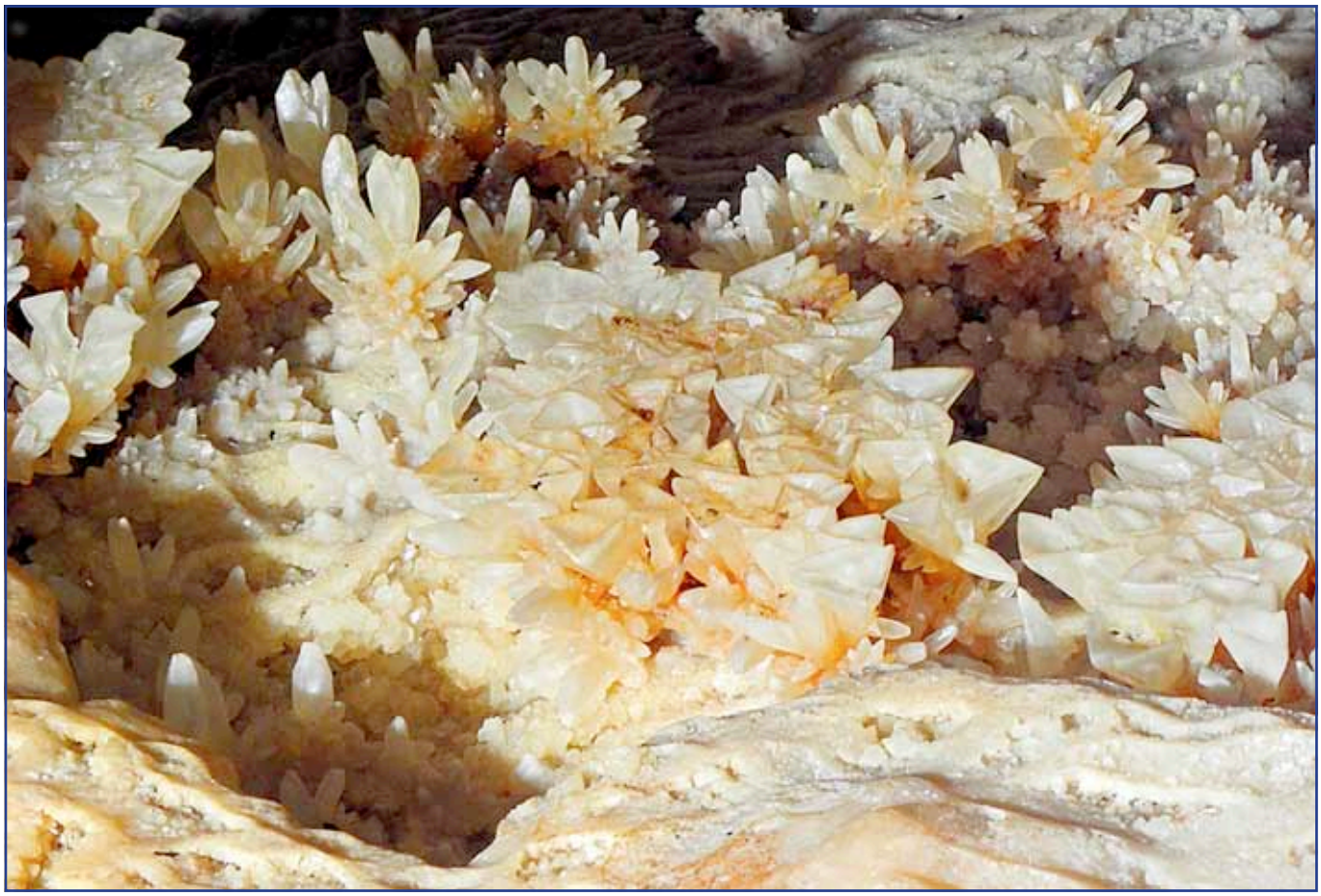
Photo Keir Vaughan-Taylor

More track marking in Bouverie cave that needs to be fixed

Photo Tina Willmore

Photogallery

Glass cave, Jenolan – photos by Andrew Baker



Cave rescue exercise, Mares cave, Flinders Ranges

Photos by Neville Skinner (CEGSA)

Your editor attended this exercise in South Asutralia in September

Al Warild explains the rescue rigging

Setting up the Tyrrolean traverse

Photogallery

Cave rescue exercise, Mares cave, Flinders Ranges

Photos by Neville Skinner (CEGSA)

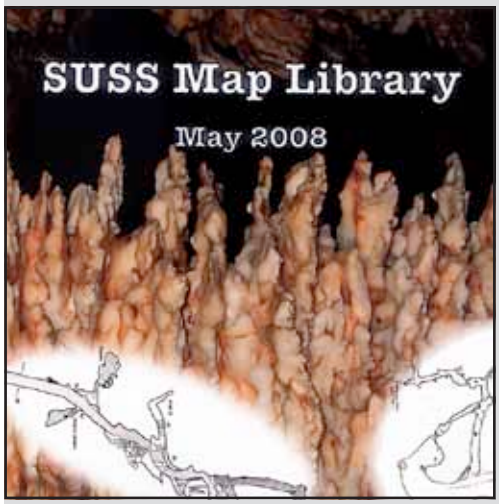
Counterbalance on the pitch

Patient arrives at the bottom of the pitch

Patient transported on the Tyrrolean traverse

Things to buy

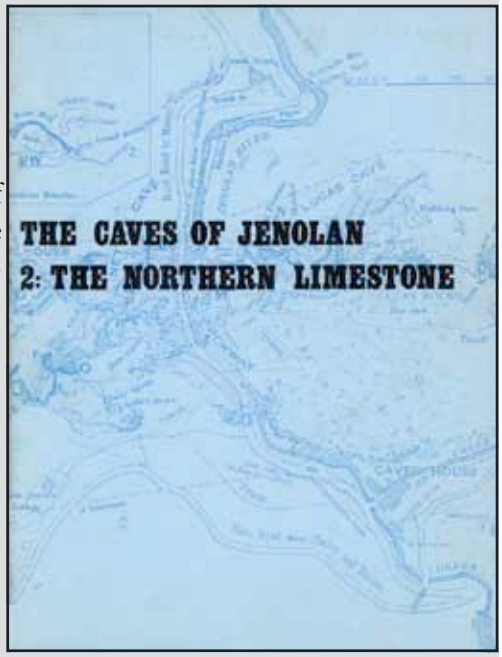
For postage and handling costs and the details of how to order go to http://suss.caves.org.au/publications. There you will also find a range of must-have maps and other publications.



Maps And Bulls On DVD

The entire SUSS cave map library of over 300 maps is on DVD and available for purchase. Our map library was scanned to provide wider access to the maps for SUSS and other ASF caving clubs. 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).

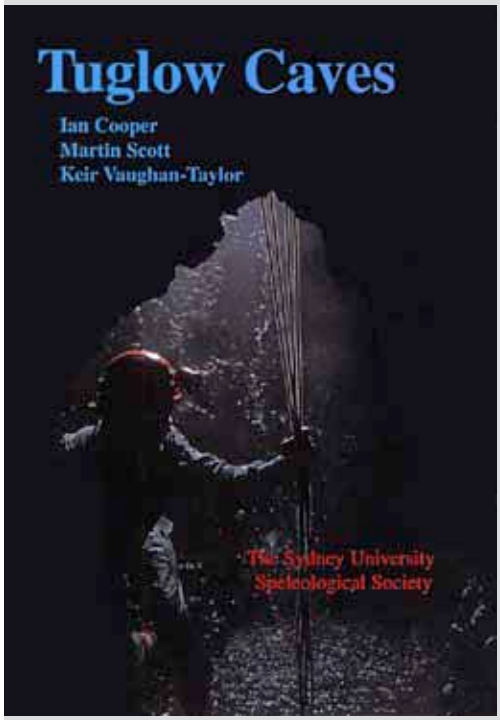
Price is $10.00 + PH.



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.



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.

Back Cover: Glass cave, Jenolan
Photo Andrew Baker