The Journal of the Australian Speleological Federation Inc.



CAVE RESCUE

From all over

THE ASTERISK CONNECTION

Tasmanian caving BUBBLE - DRIP

A small bizarre natural wonder



CAVES AUSTRALIA

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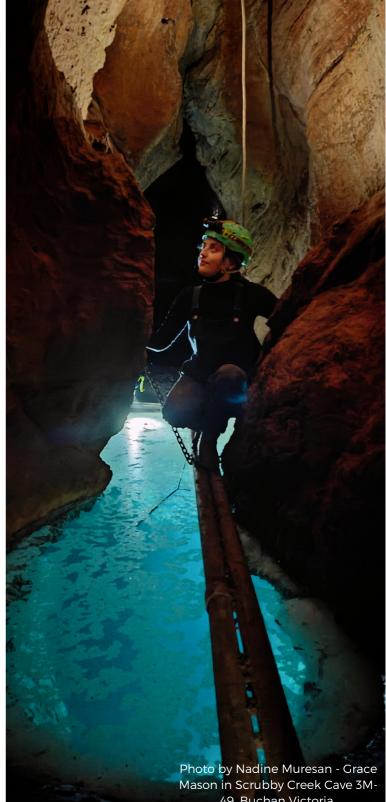
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COVER: PHOTO BY NADINE MURESAN - KHAZAD - DUM CAVE SAREX MAYDENA TAS 2023





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AUSTRALIAN SPELEOLOGICAL FEDERATION



Photo by Brittany Meers The crystal clear waters of Croesus, Mole Creek, Tas



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Reserve

Bogdan Muresan

Editor's Note



Nadine Muresan in Scrubby Creek Cave 3M-49, Buchan Victoria

I asked for it, and thanks so much for answering! In the last *Caves Australia* I asked for the wider community to send me more articles, and in this edition we have some from ALL over Australia which is just brilliant!

This issue has a fantastic Cave Rescue feel with so many states taking on the massive task of organizing these events. Whilst some lacked numbers, it seemed that overall, there was a great turnout with loads to learn! Whilst we never wish to actually use these skills it is vital that we both practice and maintain a common ground of understanding so should that day ever arise we are prepared and capable of rescuing our friends.

With new parts of caves being discovered, a bit of science, and some fantastic map skills it is truly great to see *Caves Australia* continue to grow.

With this, my 4th *Caves Australia* and the final for the year, I wanted to thank everyone for their support and kind notes on the new *Caves Australia*. I am excited to see it continue to grow. I wish everyone a safe and happy Christmas and New Year. I hope you all get to spend at least some of the break underground—meaning I look forward to the articles in the new year.

Till then, let's go CAVING!

Nadine Muresan

President's Report

While Australia recently voted No to the proposed establishment of a First Nations Voice to be enshrined in the Constitution, the ASF is an ongoing supporter for Indigenous recognition and sovereignty. Most of Australia's caves have been known and used for thousands of years for habitation and resources, and are intertwined with Indigenous Peoples spiritual connection to Country. Unfortunately, much of the knowledge has been lost since colonisation. As modern cavers visiting these places we can be privileged to rediscover Indigenous cultural heritage – tools, rock art and even sacred burial sites. These discoveries help to give back a fraction of what has been lost.



Photo by Dee Trewartha

Caves within national parks and other protected areas help to preserve the cultural heritage of an area as well as the caves themselves. Sadly many regions are still under threat, especially with the proposed Green Energy Hub on the Western Australian Nullarbor. The entire landscape as well as the caves form many Songlines and destruction of the karst landscape threatens the continuation of the Mirning culture.

The recent ASF Conference in South Australia provided a valuable opportunity to work more closely with the Mirning and other Indigenous groups forming the Community at Ceduna. We were privileged to have two Mirning Elders accompany us on the field trips after the conference while visiting their Country.

While we might think of free climbing some of the vertical entrances as a barrier to access without modern tools, Indigenous Peoples also have great ingenuity and resourcefulness. The use of ropes is certainly not a modern invention! There are also foot holds carved into the solution tubes of Nullarbor caves and tree trunks were sourced from many kilometres away to be used as ladders.

It is also worth remembering that caves are a dynamic landform and are constantly changing. The shape and steepness of the entrance you see today is likely to be different from how it looked ten, twenty or especially 60,000 years ago. The karst landscapes have dramatically changed over these time periods with ice ages and fluctuations in vegetation, and Indigenous cultures have adapted along with them.

The lava tube caves at Budj Bim on Gunditjmara Country in Victoria formed around 30,000 years ago and volcanism in Victoria only ended around 7,000 years ago. This easily spans the time of human habitation with culture forming alongside these geological processes. Budj Bim Heritage Landscape has recently been added to the UNESCO World Heritage List recognised solely for its Aboriginal cultural values.

Our next ASF conference will be held at Buchan on Krowathunkooloong Country, where artifacts have been found providing evidence of Indigenous occupation for over 18,000 years. While they may not have ventured far into the deep cave systems, the entrances provided essential shelter and resources.

When caving at Jenolan we are visiting the lands of the Burra Burra clan group of the Gundungurra Nation. Their culture is intertwined with the caves where the underground lakes and waterways were used for healing. The Bungonia caves are also within the southern region of the Gundungurra Nation, within the traditional lands of the Njunawal tribal group, where the dolines provided food plants as well as shelter.

The caves of the Cape Range are rich in archaeological deposits showing habitation for over 30,000 years. The shell beds along the Ningaloo Coast have revealed the earliest known evidence in Australia of the production of personal ornaments. The shallow flank margin caves overlooking the coast there would have provided perfect shelters. People would pay a fortune now for a home with such a view!

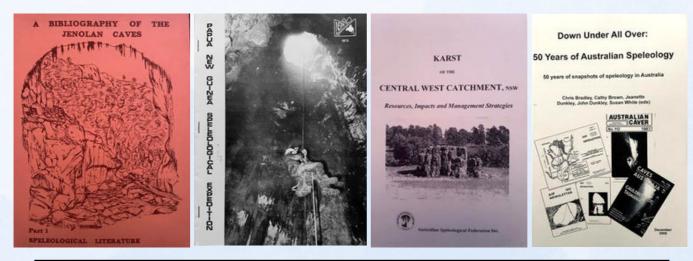
These are but a few examples of the Indigenous connections to the areas we go caving. On your next trip, take a moment to consider the traditional owners of the land you're visiting and the countless generations of people that have walked there before you. As cavers we have a great love for the places we visit. Now try to imagine the strength of the connection the Indigenous Peoples have to these same places where the caves and the karst landscape form part of their day-to-day existence and are strongly embedded within their culture.

ASF Publications Sale

Attention Cavers!

The ASF Publications and *Helictite* Commissions will be having a fire sale to downsize stock from 1st December. Some classic and more obscure publications are available; some include limited copies. Keep an eye out for details in the next Cricket or contact the Publications Sales Officer: <<u>asf.caves.sales@gmail.com</u>>.

You can order some publications directly from the Publications page on the website: <<u>https://caves.org.au/publications/publications-for-sale/</u>> and pay using PayPal. More to come!



ACKMA Proceedings now available

We advise members that the Proceedings from all ACKMA conferences, including the latest conference held in New Zealand this year, are now available on the ACKMA website at the following URLs.

https://ackma.org/Proceedings/proceed/23/23contents.html

For the 23rd ACKMA Conference Proceedings.

Or

https://ackma.org/Proceedings/index.html

For all of the ACKMA proceedings, Andy-sez columns and the Search engine for the proceedings.

Or

https://ackma.org/Proceedings/proceedings.html

For only the ACKMA proceedings.

We hope that you enjoy the papers from the conference which are in HTML format as well as PDF files for each Paper and the entire proceedings.

Regards Rauleigh and Sam Webb

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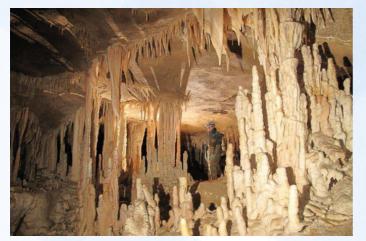


Photo by Johathan Carr - Caver and speleothems in Cascade Cave, Paturau



Photo by Kane Hartill - Waterfalls & flowstone in Rawhiti Cave, Tākaka

ASF Awards Commission Convener - Nominations for ASF Awards

Nominations close on 31st July 2024 for awards to be conferred at the 33rd ASF Conference to be held in January 2025.

Most members will know an ASF member who goes 'above and beyond' with the effort and time they commit to caving, their club and/or the work of the ASF. Why not nominate this person for an ASF Award to recognise their efforts and achievements?

The ASF Awards for which nominations are invited are:

1. Edie Smith Award

For outstanding service to Australian speleology over a long period of time (typically more than 10 years) in any field of speleology.

2. Award of Distinction

For recognition of those who have made an especially notable contribution to speleology in fields including conservation, exploration, expedition leadership, research, etc.

3. Certificate of Merit

For valuable service to speleology above normal involvement, possibly limited to individual club level.

Nominations may be made by an individual, a group of individuals, or by a caving club or society. Sufficient information should be provided in the nomination to clearly describe the contribution(s) made by the nominee that the nominators believe make the nominee worthy of receipt of an ASF Award.

Nominations should be sent as an email attachment, on club letterhead where applicable to the Awards Commissioner: Bob Kershaw at a new email address for ASF Award communications: <u>asf.caves.awards@gmail.com</u>

Nominations in the form of an email message alone are not acceptable. Full details regarding ASF Awards can be found at the ASF website using this link: <u>https://www.caves.org.au/administration/commissions/awards-and-awardees</u>



ASF AWARDS 2023 Top: John Brush, Susan White Bottom: Bob Kershaw, Stephen Fordyce

FUTURE LEADERS in NSW/ACT

By Brian Evans, Phil Maynard & M

In the "old days", when we were caving, there were no outside distractions and we had unlimited access to caves. There was a smorgasbord of trips and over the years we became leaders organically, we went on enough trips and picked up cave ethics and minimal impact caving by osmosis, and then someone said, "why don't you lead a trip?", and voila, you were a leader.

Fast forward 30 years and it's a whole different ball game! As clubs, we're contending with the world of instant gratification, meet up groups where you just "turn up on the day", limited access to many caves, declining numbers and the reluctance of the Millennial and Zoomer generations to belong to clubs ("so 1970s"). Frankly, there aren't enough trips on club calendars, and those cavers who show some promise as future leaders, aren't getting the experience they need to get to the level of leadership that we now believe is best practice.

Some of us felt it was time to join forces and put together some resources to share with clubs that weren't able to lead sufficient trips to train their leaders.

So, the Future Leaders Pilot Program was born. The program was created to assist clubs to progress cavers on their journey to becoming a leader. We hope that this will strengthen all clubs in NSW/ACT through pooling knowledge, experience and resources to train a new generation of leaders.

Initially the program was promoted to a few clubs to prove the concept. Members of SUSS, MSS, NHVSS, ISS and CSS contributed significantly to content and running field trips. 18 months later, results are being realised and the program is being opened up to all NSW/ACT clubs, and eventually it will be released to ASF clubs in other states (a few logistical problems there!).



Photo by Alan Green - Shiva concentrating, has placed the rebelay and has then crossed it



Photo by Phil Maynard - Gabe, at a Rigging Workshop, derigging and stuffing the rope into the rope bag



Alan Green filming Shiva at a Rigging Workshop. All facets of rigging are presented both in a written document and as individual .mov files

So, how does it work?

- How the Program fits in with the student's home club: The program is not meant to take the place of the skills development the home club provides; it's meant to assist and add value to that training and development.
- The Platform: A Google Classroom has been set up with modules (Risk Management, Ethics, Managing Risks, Minimal Impact Caving, Equipment and Vertical Caves. Some modules such as Ethics and Minimal Impact Caving have quizzes, and there are assignments for field trips. All documents in the Classroom are peer reviewed by at least two outside facilitators.
- Facilitators: A number of highly respected cavers have agreed to run skills development days and field trips (leader experience and cave familiarisation).
- Students (Future Leaders): It is expected that prospective Students have the ability to operate using SRT independently on pitches of up to 25 m with simple re-belays. Training in SRT can be provided by various clubs, if the participants' clubs cannot provide it and their home club nominates them to the program. The Student's journey to becoming a leader may take a few months or a few years, depending on both their experience and their motivation.
- Graduation: There's no "graduation" as such in this program and no grading; when the student is ready to lead, the home club will progress them to the next step.

If you are a President or Secretary of an ASF club in NSW/ACT and you wish to consider either nominating a student, or running a program based on this in your region, we can offer you access to the Classroom for a month to determine whether or not you feel members of your club would benefit from being students. Simply email

<u>future.cave.leaders@gmail.com</u> and we'll take it from there.

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Tasmania, NSW, Romania

NORTHERN TASMANIAN CAVE RESCUE PRACTICE, MOLE CREEK, TAS

By Janice March

Nine Tasmanian cavers met at Honeycomb Cave for our springtime search and rescue practice day.

We focused on developing our overall competence at using the Michie phone underground communications system. We went through the protocol in detail, discussing each point – then we applied this learning during the afternoon in-cave scenario.

We also practised sliding a casualty in the Petzl Nest stretcher over some sharp rocks and then wrapped the Northern Caverneers homemade stretcher around it to provide extra protection to the person and the Nest. The bundle slid better as it was more rigid and had curved up ends like a sled. Since just two people could handle it we think this could be useful for a rocky low passage, or where other cavers' bodies could be used to fill in gaps between rocks or over water.

We tried the small inner wrap stretcher inside the Nest, but that was less successful as it was less comfortable for the casualty.

With only nine cavers, the scenario was necessarily short and easy to rig, consisting of one Tyrolean and one counterbalance using existing screw holes and natural anchors.

The base station for the phones was inside the cave within sight of the two rigging locations. Communication team members were able to see and hear the other teams' progress, critique the rigging and volunteer to be the casualty when the time came.





Photo by Janice March - Geoff Capper on the tyrolean



Photo by Janice March - Michie phone underground communications system

The group debriefed at the completion of the day and agreed that regular practice gives us a better chance of being well prepared for any future cave rescues. Although the group members had a wide range of experience with various individual strengths and weaknesses, we are all keen to become multi-skilled cave rescuers so we can do whatever is required on the day.

Our northern Tasmanian clubs are working well together and club members volunteer to check and clean the gear shed, rewrite briefing and inventory documents, repair and wash equipment and pick up and deliver rescue gear to the shed for the practice day. This takes the pressure off the regional ACRC co-ordinator and allows me to concentrate on representing our organisation at the local Police liason meetings, reporting on the exercises and planning the next exercise.

I'll also slip down to the Junee-Florentine for the big southern Tassie practice in KD later in November with about seven other northerners and lots of Southern Tasmanian Caverneers, Police and visitors from NZ and NSW. It is sure to be a social and technical rigging extravaganza.

The next exercise will be May 4-5th 2024 (all welcome).

CAVE RESCUE EXERCISE, BUNGONIA, NSW

By Brian Evans



Photo by Tina Willmore - Morning briefing. Cavers, plus Thredbo and Perisher Ski Patrol, Wollongong VRA unit and WICEN communications join SAR police and Special Operations paramedics to learn the situation.

The individuals that train for cave rescue almost always do so because at some point, when caving, they've thought, 'if I have an accident here, it would be almost impossible for a rescue service to help me'.

It's not that they discount the professionalism, dedication or skills of professional rescue agencies, rather that they've taken enough beginner cavers in to learn that many people do not already have the abilities to move safely and efficiently through caves, regardless of how fit they are or how slim their build.

Having made that discovery, they then learn that they need specialist skills to be able to carry a person through the various challenging terrain types of a cave and start to train with others and build relationships with other agencies so whoever is in control of an incident understands the three keys for caver-rescuers:

- 1.Moving things in caves is much different and more difficult than you think;
- 2.Caver-rescuers train those skills and techniques;
- 3.You can trust caver-rescuers not to make a situation worse.

Cave rescue in NSW has followed a slightly different path from other states. It became organised in 1974, when a group of NSW cavers organised a training exercise for cave rescue which included Police. Subsequent to that Sgt Ray Tyson of the Police Rescue Squad encouraged the cavers to organise formally and they became the Cave Rescue Group. That same policeman, in 1975, encouraged an association of volunteer rescue squads (the Volunteer Rescue Association or VRA) to form, especially in regional areas and small towns, and encouraged the Cave Rescue Group (CRG) to join as specialists.

They became the Cave Rescue Squad (CRS) and gained a little funding and a bigger voice and presence in the growing world of rescue agencies. Fifty years on, the Cave Rescue Squad is still a group of cavers who train together and maintain preparedness for the occasional rescue. The biggest difference is that, due to there being an "organisation", and the VRA's media presence, they get regular requests to join, from people who have never caved! These are politely met with a response that says CRS generally only accepts people with advanced caving skills and suggests that the applicant should join a club and become a strong caver.

VRA Rescue has moved from an association of disparate volunteer rescue groups funded entirely by their fundraising activities to a company with substantial funding from the NSW government.

In any case, the VRA NSW Cave Rescue Squad, like caver-rescuers around the country, faces the challenge of maintaining preparedness at a high standard, for a complicated task that happens very rarely. In NSW, history shows that it's about once a decade!

As part of that goal, they run a large, multiagency exercise most years.



Photo by Tina Willmore - It's serious! There's an injured caver down the Drum, and two other cavers have left the cave and not been seen since.



Photo by Tina Willmore - Our casualty, Penny, going off cheerfully to "break" both wrists and an ankle!



Photo by Tina Willmore - Descending the main pitch(es) of the Drum



In 2022, the multi-agency exercise was run in The Drum, at Bungonia, and provided a 'real caving adventure' when 26 mm of rain fell in 30 minutes, during an afternoon thunderstorm. The nearby lightning had already caused us to disconnect the Michie phones and we were relying on UHF from top to bottom of each pitch. The cavers, of course, relished the challenge of ascending 50 odd metres up an actual, flowing waterfall, instead of the usual dry pitch and pool stinking of fermenting guano! However, some of the other agency guests were believing that they were about to live through their own Thai cave adventure, even though cavers knew that being trapped was highly unlikely.

The exercise became far more authentic, as we rigged a new route out, and organised lifts, from a difficult, but dry, position for several people who were not confident of prusiking in the waterfall. Many of you will have seen the lovely Alan Green video of this at:

https://www.facebook.com/nswcaverescue

or https://www.youtube.com/@meridianpost.

It does a fine job of capturing the exercise and how much better it was for being a bit more authentic! Even more will have seen Andrew Baker's report on it in *Caves Australia*.

To 2023 and the planning. VRA Rescue was now a company almost entirely funded by the NSW government, with new leadership and a strong desire to support cave rescue and improve its image as a professional and highly capable rescue agency.

Andrew Baker and I, along with other VRA specialist and support squads, were meeting with the new VRA Commissioner (recently Commander Police Rescue & Bomb Disposal Unit) and the new VRA Deputy Commissioner Operations (recently a paramedic and Rural Fire Service major incident controller) when it was raised that it would be good to have a multi-agency exercise with all of the specialist and support VRA squads attending (these comprise of Thredbo and Perisher volunteer ski patrols, Wireless Institute Civil Emergency Network (WICEN) radio engineering and communications specialists, Wollongong General Land Rescue squad that supports by covering offline periods in other VRA squads around the state, Cave Rescue, and the new squad of Search Dogs Australia).

Cavers of Australia will know me for my quiet, reticent nature, so I chimed in promptly! "Caves already runs a multi-agency exercise. How about we see how we can expand it to include other VRA groups?"

The planning began. Due to access difficulties to many caves in NSW, it was decided to run the exercise at Bungonia again, and to use The Drum, because it clearly shows what we are good at; challenging and vertical terrain. The second, and new, component was that two "cavers" would be reported as having previously left the cave when one member became injured in The Drum. These never called in for help and had not been heard from since. A land search would have to be mounted to find these while the delivery of paramedics to the known casualty was under way. The known casualty would then be extracted.

In this way, the caves people could show what they were good at, Ski Patrol and Wollongong could show their prowess with land search and WICEN could provide a robust communication system above ground and link with the cave entrance Michie phone. Search Dogs were otherwise committed and unable to send a team. Police Rescue and NSW Ambulance were keen to get underground and observe the cavers show their niche rescue skills.

Photo by Tina Willmore - The team needs to do some manhandling to get her clear of the gully.

The latter stages of planning were quite challenging as we adjusted to a much

Bungonia SARex 2023

Michael Fraser and Andrew Baker were planning their tenth major exercise for CRS and stepped up even further to integrate with the additional agencies. Caverrescuers in NSW owe a large debt to these two, who consistently organise challenging and successful rescue exercises that simulate how things would go when the real thing happens. When next you see either of them, tell them how much you appreciate that, when it's needed, NSW caver-rescuers will be as prepared as they can be.

Al Warild, who usually performs the eyes-everywhere, critical, Safety Officer role, was overseas, so David Taberner stepped in, and did an excellent job of supporting teams to be successful in their cave rescue roles. Team Leaders were Rod Burton, Michael Larkin and Greg Tunnock. Ruth Evans led the entrance manager and comms team. I took on a liaison officer role with incident management and so spent the day talking, and didn't get underground until Sunday :-(.

Nearly 60 attended, with three Special Operations two Police Rescue Officers paramedics, from neighbouring Goulburn, the VRA Rescue Director of Operations, ten from VRA rescue Wollongong, four from Thredbo Ski Patrol, five from Perisher Ski Patrol, Alan Green (video king) as guest of CRS and thirty from CRS, including four "try-out" members - (member applicants trying out to see if they and their skills fit the group). The Rapid Relief Team provided catering for breakfasts and lunches, and Wollongong provided a bbq for dinner on Saturday.

Saturday began with a briefing which included the imagined situation and missions: (1) cavers were to reach, support paramedic travel to, and extract a "casualty" with two broken wrists and a broken ankle and support the person who had remained with the casualty; and (2) the other teams were to refresh their land search skills, perform a hasty search for clues, and then search for the two "missing" cavers.

Finally (3), all teams were to come together to carry the casualty from cave entrance to the track where an ambulance could have been waiting for the casualty.

No heavy thunderstorm forecast; no bushfire expected. The cavers had already checked "foul air" and restricted the exercise to immediately below the entrance series in the cave. The Drum usually allows access almost to the bottom sumps in October, but this year there was >3% CO_2 just beyond the squeeze way so the exercise designers creatively used the convoluted chamber at the base of pitch 1 to create two additional short pitches and a variety of carries. The team took the Police and Paramedics for a "foul air experience" before delivering them to the casualty.



Photo by Tina Willmore - ...but she watches with interest as she nears the bottom of the Cesspit



Photo by Tina Willmore - "Take this. Go there. Do that."

Photo by Tina Willmore - Our casualty approaches the top of pitch 2



Photo by Tina Willmore - Rest and "observations " for the casualty



Photo by Wayne Dreghorn - Sunday caving: these were trying it for the first time were much impressed. Others had had enough earlier



Tina Willmore - Organising to take non-cavers into the Grill for some new experiences

Team 1 reached the casualty and rigged a counterbalance lower for the stretcher and two access lines for the 10 m pitch between Bat Chamber and Cesspit. Team 2 had a belayed carry then a 2 m drop, followed by a lift and stretcher pass to the base of the main pitch. Team 3 was responsible for two counterbalances and several belays for the 50 m entrance pitch. Tina Willmore led the comms team and delivered her assistant, Penny Sze, to be the casualty. Thanks, Penny, for volunteering for that role.

Later that day, a second casualty was identified as the exhausted and weakened companion of the main casualty, and Marilyn Scott was also hauled up the main pitch, although without needing a stretcher.

Meanwhile, the two land search teams performed a hasty search along the Green Track and found six items previously hidden. They were then tasked to carry out a line search near the end of the Orange Track, where two "lost cavers" had been hidden a couple hundred metres off the track. These were found promptly so one was declared to have a broken leg and the searchers carried him/her back to incident control.

At this point, the cavers were about to deliver their two casualties to the cave entrance, so all teams assembled at the cave entrance to bring them out to transport for a series of belayed stretcher passes.

At the debrief, there was much discussion of the value of our collaboration and teamwork and getting to know each other. Police and Ambulance both expressed confidence in what they saw and in our effectiveness as "Subject Matter Experts" for our niche. All spoke with enthusiasm for doing a similar exercise next year.

On the Sunday, cavers took fifteen rescuers of other squads into the Grill cave and gave them a chance to experience the delights of caving. The Grill is a heavily used cave, but offers a lot of scrambling, plenty of damp and slippery rock, and a little mud. Most of the visitors made it down into the bad air and experienced >3% CO₂.

All were most impressed, and grateful for the opportunity, although I'm not sure that we recruited many to caving.

Overall, the exercise was an excellent opportunity to practice working together and build relationships.



Photo by Tina Willmore - Debrief. Much positivity, a few suggestions

SOUTHERN TASMANIAN SAREX KHAZAD-DUM, MAYDENA

By Jemma Herbert Photos by Nadine Muresan



Southern Tasmanian Caverneers (STC) ran a search and rescue exercise together with Tasmanian Police (TasPol). There were over 50 people attending from across Australia and New Zealand, including a contingent of police.

The exercise was held in Khazad-Dum, which is a largely vertical cave in the Junee-Florentine in southern Tasmania. The scenario was to rescue two stretcher bound patients, one from the streamway and one from the top of the dry 90footer (about halfway out). Splitting the exercise in two made for a shorter day, with less waiting around for everyone.

The cave was split into 12 major obstacles, with a team of 2-5 people assigned to each obstacle. Most of the obstacles required some sort of haul, Tyrolean, lower, or combination of those, to be set up in order to move the stretcher safely. Teams planned and rigged their obstacles and when everyone was ready each stretcher was moved in a single push, being passed from team to team.

The bottom section of the cave was rigged as three fairly long hauls and a guided Tyrolean, all pretty close to a big loud waterfall. Whilst we were using UHF radios, they weren't working reliably and communication was a problem. The teams made it work in the end, but it caused some confusion and delays.

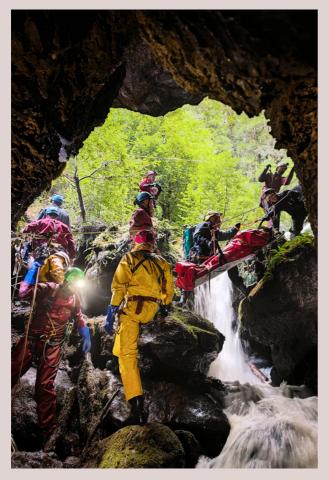
Group photo after a successful extraction



Brian Evans drilling in preparation for his station



Preparing for the next vertical accent



Excellent and creative rigging



I gather the rigging in the top half of the cave was also successful. Whilst the pitches in the top half weren't as long and airy as deeper in the cave, some of them were more complicated. Several required taking the stretcher along routes which are not usually used by commuters, and some creative rigging.

The usual chaos, with some bonus faff from a mandatory car shuttle, was outweighed by the efficiency and competence of all the excellent participants. Much to my surprise, we finished on schedule, back at the cars by 6 pm. The following day saw our debrief, gear sorting and a Slaughterhouse Pot through trip for some.

A big part of the purpose of these trips is just to get to know each other, so we're not all meeting for the first time at a real incident. These things instil us with confidence in each other and also instil the police with confidence in us. I was super impressed with the skills of the mainlanders and was reminded of what I already knew, that the NZ'ers are bloody awesome. It's cool that everybody is on the same page with Al Warild style rescue rigging. All in all, everybody did well. It's reassuring knowing that we have so many capable rescuers to call on if we ever need help.

My thanks to everyone who helped organize the exercise. Particularly Alan, Janice and Damian you guys are legends. And to everyone who travelled far to come along.



After we were finished fun half group shot

CAVE RESCUE COURSE ROSIA, ROMANIA

By Bogdan Muresan



Photo by Bogdan Muresan - Bogdan and other students practicing pick offs,



Photo by Bogdan Muresan - Students practicing mid-line haul systems



Photo by Bogdan Muresan - Instructor explaining how to build anchors



Photo by Bogdan Muresan - Moments before we all jump in and take the gear that we need for the task ahead

This year somehow my caving activities turned towards cave rescue more than before. My first contact with cave rescue was in 2011 when a friend of mine got stuck in a cave for four days due to rising water levels. Everything ended up ok and no one was hurt but I was greatly impressed with the scale of the event and the quality of the organization of the whole rescue. This was in Romania before I moved to Australia. I then found out that Romania has a large Cave Rescue Association and that most of the counties have a professional, government founded cave rescue team. Of course, still a large part of the cave rescuers are volunteers. This association runs cave rescue courses every year to train and qualify cave rescue technicians, team leaders, rescue leaders and other trainers. This year, between 12th - 19th of November I undertook the Cave Rescue Technician course in Rosia, Romania. For this session we were 19 students from different parts of the country. This course is designed for advanced cavers, and it is a requirement to have completed two levels (Level 1 - progression; Level 2- rigging) of SRT training provided by the Romanian School of Speleology (SRS). Because of this requirement the first day we jumped straight into slope lifting systems, lowering systems, changeover from lifting to lowering and vice versa and Tyrolean set ups. For each of these operations there is a set way to do it and a strict set of commands. Through doing it this way, a fluidity is ensured as we all know what's the next step. Of course, this is not unique as this is how most of the cave rescue teams work in general and is one reason why national courses and training are important. Over the next three days we covered lifting and lowering techniques in a variety of setups, Tyroleans of all kinds, pick offs, stretcher carrying, packing the victim in the stretcher, creating hot tents/hot spots for victims and much more.

We spent the last two days of the course running complex cave rescue scenarios. We got divided into small teams and we all got tasks and sectors of the cave to rig from start to finish. We took turns in running a team and we all learned the importance of communication and cooperation.



Photo by Bogdan Muresan -Extinct Cave Bear bones,



Photo by Bogdan Muresan - Students learning how to position the victim in the stretcher



Photo by Bogdan Muresan - Ursus spelaeus, Cave Bear bones



Photo by Bogdan Muresan - Nadine freezing in the snow

On Saturday the 19th a national cave rescue exercise was organised as an exam for the students. On Friday night cave rescuers from all over the country started pouring in and we ended up being 75 cave rescuers and cavers for the event. Of course, being Romania, Friday night after the briefing for the next day turned into a party that lasted late into the next morning. As we were sleeping in the main building of the guest house where most of the people hung out, we didn't get much sleep.

For the rescue exercise on Saturday, we had two vertical caves. For the one that Nadine Muresan and I (the other Australian participating at the exercise) were in the task was to evacuate the stretcher from the streamway level at -100 m. The other cave was less deep, -50 m but with more horizontal passages. The initial plan was for all of us to leave the guest house by 8 am and for the SRT rigging team to leave half an hour earlier. At 9 o'clock we we're still heaving breakfast and on top of this human caused delay it snowed all night, and it was still snowing, and this slowed everything down as well. The first team went in at 10.30. This was a combined SRT and medical team. We, the second of the four evacuation teams went in at 12. This cave has never seen a rescue exercise before, so every sector had to be cleaned and bolted for rescue systems. By 2:30 pm everyone was ready, and the stretcher left the streamway. Being a vertical cave with only two short rope sectors the evacuation went smoothly and the stretcher was out by 3:45 pm. Once the stretcher passed each sector the craziness began. Each sector was de-rigged quickly and everyone was moving up towards the exit. This caused massive waiting times for each vertical sector as expected. At one point as five cavers were waiting below us and getting very cold, they started practicing pickoffs to warm up which everyone thought was very creative and funny. Another caver in our group had 90's disco music on his phone so 7 cavers, tightly packed together, wet and miserable started dancing on lame disco music to stay warm. It worked! We slowly moved up and by 7 pm everyone was out of the cave.

We spent the last two days of the course running complex cave rescue scenarios. We got divided into small teams and we all got tasks and sectors of the cave to rig from start to scratch. We took turns in running a team and we all learned the importance of communication and cooperation.



Photo by Nadine Muresan -Team 2 enters the cave



Photo by Nadine Muresan - The regulator and the counterbalance caver ready to haul

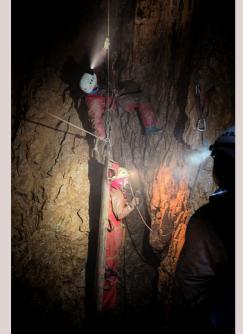


Photo by Nadine Muresan - The counterbalance person guiding the stretcher

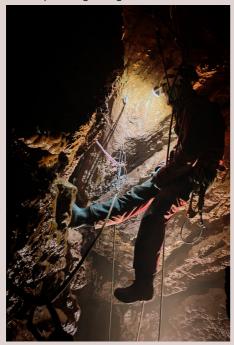


Photo by Nadine Muresan -Bogdan waiting for the stretcher to come

Over the seven days of the course, we learned a lot. I have understood the importance of a national curriculum and a qualification scheme. When people come to an exercise or a rescue you don't need to know names or caving CVs, all you need to know is their last caving qualification and you know what they can do and how to use them as a resource. Another important thing is using the same language, and I don't mean English or Romanian, I mean learning the terminology and using it. We even learned to communicate using standard terminal knots at the end of the rope. Different knots communicate what each rope does. Is it a SRT progression rope, is it a hauling line, at which end of the rope do I connect the stretcher? This is all communicated by different knots so when a caver arrives at the base of a pitch and has three or more ropes he would know what they are. The phone line is used for communication as well, dohh.. Not just to communicate using phones but the phone line is your guideline in the cave. Follow the phone line and you will get to the victim or your sector or outside the opposite way. The phone team rigs the line along the stretcher evacuation way at all times.

Of course, it was not just positives and no negatives. Romania an ex-communist country and is in eastern Europe and when it comes to cave protection Romania got a long way to go. Although the cavers are strong and resilient, they are stubborn as well. Smoking in the cave was considered normal and accepted by most. Even after asking the smokers politely and not so politely to stop smoking they wouldn't and every half an hour or so a massive cloud of smoke would move up throughout the cave. The night before the exercise, at 3 am cavers were still drinking alcohol and partying. Again, this is considered normal and acceptable behaviour although most cavers understand that this can be potentially dangerous mixed with caving. The good thing is that I haven't seen this happening at a real rescue, and we were told that the leaders are very strict in a real situations.

All in all, I am happy that I have attended this course, I am now a cave rescue technician within the Romania Cave Rescue Association which is part of the European Cave Rescue Association and I am keen to bring that knowledge to Victoria and hopefully establish a skilled Victorian Cave Rescue team.



Photo by Nadine Muresan -Last teams arriving to command post

Bubble-drip and Bubble-blowing Straw Stalactites: have you seen any?

BY GARRY K. SMITH NEWCASTLE AND HUNTER VALLEY SPELEOLOGICAL SOCIETY

Fig 1. A solution bubble in Elliots Cave at Takaka in the far north of New Zealand's, South Island

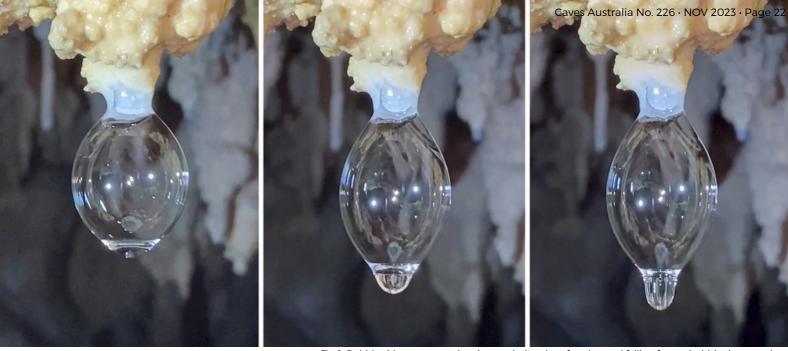


Fig 2. Bubble-drip sequence, showing a solution drop forming and falling from a bubble that remains intact as the cycle is repeated many times before eventually bursting. Part A

When water pushes gas bubbles out the end of a straw stalactite it is called a bubble-blowing straw. These bubbles usually burst shortly after exiting the straw's central channel. However, a handful of these rare oddities have been recorded with a bubble that remains intact at the base of the straw, while solution flows over the bubble surface and drips from beneath.

On a recent trip to Takaka in the far north of New Zealand's South Island while attending the 2023 ACKMA conference, Keiran Chandler and John (Oz) Patterson took me and others to see a rare bubble-drip in Elliots Cave.

Our group was fortunate to see one of these small but unusual natural wonders up-close (Fig. 1). Photographs and videos were taken of the air bubble (<20 mm diameter). hanging from a very short straw stalactite (with a flared tip) as seepage water (solution) flowed from the straw's central canal, over the surface of the bubble and dripped from the bottom of the bubble. This bubble remained intact as more solution ran over its surface and dripped from the bubble at a rate of approximately a drop every 4 seconds. As each drop of water fell from the vertically elongated bubble, the separation created a change in stress on the bubble causing it to rebound to a slightly horizontally flattened ball, then back to round. As more solution was observed flowing over the bubble surface, it again became vertically elongated, until the next solution drop fell from the bottom and the process repeated (Fig. 2). This is a small unusual natural wonder that is rarely seen.

So why does the bubble not burst every time a drop falls from it? How does the gas get into the solution? Is there something that is changing the solution's surface tension to maintain the bubble? These questions and many others sent me on a quest for answers.

Available literature considers all bubbles coming from straw stalactites into an overall category called 'bubble-blowing soda straws' which is very broad, given the difference between constantly bursting bubbles and those that remain intact.

To better classify these phenomena, there needs to be two distinct categories; 'bubble-blowing straw' where the bubbles burst shortly after coming out of the straw, and 'bubble-drip' when the bubble remains intact at the end of the straw while solution drips from the bubble.

Have you ever seen a bubble-drip or bubble-blowing straw? If so, please contact the author: gksmith29@icloud.com

Known occurrences

A search of available literature and that on the internet including social media sites, only revealed a few other examples of bubble-drips around the world which would indicate that these are quite rare. The known locations include Lehman Caves, Great Basin National Park, Nevada USA, Lewis and Clark Caverns State Park, Montana USA, Middle Cave in Timpanogos Cave National Monument, Utah USA, and Baldocks Cave, Mole Creek Tasmania.

How do they occur?

In the book, *Cave Minerals of the World* (Hill and Forti 1997), it is suggested that bubble-blowing stalactites are created when the straw stalactite's internal flow is temporarily interrupted while external flow continues. Capillary pressure may draw water and air into the end of the straw. When internal flow resumes, the result will create a bubble-blowing stalactite. However this explanation does not appear applicable for the bubble-drip in Elliots Cave.

Bubble-drip observations

An average straw (without bubbles) is typically between 4.5 and 6.45 mm diameter (Smith 2021). The bubble-drips depicted in available images and videos are attached to short straws larger than the average diameter by ~1 - 3 mm and the solution drip rate is typically one drop every two to four seconds. Bubble-blowing and bubble-drips appear to be located in shallow depth caves (<15 m) with some vegetation at the surface in the seepage water catchment area.

The Elliots Cave bubble-drip has no obvious solution flow on the outside of the straw, hence does not appear to match the mode of creation suggested by Hill and Forti (1997).

Hypotheses for bubble-drip formation

A possible explanation is that bacteria breaking down rotting vegetation as well as tree roots, are creating a significantly elevated carbon dioxide (CO_2) concentration in the soil above the cave.

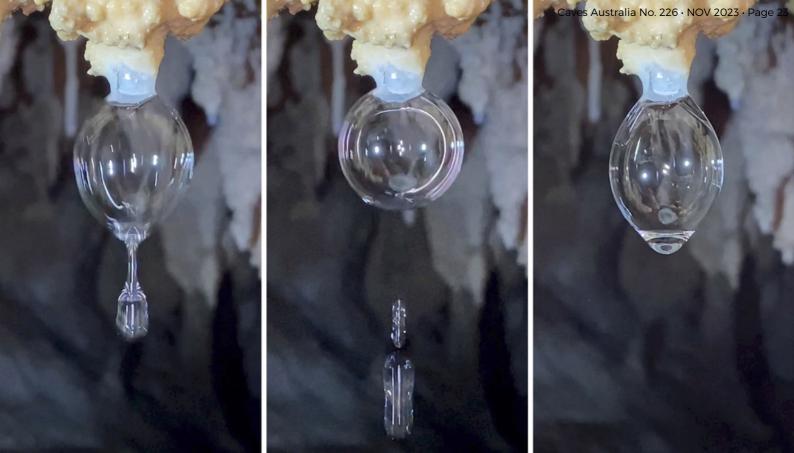


Fig 2. Bubble-drip sequence, showing a solution drop forming and falling from a bubble that remains intact as the cycle is repeated many times before eventually bursting. Part B

This CO_2 is absorbed into the rainwater that seeps into the soil and carries it into the cave, where it is released from solution. The difference between outside and inside cave temperature may also play a part in creating bubbles in solution.

A simplistic comparison is when unscrewing the cap from a cold bottle of carbonated water. The release of bottle pressure causes CO_2 bubbles to quickly appear and more bubbles continue to form and float to the surface as the soda water warms to room temperature.

A bubble-drip remains intact despite the force of solution dripping from it, because the solution surface tension has been altered by a natural additive, either plant, algal or microbial derived.

In nature, substances such as saponins act like soap and reduce water surface tension, thus allowing bubbles to remain longer without bursting. Natural plant saponins are compounds that are found in roots, shoots, seeds and flowers of many plant species. Some plants are more prone to releasing saponins into the soil by secretion from roots and/or leaching from living or decaying plant material. This could be an explanation for the relatively large bubble-drip size in Elliots Cave and why it remains intact while solution drips from it.

There may be many conditions that need to exist at the same time for this quirk of nature to occur. Further investigation is required, including analysis of bubble gas and solution chemistry.

A more in-depth article about bubble-drips and bubbleblowing straws will be published in the *Helictite* journal.

Bubbles influence speleothem morphology

A study documenting unusual bulbous speleothems called 'cave turnips' was undertaken in Lehman Caves, Nevada, USA, by Ryan J. Johnston (2022). Johnson hypothesized that the "turnip genesis begins as a soda straw, an abnormal bubble forms on the tip, and calcitic water flows over the bubble, creating the unique hollow turnip shape".

This revealed a link with gas bubbles on straw stalactites.

As calcite rich water flows down the straw over the bubble, calcium carbonate is gradually deposited, causing the straw diameter to flare out and following the shape of the bubble. The speleothem continues to grow, eventually ending up as a hollow bulbous shaped stalactite.

Acknowledgements

Thank you to David Wools-Cobb for his suggestion of the possible influence of natural plant saponins. Also to Cathi Humphrey-Hood, ASF Librarian for sourcing an article published in *Cave Lights*. Thank you to Gretchen M. Baker and Ryan J. Johnston for information about bubble-drips in Lehman Caves, Great Basin National Park, Nevada, USA. Also special appreciation to Katerina Fulton for checking this article for grammar and readability.

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THE ASTERISK

By Stephen Fordyce - photos by Stephen Fordyce unless credited otherwise

It's been a good winter of southern Tassie caving and sump diving and the September trip into Porcupine Pot was a particularly good one, finally wrapping up and confirming the JF-387 Porcupine Pot to JF-35 Gormenghast connection.

In 2017 a long-known bit of Porcupine Pot was surveyed, where the stream emerged from a nasty wet flattener, and my checkout video declared "you'd have to be pretty desperate to attempt that".

During lockdown in 2020 I plotted the new Porcupine survey against Gormenghast and realised their disappearing/reappearing streamway ends were practically touching, begging for a connection. The known end of Gormenghast was part-way through a second short but nasty sump, so it was definitely going to be a dive.

By August 2022 (see *Speleo Spiel*, 452: 16) the desperation cup had filled, so Nina Birss, Djuke Veldhuis and I dragged a pair of 3 L tanks, a wetsuit and not much else to the Porcupine flattener (about

three hours, 650 m horizontally and 200 m vertically from the entrance). The flattener put up a fight but was narrowly defeated and I wriggled, crawled and occasionally walked through a series of three sumps and assorted small streamway passage. One sump nearly needed a three liter cylinder to be taken off, but not quite. The connection claim (but with an asterisk, for which the passage was named) was somewhat rashly made on the basis of survey data and 1980s sump descriptions, but without any positive identification of cave features (and with some uncertainty from the caving community).

In January 2023 (see *Speleo Spiel*, 454: 16), Christoph Höpel, Louisa Sophie Höpel, Lena Götz and I resurveyed Gormenghast, shifting the endpoint by 150 m, noting the presence of the original 1980s guideline, and the absence of the one I'd left. Oops - my first disconnection. Associated hat-eating was duly performed.



Top: Photo by Michael Glazer - The 2023 team had a good day out (L-R: Petr, Steve, Henry, Ciara, Michael), Bottom Left: Photo by Michael Glazer - The nasty wet flattener Bottom Right: Photo by Michael Glazer - How many cavers does it take to pack a bag?



Definitely Gormenghast this time

Finally, in September 2023 (detailed reports to be published in *Speleo Spiel*, 457), Ciara Smart, Henry Garratt, Michael Glazer and Petr Smejkal hauled gear for a final, successful attempt. From my previous endpoint, 30 m of relatively easy streamway passage took me straight to the 1980s guideline and I followed it through to Gormenghast proper, just to make bloody well sure this time (and to complete the survey loop). Probably just as well there wasn't any dive exploration on this trip, as it had dumped rain outside and although this cave is noted for not flooding, the visibility was milky tea, even in undisturbed water. It was also a refreshing 6 degC.

The loop closure error was a gratifying 1.1 m in the vertical and 11 m in the horizontal, over 1150 m of cave survey distance. Adding the 500 m of Gormenghast survey brings the combined system to just over 5 km. The system depth (213 m) is unchanged. Many people in many teams over the decades have contributed to the exploration of these two caves and this connection is a testament to all of them.

I got back to the gear-up spot well before being due, however had to keep stopping to have stern words with the lower end of my digestive system. Disaster was averted by the slimmest of margins, and for better or worse nobody was there to witness the fastest dekit of all time (and join in on the motivational yelling). Not soiling my bright green undies (or the cave) was truly my greatest achievement that day and this was proudly proclaimed when the rest of the party returned.

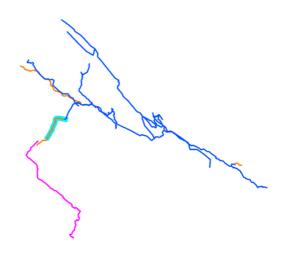
Turns out they'd bagged a lazy 500 m of massive, highly decorated new passage ("Friendzone"). So, the miserable little bit of passage between Porcupine Pot and Gormenghast was hastily consigned to the annals of history and a reasonable bedtime was discarded in favour of surveying the new find. But that's another story.



The new section of dry cave was at least crawlable



The original yellow guideline was placed several years before I was born



The survey plot: JF-387 Porcupine Pot in blue, with new bits in orange (light blue background is sump section). JF-35 Cormenghast in magenta

Mount Anne Tribute to John Boyle

By Stefan Eberhard

Early exploration of the dolomite karst on the flanks of Mount Anne in South West Tasmania was marked by the tragic loss, on 18 October 1969, of 26 year old caver John Boyle. John became separated from the three other cavers in his party, and he was never seen again despite an intensive search effort.

Reading the descriptions about John, and the reported circumstances of his disappearance, left me with a great feeling of sadness for this earnest and likeable voung man who needlessly became separated from his companions and died alone after what would have been a terrifying ordeal lost in the Tasmanian wilderness. This tragedy is accentuated for me because I have been visiting this wild dolomite karst for more than 40 years and feel deeply connected with this country.

A sense of great injustice lingers around this tragedy. The most wrenching is that footprints, definitely established as John's, were found in the bed of Camp Creek and traced to within 250 yards of camp. On my recent and regular trips to Mt Anne, often solo, I think about John Boyle. The patch of forest where John disappeared is visible from the upper rim of the Annakananda doline high on the crest of the ridge. His remains may never be found but they are still down there in the forest. Most of John's caving contemporaries have passed on, including Allan Keller, the leader of the fateful trip.

John Boyle, an enthusiastic young caver in his prime, whose life was tragically cut short deserves to be honoured by the Australian caving community. This article is written in tribute to John Boyle. May he rest in peace. May he not be forgotten.

During my early explorations of the Mt Anne karst in the 1980s I often looked across at the impressive overhanging headwall of the Annakanada doline-shaft and thought that it would make a thrilling and spectacular abseil some day.

Photo by Stefan Eberhard. Top of the John Boyle Memorial Pitch, Annakananda doline-shaft. Bronwen Eberhard on rope contemplating the 88 m drop, August 2022.



Forty years later and approaching my 60th year, the time had come. Also, around this time my interest in photography was rekindled. The entrance of Annakananda, high on the mountain ridge, was on my list of spectacular places to photograph, especially in snowy winter conditions, and at night.

In March 2022 a first partial descent of the headwall was made to investigate the best route and rigging options. In mid-June an extreme Antarctic low-pressure system dumped heavy snow across Tasmania. Many roads were closed, and much damage was caused by ferocious winds. Two weeks after the big storm snowdrifts one metre deep remained on the ridge, and in the Annakananda doline the snow pack was two metre deep. In July I made the first descent of the headwall pitch and surveyed it with a DistoX. Measuring 88 m in length the upper 35 m of the pitch is a steep vegetated slope dropping in four steps with rebelays at each step. The final 53 m is an airy free hang.

Photographing the pitch involved hanging on the rope for extended periods under a chilling shower of snowmelt while triggering the tripod-mounted camera with a remote control operating at the limit of its range. This was done over several days to capture different weather, daylight and night sky conditions. In August I returned with my wife Bronwen, and we took more photographs of the pitch from different angles. As an everlasting natural monument to the memory of John Boyle we named it the "John Boyle Memorial Pitch".

About John Boyle

John Patrick Boyle, son of Edward and Mary Boyle, was born in Mullumbimbi, New South Wales, on 9 October 1943. Mr Boyle grew up and was educated in New South Wales. He was 26 years of age and unmarried when he disappeared. He was a keen caver and moved to Tasmania just before April 1969, at least in part it seems, to pursue this activity. The month following his disappearance the Newletter of the Tasmanian Caverneering Club, Speleo Spiel, said this about John:

"John was a Sydney caver who joined the club as an associate member several years ago but did not come to Tasmania until early this year. During his short time with us we had all come to like him.

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His love of the bush, mountains and caves was obvious from the start. At a slide evening (only a week before his disappearance) he showed us his slides of N.S.W. and Milford Sound in New Zealand where he stayed for several months. The slides that impressed me most of those taken at Milford Sound were the ones of Mitre Peak – a mountain he managed to capture in many different moods so reminiscent of our own south-west.

John will be missed and fondly remembered. We extend our deepest sympathies to his parents, his brother Ken and other relatives. It seems appropriate that John should lie close to the mountains and caves that meant so much to him."

The fateful trip and search

The following account is from the Coroner's Report. On Saturday 18 October 1969, Mr Boyle, along with Mr Allan Keller, Mr Paul Taylor and Mr Andrew Cole, all members of the Tasmanian Caverneering Club (TCC), were exploring the Mount Anne area, looking for potholes. They split into pairs - Mr Keller and Mr Cole were one pair and Mr Boyle and Mr Taylor the other. The men spread out and kept in voice contact. At about 3.40 pm Mr Keller apparently asked Mr Boyle to go back down a spur and help Mr Taylor look for a jumper Mr Cole had accidently left at a pothole. Mr Boyle appears to have headed off in the correct direction towards Mr Taylor but was never seen again. The other three men met up shortly afterwards and realised Mr Boyle was missing. They went back to the camp, lit a large fire and searched, using torches and calling out to Mr Boyle until about 10.00 pm. They could not find him. The search resumed early the next morning. Mr Keller left at about noon to get more help. It began to rain and then snow during the afternoon. Mr Boyle was wearing a cotton singlet, long trousers, an oilskin rain jacket and Paddy Pallin 'Sherpa' boots. He had matches but no compass. Searchers from the Caverneering Club, the Hobart Walking Club, Tasmania Police and Climbing Club of Tasmania arrived at midnight on Sunday 19 October and commenced searching the next morning (Monday). Hydro Electric Commision staff, Royal Navy sailors. individual volunteers and а Wessex helicopter were also involved. The search for Mr Boyle continued for eight days. However, no trace of Mr Boyle was found.

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Photo by Stefan Eberhard. Blue hour on the John Boyle Memorial Pitch, Annakananda, July 2022.
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A 'severely edited' version of the search report, written by Mr Reg G. Williams (civilian ground-search coordinator), was published in the Australian Speleological Federation Newsletter Number 47 (1970). The search report stated that the only evidence of John Boyle's movements after he became separated from his companions lies in the footprints in Camp Ck, in creek 2 and leading out of creek 2 in the direction of 'Radio Hill'. The footprints were made by the type of shoe worn by John, and while this type was popular with bushwalkers, no searchers were in the area before they were found. The report stated that the boot prints found in creeks draining towards the Weld River obviously preceded those found on the Sandfly Creek side of the saddle within 34 mile below the general area where Mr Boyle had last been seen. Searchers feared he might have lost his glasses, which, if he had, undoubtedly would have made his chances of finding his way to safety even more difficult.

Coronial investigation 50 years later

In early 2019, nearly 50 years after the tragedy, STC member Bill Nicholson approached the Coronial Division of the Tasmanian Magistrates Court requesting their findings into John Boyle's disappearance, only to be told that no such findings existed, and to contact the Police Missing Persons Unit. Bill's intention

was to mark the 50th anniversary with a



John Patrick Boyle. Photo Source: http://www.australianmissingpersonsregister.com/JohnBoyle.htm

written tribute out of respect for John Boyle. This was duly published in Speleo Spiel in October 2019.

Prompted by Bill's enquiry the Police opened a nation-wide investigation into the matter. This included a public appeal by Tasmanian Police via Facebook for assistance in tracing John Boyle's relatives, which proved successful. The Coroner's Report was released on 5th October 2020, and what follows has been sourced from this document, as well as the condensed version of the search report by Reg Williams. Unfortunately, the full search report, which included a sketch map of the search area, appears to be lost. Bill's enquiries revealed that no paper records of the incident are held at Maydena Police Station, and Mr Williams papers were disposed of after his death.

Unsurprisingly, the Coroner's investigation yielded no further insights into the circumstances, cause, timing or location of death. It is not the coroner's role to apportion legal or moral blame for a death; a coroner is required to make findings of fact from which others may draw conclusions. The coroner, Simon Cooper, commented that so much has changed in relation to safety equipment since 1969 that any comments or recommendations are probably pointless, however the danger posed by the Tasmanian wilderness has not changed. He also concluded that the contemporary evidence suggests the search effort was thorough, well organized and well executed. The coroner's final point was to convey his sincere condolences to Mr Boyle's mother and surviving brother. Hopefully the investigation brought some closure for Mary Boyle and John's brother Ken.

As to why the Police held no findings on the disappearance, the Coroner's Report noted the fact that the death was not reported, and therefore investigated, when Mr Boyle disappeared was probably due to the fact that under the now repealed *Coroners Act 1957*, a coroner could not investigate a suspected death. Why Mr Boyle's disappearance was not reported after the current Act became law in 1996 remains unclear, however the delay since 1996 has not materially affected the coroner's investigation.

The Coroner's Report concluded that "he died on or shortly after 18 October 1969 somewhere near the north eastern slopes of Mt Anne in Tasmania's rugged and unforgiving South West. How he died will remain a mystery."

It has been suggested that he may have fallen in a pothole but the finding of boot prints in several creeks surrounding the search area on both sides of the saddle (elevation 550 m) dividing the Weld River and Sandfly Creek catchments suggests he was desperately trying to find his way back. Given his light clothing and the ensuing very cold conditions, with snow falling above 600 m, he would have succumbed to hypothermia, most likely in the freezing conditions on Sunday night, and prior to the main search beginning on the Monday morning.

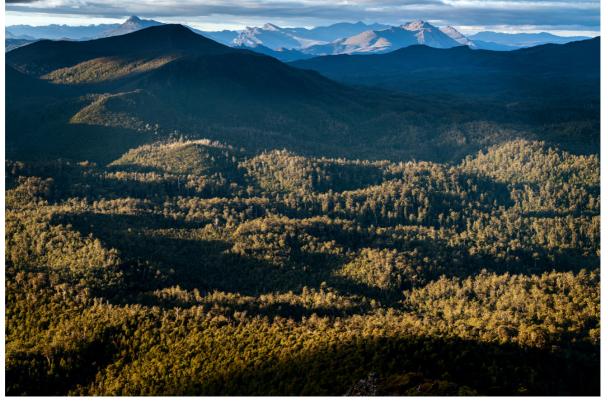


Photo by Stefan Eberhard - Forested saddle (lower left) between Sandfly Creek and Weld River catchment, the area where John Boyle disappeared

After the Search

John Boyle's death prompted the Tasmanian Caverneering Club to join the Bushwalkers Federation and become part of an integrated search and rescue system.

Sometime after the search for John Boyle was called off, Brian Collin and fellow TCC members cut a track to the upper end of the dolomite ridge where several large dolines had been sighted from aircraft. Most of the dolines were found to be blocked by frost-shattered rockfall, however one shaft had an estimated 400 foot entrance drop. This was first descended on ladders in 1971 and named Kellers Cellar, along with another large, blocked shaft named Col-In-Cavern. A third large unnamed doline-shaft, the highest on the ridge, was also investigated and reported to pinch off at the bottom after a short section of cave passage. In 1983 this cave was extended to -373 m depth and named Annakananda.

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Vale Michael R.B. Gray 25 August 1941 – 28 July 2023

By Helen Smith

Dr Mike Gray, Senior Fellow in Arachnology at the Australian Museum in Sydney died on Friday 28th July, aged 81 years.

Mike grew up in Perth, Western Australia, and came to Sydney after completing an MSc with the Zoology Department of the University of Western Australia on the ecophysiological adaptations of Trapdoor Spiders to aridity – work which was subsequently cited in a number of publications.

In late 1967, just prior to starting at the Australian Museum, Mike was involved with



Studying the spider silk suspending a Rock Warbler nest from a cave roof, mid 1990s

fieldwork in caves on the Nullarbor. During that trip he collected specimens that he would later describe as new species. From then, cave spiders remained an active research interest throughout Mike's career.

Mike started at the Australian Museum as an Assistant Curator (Arachnology) in 1968 when the Arachnology collection was separated from Entomology. The large number of spider enquiries was one catalyst for this split, with considerable public interest in spiders such as the Sydney Funnel-web.

Once in Sydney, Mike commenced an active field collecting program to grow the Museum collections and sample habitats throughout the state and further afield. He also set up a network of volunteers who would periodically maintain long term pitfall traps in strategic habitats. Later, Mike was involved with many significant surveys such as World Heritage Rainforests (with the Queensland Museum), Lord Howe Island, and the North East Forests Biodiversity Survey (with NSW National Parks and Wildlife Service). Today, almost 11,000 specimen lots are registered in the AM database with Mike listed as collector.

At the Museum, Mike met his wife-to-be, Greta Jensen, who was at that time employed in the Marine Invertebrates section. Greta also helped Mike as a technical assistant for a while and produced most of the illustrations in Mike's first taxonomic paper in 1973. Mike and Greta went on to have two children, Emma and Anna.

The Arachnology collection needed considerable curatorial attention after many years with no dedicated arachnologist on site and there was no database. Mike introduced modern curatorial techniques and standards and with aid of an assistant, started databasing specimens in 1977. By 1990, the number of databased specimens was up to 28,000 (and today we have over 131,000).

An important part of Mike's role as a public service employee was always public engagement. Public interest in spiders has always been high, and there was a heavy load of public enquiries, talks, magazine articles and a very successful in-house production of the Spiders! Exhibition in 1997.

Alongside all this were Mike's research interests. Cave spiders have already been mentioned, and some of these taxa overlapped with Mike's research focus in the cribellate groups Austrochiloidea, Filistatoidea and what are now referred to as the "marronoid clade". Mike often collaborated with other researchers and was generous in attributing co-authorship to technical assistants who contributed substantially to his papers.

Funnel-web spiders (Atracidae) were also a research focus, and Mike studied these for a PhD part time through Macquarie University. His thesis "A Systematic Study of the Funnel Web Spiders (Mygalomorphae: Hexathelidae: Atracinae)" was awarded in 1986. In the acknowledgements, Mike thanked (the then late) Museum Associate Vera Levitt-Gregg for awakening his interest in this group.

Around these core themes were many smaller research projects on a variety of topics. Along with a scattering of miscellaneous taxonomic papers were reports of faunal surveys, chapters on venoms and reviews adding up to about 80 publications in all. Of particular social importance (along with Mike's funnel-web work) was a series of five papers coauthored with physician Geoff Isbister, who compiled a database of confirmed spider bite cases that were able to supply a spider specimen, later identified by Mike.

Through this, the pervasive myth of the flesh-eating necrosis supposedly caused by the bite of Australian White-tailed spiders (*Lampona* spp.) was laid to rest (although some proportion of people who show up at talks and open days still seem to believe in it). This White-tailed Spider bite paper saw Isbister and Gray nominated as Eureka Finalists in 2004 for the Australian Skeptics Eureka Prize for Critical Thinking.

Mike was active on a number of scientific committees and societies through the years, including the Jenolan Caves Scientific Advisory Committee, the Australian Venoms Research Council and the Linnean Society of New South Wales. In particular, he played an active role in the latter, after being accepted as a member in 1981. He was elected to council in 1988 and was President in 2012-2013. Mike also served as the Chair of the Joyce Vickery Scientific Research Fund grants committee for the Linnean Society for many years.

At the Australian Museum, as Mike's career progressed, increasing amounts of time needed to be spent on administration. A lengthy stint as the Head of Division of Invertebrate Zoology starting in 1989 slowed down research efforts for a few years. Despite this, Mike moved on to become a Research Scientist, with later promotions through the grades to become a Principal Research Scientist in 2003.



Public engagement, late 1990s



Mike photographing specimens during a Nullarbor caving trip, Roe Plain, Madura, 1987

Over the years, Mike supervised a number of Honours, Masters, and PhD students and was an Honorary Associate in the Faculty of Science and the Faculty of Agriculture Food and Natural Resources at Sydney University from around 2000 until 2006. He was also mentor to Graham 'Wishy' Wishart, a retired pharmacist who took an interest in the Trapdoor spiders and other wandering mygalomorphs that fell in his swimming pool. With Mike's encouragement and guidance, Wishy published several papers on the trapdoor spider fauna of New South Wales.

Mike retired in 2009 and finally found time in 2010, as a Retired Fellow, to publish his PhD thesis findings – his revision of the Australian Funnel-web spiders. He continued to work on marronoids and, to a lesser extent, filistatids, for several years until a move to the Blue Mountains made the trip to the city a less attractive proposition. Mike's final publication was as a co-author in 2022.

Mike leaves behind him a substantial legacy of work across many unique southern taxa and was a pioneer of cave spider research in Australia. Through his unpublished notes and through the training, mentorship and encouragement of others, his contributions to Australian arachnology will continue for many years.

"I remember caving with Mike Gray decades ago at Jenolan, at one of the karst conferences. Ernst Holland had organised a trip into Michelmas Cave so we could see his setup of water drip collectors (condoms, some very full!). Mike came along and was interested to see what invertebrates, particularly spiders, could be seen. I remember climbing up a phreatic tube towards the exit and looked down to see Mike Gray climbing below me. With his characteristic beard and glasses, long arms and legs, he looked for all the world like one of his beloved spiders!

Vale Mike, you will be sorely missed." By Jill Rowling



Discovering the Secrets of the Nullarbor

By Matthew Smith

The Nullarbor is the world's largest single exposure of limestone bedrock, spanning 1,100 km between South and Western Australia. In April 2023 the Secrets of the Nullarbor Conference was held in Ceduna, celebrating the importance of this amazing area. Following the closing of this event, over 60 cavers from around Australia, as well as a few overseas guests, departed Ceduna to visit a range of sites located on both sides of the border.

There were a range of purposes for attending the trip: to see some new caves and to revisit the old, to learn more about the traditional owners' use of the caves and their cultural significance, to witness the spectacle of some of Australia's largest chambers and to hone their cave rescue craft.

We were joined in the South Australian region by traditional owners, representatives from the Far West Coast Aboriginal Corporation. Clem and Anton each joined a group of cavers as we explored sites that were important to their clan. Their knowledge of the area and passion for the conservation of the caves were greatly appreciated by all that attended these trips.

The Nullarbor is a logistically challenging place to visit. It takes a few days to drive from any capital city and you need to be entirely self-sufficient for the trip - water, food, everything. Navigation can be difficult without the right equipment, and communications are limited in some of these remote corners of SA and WA. Then there's the weather - while it's typically not hot in April, it can be! And rain can significantly dampen the experience and occasionally extend it if your vehicle is not up to traversing rough and muddy tracks. Thankfully, following some advice from the traditional owners, we managed to avoid provoking the rain spirits and only a few light showers were had.

Photo by Minky Cockshell - Heather Siebert abseiling into N2 Weebubbie Cave

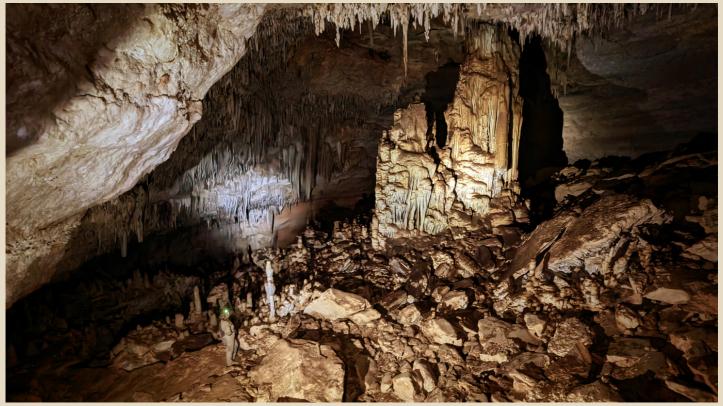


Photo by Matt Smith - Heather Siebert admiring the huge stalagmite in N1411 Sentinel Cave

Those who joined the post conference field trips divided into several groups, though many followed two different streams across the Nullarbor Plains. The first couple of days focused mainly on the South Australian karst with one team located on the eastern side at Gilgerabbie Hut and the other to the west near Warbla Cave.

Those at Gilgerabbie Hut, led by a team of FUSSI members, visited the K7/8/9 Murrawijine Caves, N11 New Cave, N13 Ivy Cave and N23 Jimmies Cave. Some also explored the vertically challenging caves on the Bunda Cliffs, such as N6701 Lejeg Cave and N6749 Amazon & Swallows Cave. These caves offer the amazing experience of abseiling over 60 metres above the crashing waves of the Great Australian Bight.

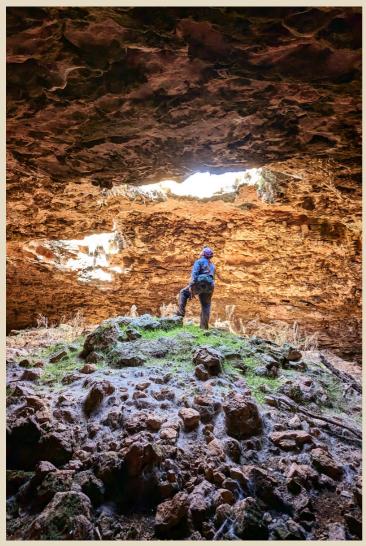
The Western Crew, led by CEGSA and Scout Caving Group members, were based at N1 Warbla Cave, descending 15 m into a large doline and basking in the huge chamber inside. Other caves visited nearby include N210 Handprint and N264 Wombat caves. These caves are relatively small (in Nullarbor terms) and quite dusty. They do however feature some quite interesting indigenous hand stencils and cave crickets were observed in Wombat Cave.

Cavers then crawled their way west, heading across the border to the Mundrabilla Station, split mostly between campsites at Witches and Thampanna caves. This area is a treasure trove of beautiful caves for fans to explore, from those densely packed with speleothems (N360 Purple Goringe and N193 Witches Cave) to those with amazing crystal formations (N206 Thampanna and N1369 Prostrate Pit). Highlights for me included checking out N370 Matilda Cave for the first time and seeing the huge stalagmite found in N1411 Sentinel Cave.



Photo by Minky Cockshell - Preparing to enter N83 Old Homestead for the cave rescue exercise





Matt Smith - Minky Cockshell underneath one of the roof holes in N264 Wombat Cave

Photo by Minky Cockshell - A Stegamite inside N360 Purple Goringe Cave

Midway through the field trips, about 20 cavers headed north to the huge N83 Old Homestead Cave for a Cave Rescue exercise organised by WASG member, Ian Collette. The team was charged with rescuing a casualty in the northern part of the cave - thankfully not too far in! The main challenge was in an internal pitch of around 10 m, and the large entrance doline. It was a pretty long day, everyone's skills and patience were challenged, but the knowledge sharing and learning by taking part in this event were invaluable.

The final stop for my team on the way back home to SA was the majestic N2 Weebubbie Cave. A short abseil into a massive doline, followed by a 200 m trek down a rock pile leads to a massive 150 m long crystal clear lake. We threw on some wetsuits and swam from end to end. It's a brilliant experience swimming deep below the surface and all the while accompanied by the large bat colony above the lake.

Also on the agenda for cavers near Eucla is the huge Abrakurrie Cave, which features the largest chamber in Australia. To be in such a large underground environment is a humbling experience. While a visit to this wonder of the Nullarbor doesn't take long, it's definitely a defining moment while on the plain.

While we headed back home to Adelaide, numerous other cavers stayed out in the area - some taking more time to explore Old Homestead, others heading further to the north and east to look into newer discoveries.

To host so many cavers in a remote and logistically challenging area was an amazing achievement. A large team of cavers from CEGSA, FUSSI and the Scout Caving Group were assisted by a range of others contributing their time and knowledge to share their passion for the Nullarbor.



Photo by Clare Buswell - Bunda Cliffs

Feral Horses, Wedge-tailed Eagles, and Budgerigars

By Clare Buswell Chair of the ASF Conservation Commission

Kosciuszko National Park has an image problem. The Federal Government wants one of its reservoirs, Tantangara, to be the most expensive battery around current estimates at \$12 billion,1 and the NSW State Government seems to finally be moving from the Park being a feral horse sanctuary, to a refuge for some of the most endangered animals and plants on the planet, such as the Northern Corrobboree Frog and alpine orchids. In October, the NSW Environment Minister, Penny Sharpe, approved the use of aerial shooting of feral horses as a culling method². The ASF Conservation Commission has been watching these two ongoing issues for a number of years, placing submissions at each opportunity. The latest round on the aerial shooting debate drew 11,000 submissions, the majority of which were in favour of its resumption. It appears that the weight of submissions helped persuade the Minister, Penny Sharpe, to make a reasoned decision. This will, over time, provide some protection for the karst around Cooleman Plains by protecting waterways from trampling and thus sedimentation into caves. It is a small, but important win.

Snowy 2.0 continues unabated, no matter how damaging or costly. Webuild, the company building it, has been fined several times for violating environmental protection regulations. The last event saw sediment laden water being released again into the Yarrangobilly River.³ This is on top of the problems incurred with a boring machine that has hit soft sand and stopped it from moving.

Aboriginal Heritage issues are again in the news, not only due to the rejection of constitutional recognition for an indigenous voice to parliament, but a walk back on protecting cultural heritage.

In South Australia, the government abolished the 20 year old Aboriginal Lands Parliamentary Standing Committee and then passed a new First Nations Voice Act in July. This has left a vacuum not only in relation to amending the Aboriginal Heritage Act of 1988, but has led to inertia in regards to the management of Koonalda Cave.

The Commission has been working with both Senior Mirning Elders and the Shadow Attorney General, Josh Teague, to obtain information on how the \$400,000 Heritage Commission Grant for improving the security of Koonalda Cave is being managed. Recent discussions with the Department of Environment and Water, by the Commission and with the help of Josh Teague, have been unable to clear a pathway for planned research to occur. At this moment in time, it appears that a conservation management plan for Koonalda Cave will be drawn up without reference to the research, or any public engagement. The Commission will continue to raise issues of accountability and consultation with both the Minister for the Environment, Dr. Susan Close, and the department.

Arrowsmith. Wind, Solar and Hydrogen Development, Western Australia

The West Australian Speleological Group (WASG), has again been pressing Infinite Green Energy (ICE), to take seriously the use of LIDAR in finding unknown cave entrances in the area slated for the wind, solar and hydrogen development. Ian Collette and the WASG committee have worked extensively on the issue over the past eighteen months and have been successful in getting some of the planned wind turbines moved away from known caves. The company fails to understand that, just because you don't see an entrance to a cave, doesn't mean that a void may not be present. LIDAR will at least show possible entrances that are currently unidentified. The company has yet to come back to the Environmental Protection Agency of WA with its response to issues raised by the public, so there is still time to pressure both the company and the EPA with our concerns.

I would like to thank members of WASG for all their hard work on this issue, as without it, ICE would have ignored any impacts on the karst and built on and/or near known voids.

Nullarbor Industrialisation

Most of the Commission's work over the last couple of months has been in the background, trying to reach a wider audience with our concerns. The film being made by The Commission and being funded by Andy Spate, Hills Speleo Group and other kind donations, is nearing completion with a launch to occur before Christmas. Sil lannello has been working hard on it and has engaged Harry Harris to narrate it. It will be released end of January 2024.

An article highlighting the values of the Nullarbor, by Dr Jess Marsh, Susan White, Liz Reed and myself, was published in The Conversation in mid-October and, if the metrics are correct, reached an audience of around 17,000. The article, titled: "The Nullarbor's rich cultural history, vast cave systems and unique animals all deserve better protection", can be accessed at: https://theconversation.com/the-nullarbors-richcultural-history-vast-cave-systems-and-uniqueanimals-all-deserve-better-protection-212262



Photo by John Brush - Wild horse damage

Would you believe!

Work has occurred on trying to reduce the number of Wedge-tailed Eagles that are killed by wind turbines in Tasmania. Using sensing cameras placed on wind turbines, operators are now able to slow or switch off a turbine when an eagle is approaching. The system, called IdentiFlight, is being trialled in the Central Highlands, at the Cattle Hill Wind Farm, Miena. IdentiFlight uses optics to identify flying objects and AI to identify what it is.⁴ However, it appears that there are problems with it and the technology has a long way to go.⁵

One can only hope that the bats that use Weebubbie Cave can be detected by such cameras and when the next plague of budgerigars sweeps across the Nullarbor they are able to shut down all 3000 wind turbines for a considerable time.

As for all that bird poop on the proposed 25 million solar panels, plus the dust, I do wonder about how efficient they will be, or how much money and water is going to go into cleaning them so that the required energy production levels can be obtained.



Photo by Clare Buswell - Koonalda Cave

Photo by Clare Buswell - Bunda Cliffs

[1] https://www.abc.net.au/news/2023-08-31/snowy-hydro-reset-project-to-cost-12-billion/102797650

[2]<u>https://www.smh.com.au/environment/conservation/aerial-shooting-of-feral-horses-approved-by-nsw-government-20231026-p5efa3.html</u>

[3]<u>https://www.abc.net.au/news/2023-04-03/snowy-hydro-webuild-fined-over-kosciuszko-pollution/102178636</u>

https://www.abc.net.au/news/2023-08-18/snowy-contractor-we-build-pollution-fine-national-park/102748550 https://www.abc.net.au/news/2023-10-23/snowy-hydro-sinkhole-toxic-gas-tunnelling-four-corners/102995568

[4]https://reneweconomy.com.au/the-wind-farm-where-turbines-shut-down-400-times-a-day-when-eaglesapproach/

[5]https://www.wind-watch.org/news/2023/08/17/cutting-edge-wind-farm-still-an-eaglekiller/#:~:text=A%20wind%20farm%20with%20so,new%20turbines%20in%20eagle%20zones



Photo by Ciara Smart - Phil and David at the head of Negative Reality Inversion

Dissonant protection gets dragged out of Dissidence

By Phil Maynard and David Rueda-Roca

Tasmania's JF382 Dissidence hasn't been visited all that often since the discovery trips. Maybe that's because few people know the cave well enough to navigate it, and maybe it's because of all the other exciting projects in the Growling / Niggly system. It's actually a spectacular and fun cave to traverse, and it has an extensive stream both upstream and downstream from where the pitches arrive at the bottom of the cave.

The cave is related to JF344 Serendipity. The entrance (8 m pitch) is in the same valley as JF344 and both caves drain into the Dreamtime branch of Growling Swallet. There's no physical connection to Serendipity and no prospect of one, but the upstream end of the stream passage in Dissidence has been connected to JF392 Warhol to make a challenging and varied through trip.

Discovered in 1985, the cave was explored and mapped by STC between 2007 and 2014. Alan Jackson from STC produced the map in 2014 and his map lists a surveyed length of 3970 m and a depth of 321 m. For a deep Junee-Florentine cave, there aren't very many pitches. A lot of depth is achieved in Dissidence by walking down the slopes in big chambers.

2017 Trip 9/12/2017

This was supposed to be a fun, exciting day. We had decided on Dissidence as our main target for the weekend because it's more survivable than the alternatives in wet weather. None of us had been in the cave before, so we expected a bit of water, a bit of route finding and lots of vertical scenery. This trip had four of us: David Rueda-Roca, Sandy Varin, David Bardi and Phil Maynard, making for a reasonably busy day to rig, traverse and de-rig the cave. We grabbed the ropes from Alan Jackson's place, then had a quick drive up to the Growling Swallet car park. The access road was a bit wet, a bit potholed, and a bit harsh for our pretend SUV hire car, but we got to the end of the road. It's a very pleasant walk to Dissidence. There's only a short section of steep climbing up the last slope to the small doline entrance.

Dissidence starts with a really quite tight squeeze (in a suspiciously dug-out shape), then a series of small pitches including a rift traverse. I rigged these pitches with one long rope, trying not to look too closely at the traverse exposure.

We were dismayed by the bolts in the entrance pitches. There were lots of old, small-diameter, fiddly expansion bolts. They were time consuming, had nuts that needed to be taken off without dropping down the pitch, and they needed BYO bolt brackets. One of the main belay bolts at the head of a pitch was turning in its hole when we tried to tighten the nut on the bolt bracket.

At the bottom of this pitch series the passage opens right up. A continuously-descending gallery (Union Jack) provides a spectacular way to lose a lot of altitude in a hurry. At the bottom of Union Jack the cave has a major split.

On the south side of the passage there's a short slope leading to Vertical Euphoria. The Vertical Euphoria pitch drops free 55 m from here. The pitch is re-belayed off the side of a massive shaft, reached via a promontory, and there's a gap that is open to the bottom between the bolts and the promontory. The original bolts (small and fiddly) were placed by a tall person – I'm going to take a wild guess and say it was Alan Jackson – and the only way to reach them was on tippy-toes out over the chamber. It's a spectacular chamber with three streams entering from the roof. It should be on everyone's bucket list. We descended this pitch just because, and had lunch at the bottom before ascending the pitch again.



Photo by David Rueda-Roca - David B at the head of Vertical Euphoria

Photo by David Rueda-Roca - Phil M rigging Sandwitch

The other direction from the bottom of Union Jack leads over mud banks to Negative Reality Inversion. This is a free hanging 42 m pitch (with small, fiddly bolts) onto a big chamber floor. Below that is an ugly, loose 13 m pitch into open horizontal rockpile. There's a big, big rockpile chamber (Run Rabbit Run, 30 m wide, 70 m long, and 90 m (!) high) and then the passage dives into the main stream.

We thought that was a suitable place to turn around for the day, so we exited and de-rigged on the way up (the traverse at the top was not so much fun to de-rig), eventually leaving the cave into the gathering dusk. We were packed and walking out at 9.30 pm, and back to the accommodation at 11 pm.

Those horrible bolts were playing on David R-R's mind after the trip. He did some asking around STC and it turns out they were the original exploration bolts. They were never intended to stand the test of time in a wet Tassie cave. There was real risk in continuing to use them, but for the most part the cave just isn't suitable for natural protection. David eventually decided the cave was too good to allow access to be lost to dangerous bolts. His proposal was to re-bolt the lot. His intentions were confirmed when a NUCC group later on decided to abandon their trip at the rotating bolt.

2023 Trips

David was planning to make this project a focused goal for 2020. Let's just forget that the last three years happened. In 2023 David applied for (and Paul Osborne immediately approved) an ASF grant to bolt Dissidence to modern standards. With thirty brand-new stainless steel P-hangers and quite a lot of glue in our possession, we set out to future proof the bolts in Dissidence.

17/6/2023

People: David Rueda-Roca, David Myles, Alan Jackson, Phil Maynard.

The forecast was a little bit grim. Any forecast for alpine Tassie in June is going to be a little bit grim. Fortunately, we had Alan's car to get us up to the end of the Growling Road instead of a hire car. It was damp, foggy, and not especially cold when we set out up the track.

Alan suggested that we forget about bolts and just drill, drill, drill on this trip. That saved us a lot of weight and meant that we could focus our efforts on rigging the old bolts to the bottom of the cave. Two people focused on rigging, keeping ahead of the drill team.

The cave was damp but the entrance series never gets really wet in Dissidence. It was steady progress from the drillers while the riggers fiddled around with the horrible existing bolts and tried to set a nasty old 10 mm rope on the beginning of the entrance pitches. The only time we actually caught up to the rigging team was on the traverse to Spent Force pitch.

Alan placed the drill holes in most of the belay points, doubling up on all the main belays and most/all of the rebelays. I helped on a couple of the easier to reach places. That doesn't include the top of Vertical Euphoria, which is still tippy-toes territory above the 55 m pitch.

We managed to get the drilling all the way down to Run Rabbit Run. When you don't have any de-rigging to do, it's an easy cave to ascend. We exited into calm, foggy dampness and remarkable warmth in the dark. Passing through a bit of rain on the way down the hill, we were back at the car by 7.30 pm (much to our surprise).

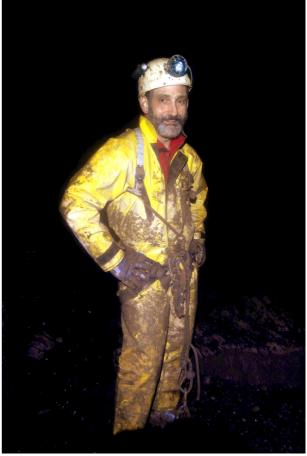


Photo by Ciara Smart - David R-R in Dissidence

5/8/2023

People David Rueda-Roca, Alan Jackson, Henry Garratt, Adrian Wilkinson, Jemma Herbert,

The weather forecast was this time a bit better than last time. This trip was exclusively dedicated to gluing the bolts into the different holes that had been drilled in the previous trip. Therefore, Alan decided to create two teams. The first one would be made by people who had not been in this cave before and wanted to enjoy a decent visit to the cave. The second team would be made by Alan and David who would be gluing the bolts in during their progress through the cave. As David was carrying on with the box full of bolts, he was carrying quite a decent weight from the carpark to the entrance of the cave (many metres higher in the hill) and through the cave. Alan was carrying the glue. As soon as the "explorers" team disappeared, Alan and David were doing the step-by-step process of gluing bolt by bolt alongside the length and depth of the cave (28 bolts). Once Alan and David finished gluing the entrance pitches series, they met the "explorers" team that was waiting for them at the beginning of the Union Jack passage. They continued together until Battery Point and Vertical Euphoria. Alan went to the head of Vertical Euphoria to glue the bolts that were foreseen for this pitch. Afterwards and without descending this last pitch, the team reversed until Negative Reality Inversion pitch and the beginning of Run Rabbit Run, to install the last bolts. Once there, the team decided to finish the trip. In the way up to exit the cave, David was much happier now that he was not carrying the box with the 30 bolts anymore (just 2 remaining ones). Once on the surface, we enjoyed the typical sweet treats and started our way back to the car.

Some members got disoriented at the junction between the way to Growling Swallet and Serendipity Valley, going to Growling instead of going back to the car. After few voices from Alan to address them into the right way and with the shouts of cranky possums as musical atmosphere, we reached the cars at 8:00 pm.

19/8/2023

People: David Rueda-Roca, Ciara Smart, Alan Jackson, Phil Maynard

On the way down the cave we tried to test the fresh bolts with the hydraulic bolt-tester. The bolt-tester had a new hook which turned out to be a bit too big to place under the P-hangers. Eventually we managed to rig up the tester harness and put some stress onto a hanger. Success!

Ciara, Alan and I zipped down Negative Reality Inversion to see Run Rabbit Run and to de-rig the horrible 13 m pitch. David chilled out above the main pitch. It'll be fun to rig Negative Reality Inversion with P-hangers on the hanging belay (it's not at all fun on the old spanner bolts).

Ciara, David and Alan zipped down Vertical Euphoria for a look while I chilled out at the top (it was only a bit chilly really). Various whoops came up from below because Ciara hadn't seen Vertical Euphoria before.

We de-rigged the cave on our way up – no need to use the old rigging any more! We took the red tags off the existing bolts as we went. The old bolts can fade into obscurity and don't need to be highlighted. All of the new hangers are tagged with the date and placement details.

Outcome!

The entire JF382 entrance series, plus Vertical Euphoria and Negative Reality Inversion, were successfully bolted. The cave is now simple and safe to rig. We recommend carrying about thirty oval maillons for the P-hangers, a couple of carabiners for the two threads permanently tied through drill-holes, and up to six more carabiners for deviations and natural belays. Enjoy (and don't forget, Vertical Euphoria should be on everyone's bucket list).



Photo by David Rueda-Roca - Phil M rigging the traverse to Spent Force

Acknowledgements

This project was funded by the ASF Grants Commission, and enthusiastically supported on the ground by members of STC. Thanks!

Rigging:

Pitches 3 – 5 in the entrance can be combined with a long rope. Battery Point and Vertical Euphoria can be combined with a long rope. Negative Reality Inversion and the P13 below can be combined with a long rope.

1) Entrance pitch, p8: ladder off natural belays on the surface. Don't put on your SRT gear for this pitch because the squeeze immediately afterwards is too tight.

2) Bolting in the Name Of, p8: Double bolt back belay, double bolt main belay. Get off the rope on a ledge 3 m before the bottom.

3) Sandwitch, p6: Permanent thread and tape on small natural for back belay, long tape over large natural for main belay. Can be continued down a short climb to the next pitch.

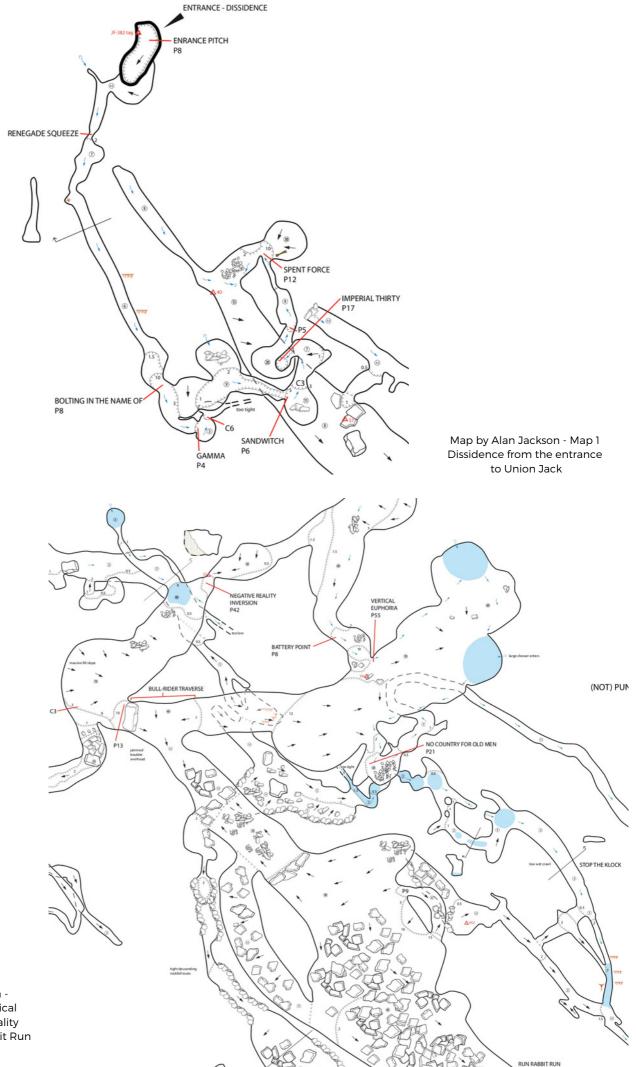
4) Imperial Thirty, p17: Can add an approach line from a large natural thread in corner of chamber (which stops rope snagging on corner if tied back into previous pitch too tightly). Double bolt main belay, deviation off natural at head of pitch, join to next pitch.

5) Spent Force, p12: Double bolt rebelay for additional 5 m pitch at top, then part climb / part horizontal traverse to double bolt rebelay, then horizontal traverse to double bolt main belay for 12 m pitch to bottom. 6) Battery Point, p8: Double bolt back belay, double bolt main belay.

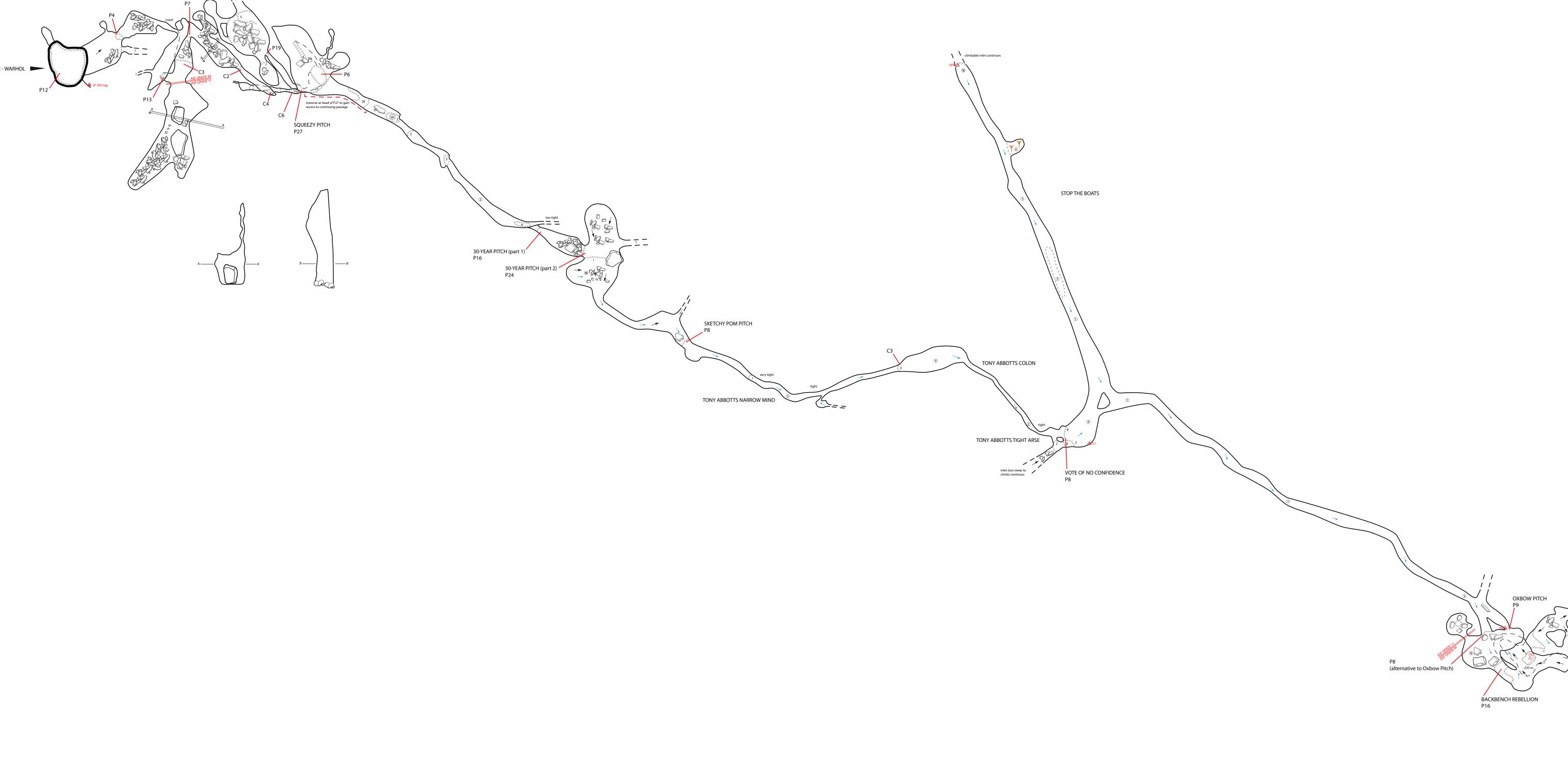
7) Vertical Euphoria, p55: Double bolt back belay, double bolt main belay out on wall opposite the end of the promontory. This pitch is a side trip and does not lead to the bottom of the cave.

8) Negative Reality Inversion, p42: Permanent thread plus bolt back belay, single bolt for deviation, double bolt main belay.

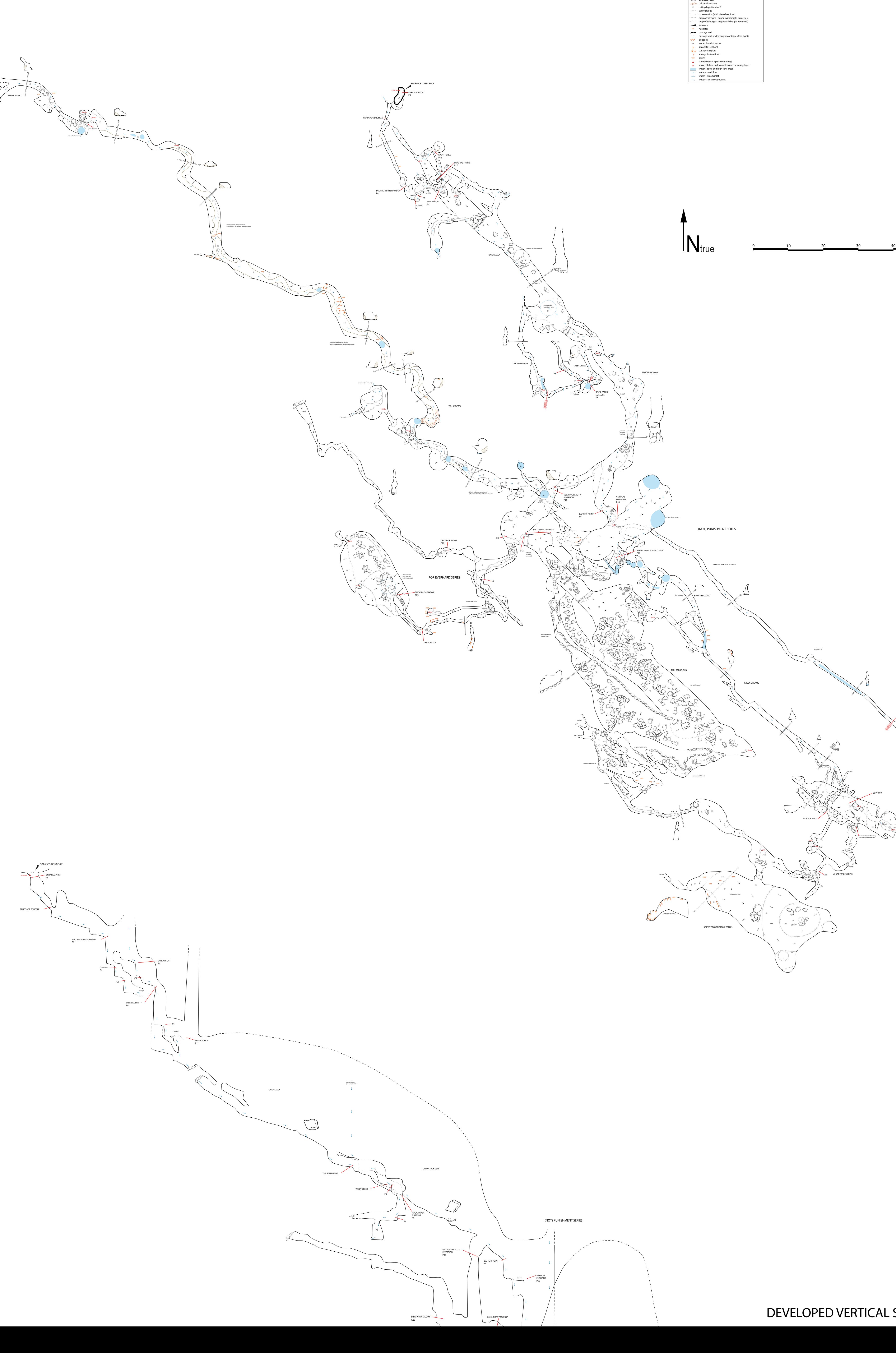
9) Horrible thing at the bottom, p13: Double bolt main belay, down and traverse true left, double bolt rebelay,



Map by Alan Jackson -Map 2 Dissidence Vertical Euphoria, Negative Reality Inversion, and Run Rabbit Run







JF-382 Dissidence & JF-392 Warhol Junee-Florentine, Tasmania

7JF382.STC370 Surveyed by Southern Tasmanian Caverneers (JF-382 and JF-392 connection) and Tasmanian Caverneering Club (JF-392) Serena Benjamin, Gavin Brett, Chris Chad, Rolan Eberhard, Stefan Eberhard, Mark Euston, Trent Ford, Laure Gauthiez-Putallaz, Nick Hume, Alan Jackson, Andreas Klocker, Andy McKenzie, Janine McKinnon, Dickon Morris, Grant Rees, Amy Robertson, Petr Smejkal, Niall Tobin, Ric Tunney, Trevor Wailes, Geoff Wise (8-12-1985 and 25-10-2007 to 29-01-2014) Drawn by Alan Jackson (2014). Original 1985 JF-392 Warhol data and sketching copied from Eberhard S. and Eberhard R. map published in *Speleo Spiel* 220: 9-10 ASF Grade 44 Surveyed Depth - 321 m Surveyed Length - 3970 m LEGEND boulders/rocks calcite/flowstone ceiling hight (metr ss-section (with view direction) drop offs/ledges - minor (with height in n drop offs/ledges - major (with height in n passage wall underlying or continues (too tight) ope direction arrow alactite (section)

water - small flow water - stream inlet

PLAN ADIPOSE TEST STOCKHOLM SYNDROME Too tight Too tight Too tight EUPHONY BUPHONY -267 m streamway continues but VERY tight AIDS FOR TWO HIGH FIDELITY High aven above SOFTLY SPOKEN MAGIC SPELLS RACING AROUND

DEVELOPED VERTICAL SECTION



HIGH FIDELITY co

Aberdig Cave, a new discovery in the Potholes Reserve

Photos and written by Bogdan Muresan

Digging

In July of 2023 a digging permit was issued for VSA in Potholes Reserve near Buchan. The application was put together and submitted by Tom Aberdeen. The location of the dig is in the northern side of the reserve, near Pinch and Enfield caves. This is the area where the known sections of the master cave, Elk River, ends upstream and the hope of any dig in this area is to intersect the master cave.

The dig was started by Tom Aberdeen. In July Tom Elms and I joined the effort and after getting two large rocks out we broke through. We were able to squeeze in just to be stopped two metres down by another dig. On Saturday 12th of August 2023, Tom Elms and I had another digging session. After we excavated about 20 small bags of sediment and rocks, we broke through again. A squeeze and a sixmetre downclimb led to a large chamber that seemed to go nowhere. On Sunday 13th whilst I surveyed the cave Tom Elms had another dig session and we broke through once again into a small chamber and a narrow rift that was blocked by a rock the size of a beer slab. More digging was required at this point. On 26th September we had another short digging session in this area and we were able to break through again into two parallel fissures running E-W direction. The first one gets too tight after about two-metres down but the second one, the further south, continues down for about five-metres and then it gets too tight as well. This, we established, is the end of the cave.

Morphologically this is a predominantly vertical cave, as are most of the caves on Potholes Reserve. This cave appears to have formed mainly along an NE-SW fissure. A secondary, short fissure developed N-S intersects this one close to the surface and the sixmetre pit has formed at this intersection. The two parallel fissures running E-W intersect the main one towards the terminus. The larger chamber and the six-metre pit show signs of phreatic corrosion such as pendants and large smooth cupolas.

Description

A small vertical drop of 1.5 m leads from the surface to the first horizontal floor. This drop is the first squeeze in this cave and it is quite restrictive. At the base of this drop there is a small chamber formed along the E-W direction with fine sediment and rocks on the floor. The roof is made of large boulders at this point. Another restriction and a small drop lead to a section of the cave developed along N-S direction. At this point clear signs of limestone dissolution are visible. A six-metres narrow pit that can be free climbed, leading to a large chamber developed along the E-W direction. No decorations are present here and the floor is covered in fine sediment and some fallen, angular rocks. At the east end of this chamber another squeeze, the tightest so far, leads down on a 45 degree angle slope to another small chamber. On the eastern wall of this chamber there is a thin layer of calcite and a small amount of water is dripping down. The floor of this chamber consists of large boulders mixed with fine debris and appears to have formed due to narrowing of the fissure. This floor sits on the first of the two E-W fissures. A two-metre downclimb beneath this chamber leads to a flat section between the two E-W fissures. From here a legs-first, tight downclimb leads into the second and terminal fissure. The floor of this small chamber is covered by very fine, damp sediment. Organic debris forming a horizontal line is present on the walls at about 1.8 m above the floor. This indicates the fact that this chamber periodically filling up with water.

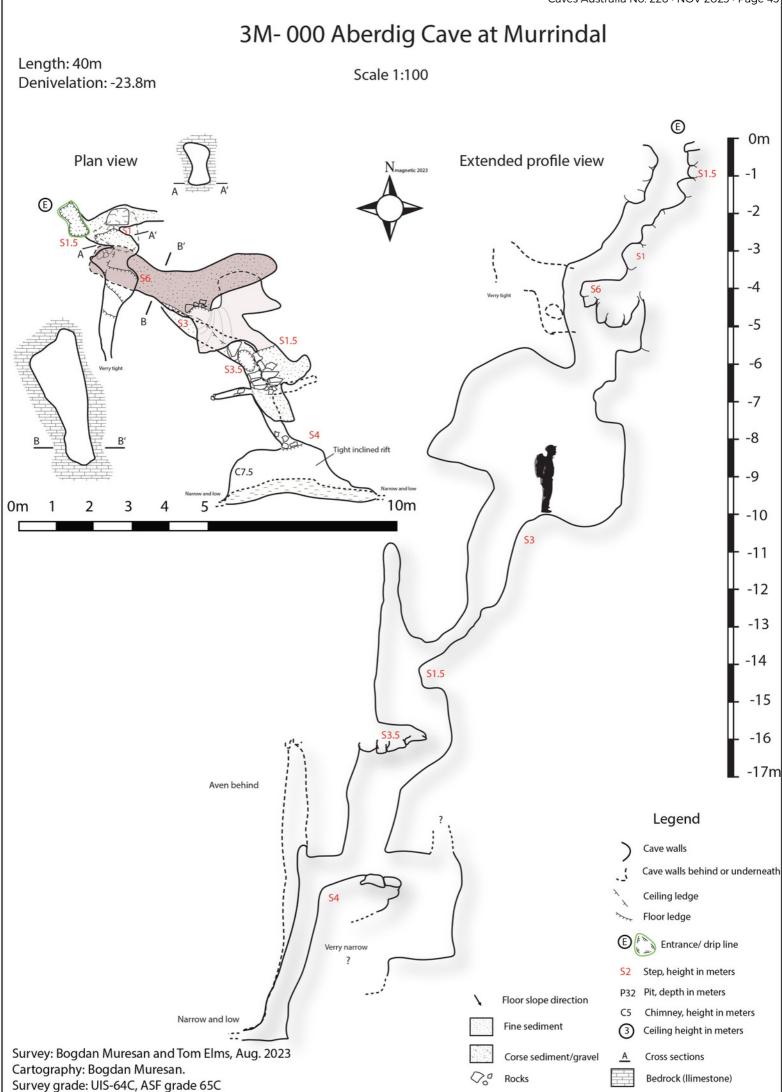
No bones have been found yet, a sign that this cave has probably been closed for a long time. No bats present but some crickets were seen close to the surface.



Entrance

Working hard at night

Tight TIGHT Squeeze



Maillons Carabiners Abseil Racks Descenders Ascenders Harnesses Helmets Suits Rope



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