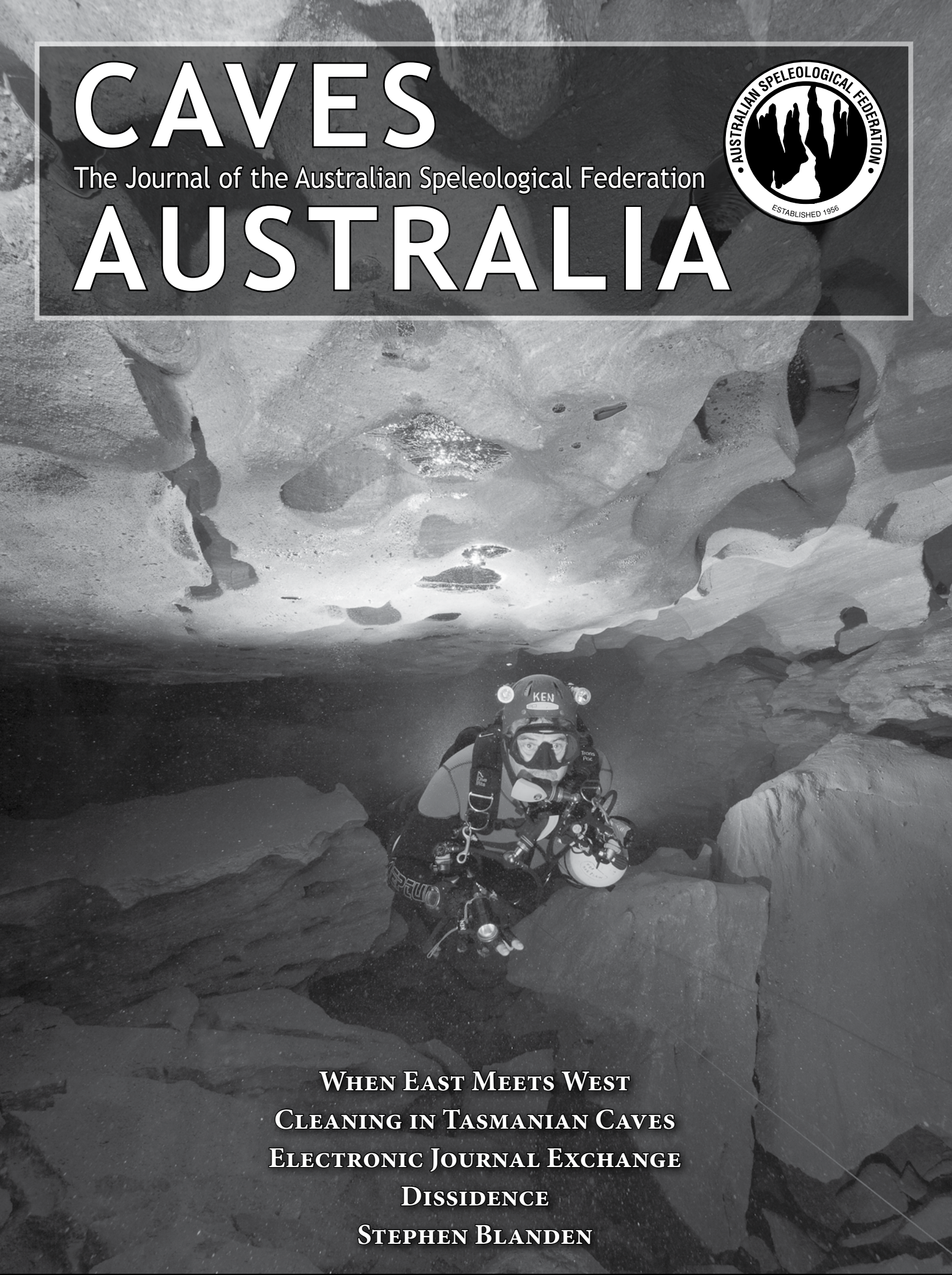
CAVES AUSTRALIA

The Journal of the Australian Speleological Federation



When East Meets West

Cleaning in Tasmanian Caves

Electronic Journal Exchange

Dissidence

Stephen Blanden

No. 191 • DECEMBER 2012

COMING EVENTS

If you want further information the contact details for each event are included in the list for you to contact directly. A more extensive list was published in ESpeleo *earlier this year. The relevant websites and details of other international and regional events may be listed on the UIS/IUS website www.uis-speleo.org/ or on the ASF website www.caves.org.au. For international events, the Chair of International Commission (Nicholas White, nicholaswhite@netspace.net.au) may have extra information. Several events are occurring in 2012, especially overseas.*

However, 2013 looks very busy with the next ASF Conference TroGalong in January at Galong NSW, the ACKMA Conference in May at Waitomo Caves, NZ and the international (UIS) congress in July at Brno, Czech Republic.

We'll keep you posted on these events in Caves Australia.

2013

January 6-11 — Trogalong: 29th Biennial ASF Conference Galong, NSW, Australia. Hosted by the New South Wales Speleological Council. Registration is now open and details are available on the Trogalong website www.asfconference.org.au/2013/Default.aspx. You will need to book your accommodation immediately. Pre and post conference trips are planned.

May 12-18 —ACKMA Conference, Waitomo Caves NZ. 20th Cave Management conference. For details see the ACKMA website <http://www.ackma.org/> where there is a lot of information on the dedicated conference page, or contact the Conference convenor, Libby Chandler: conference.convenor@ackma.org

July 21-28 — 16th International Congress of Speleology, Brno, Czech Republic. For details see the website www.speleo2013.com The 2nd Circular is now available for download and online registration has been available since 1st August 2012. The circular has lots of information. For personal registration, booking an accommodation and making reservations for excursions and field trips, the on-line registration form or paper-form, can be used which can be download from the website, filled it and send returned by fax, or as an email attachment. For interest Ryan Air (www.ryanair.com) has cheap flights from Stansted airport north of London direct to Brno. The ICS is a spectacular event that occurs every four years, is also a function of the International Union of Speleology (UIS).

You can find detailed information about fees, accommodation and excursions on Congress website www.speleo2013.com and also in the recently published 2nd Circular.

WANTED

ARTICLES FOR *CAVES AUSTRALIA!*

Whether caving, cave diving or generally just caving, *Caves Australia* readers are interested in YOUR story.

It is only with YOUR contribution that we can produce a quality magazine for all to enjoy. For writing and style guidelines, contact the Editor or Production Manager for further information.

TROGalong conference

WOULD you like financial assistance to attend the Conference? Read on.

If you are new to ASF and wish to attend the TROGalong conference, the organising committee may be able to assist you with a conference attendance grant.

However, there is a "but".

PURPOSE, SCOPE AND AMOUNT

- To encourage attendance at and active participation in ASF conferences by new ASF members
- To attract valuable conference presentations relevant to speleology by persons who may not otherwise be able to attend the conference.
- More than one grant may be made for each conference totaling between $1000-$2000. But to assist more new ASF members, the grant is likely at TROGalong to be between $250 and $500.

ELIGIBILITY CRITERIA, APPLICATIONS AND SELECTION

New members must be of not more than five years standing, and have not attended any previous ASF conference. In exceptional circumstances, consideration will be given to members of long-standing who have not attended a conference for 20 years and who have an active contribution to offer to the conference.

Subject to these general guidelines, administration will (at their discretion) be by the conference organising committee, which will determine the amount of each grant and may at their discretion supplement the ASF grant with a small amount from the conference registration budget.

EXPECTATIONS (THE BUT)

The grant provides for whole or part remission of conference registration fees and travel costs etc., and personal attendance is required.

An appropriate presentation is required from those funded because of their ability to provide a valuable contribution, and is encouraged from others.

PROGRAM HIGHLIGHTS

- Al Warild has agreed to conduct the prusik challenge. His devious mind is already at work. He has said he can present information on Auriga and electronic cave surveying.
- We have also asked Al to be the speaker at the conference dinner.
- Julia James has expressed a wish to present a paper on the Jenolan caves tourist cave resurveying project.
- Bob Kershaw has information on the history and future of Wyanbene cave and a GIS workshop on monitoring the rehabilitation project in Wyanbene.
- Cath Bellamy also wants to do a paper on historic names at Jenolan, but probably won't be there so Julia will give her paper for her.
- Associate Professor Andy Herries from La Trobe University will be presenting a paper on Tuesday 8th January. Andy is a paleoanthropologist and an ex-caver from SUSS. Check out his website: www.archaeomagnetism.com/
- Dr Julien Louys, a vertebrate palaeontologist from the University of Queensland has confirmed his attendance. Julien is the lead researcher at the Colosseum Chamber at Capricorn Caves and is interested in presenting something on the dig and its implications for conservation studies. More about Julien can be found at www.earth.uq.edu.au/node/3252/428
- Pungalina information will be presented by Denis Marsh or Sue White
- Sue White is organising a "cave geology for beginners" session.
- John Dunkley on the salt caves in Chile
- Jill Rowling is organising that extensive list so if you want to add your name to the presenters list, please contact Jill.

ACCOMMODATION

There are a great many photographs on the TROGalong website regarding the accommodation if you would like to use these to assist you in your selection of a room for the conference. www.asfconference.org.au

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ASF

Contents

Ken Smith in Murra-el-Elevyn. Photo by Liz Rogers • lizrogersphotography.com

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EDITORIAL

OVER THE past month, like most of us, I have been glued to the TV set each night watching the London Olympics. And it has got me thinking … these athletes are the best in their fields in so many sports and over so many distances — sometimes individually and sometimes in teams. And then there are the multi-skilled: the triathletes and those in the pentathlon events.

❖

… thinking … about caving: not so much our biennial speleosports but the real thing. We practise many of these Olympic skills when we cave: long-distance walking (trogging); long distance swimming (cave diving); marathoning or triathleting (expedition caving). I'm sure, with a little more effort I could come up with a sport which links to squeezing through tight places, stepping over chasms or climbing on rope and ladder into the unknown. Would frisbee throwing be the same as beach volleyball?

❖

… thinking … about individuals who would win medals. Certain names always come to mind. My past two years as editor of *Caves Australia* have brought to my attention many expeditions and trips, Herculean in nature, all with worthy speleo Olympians. I'm sure you, the reader, could extend this game and this list. Perhaps, around the campfire, glass in hand, you could fill in names.

❖

THIS ISSUE has a variety of articles: Alan Jackson discusses exchanging club journals electronically; David Wools-Cobb looks at the practicalities of cave cleaning; a southern Tasmanian—Nullarbor cave diving exchange highlights underwater and surface differences; that arcane Hungarian Quiz continues; Nullarbor expeditioning (not under water) gets a guernsey. The issue closes with yet another loss to the caving fraternity — the passing of Tasmanian caver Stephen Blanden. Cathie Plowman outlines why he will be missed.

Vice-President's Report

Cavers going for their own gold at Olympic time

WITH THE Olympics now over and the tally for gold counted, we look back over the past months to see cavers too have been striving for gold.

July and August saw cavers from many clubs departing for numerous expeditions and beyond.

With trips now over and cavers safely home, they have begun compiling data to see what gold they have unearthed.

Preliminary data is showing that caving in the Northern Territory has yet again delighted the expedition organisers with more amazing finds with new caves, hundreds of metres of newly discovered cave passages with many connecting caves.

A great effort by the handful of dedicated cavers and clubs under such distances and arduous conditions.

The gold, however, must go to Chillagoe Caving Club of far north Queensland. CCC have recently been encouraged to report on interesting finds in rarely visited karst regions.

This has paid off with recently released information from Dr Gilbert Price of the University of Queensland revealing a remarkable discovery of large prehistoric fossils in a 500,000-year-old limestone cave.

This unprecedented find unearthed from the cave floor finds well-preserved fossils of our long distant past. Well done CCC and Dr Price!

With all this travelling and exploration work we often neglect or have forgotten some of the basics in caving and it's worthy of a re-visit every now and then.

The ASF's Cave Rescue Commission (ACRC) has over the past two years implemented a successful series of self-help workshops to remind us of the basics and even advanced safe caving techniques we should all know.

This has been successfully implemented in four states so far and there is now a call for other states to book workshops.

For more information contact your state ACRC representative or ACRC Convenor: Ross Anderson of WASG in WA.

We look forward to reading about these exciting developments in future issues of *Caves Australia.*

Safe caving to all.

Joe Sydney
ASF Senior Vice President.

When East Meets West

Peter Buzzacott
STC
Janine McKinnon
STC

PART 1
by Peter Buzzacott

CAVE DIVING is not for everyone, but for me it is both exhilarating and challenging. I've wanted to visit a couple of famous caves in Tasmania for ages, so I jumped at the chance when everything fell into place.

In particular I was excited when Alan Jackson suggested an attempt to extend the line in Dwarrowdelf/Khazad-Dum. The last diver in there, Stefan Eberhard, had tied-off at depth 17 m, 30 m into the second sump. Alan was hoping we could extend that line by another 70 m and pop-up in nearby Cauldron Pot. Apparently, this might even break the Australian record for the deepest combined system, from the highest entry to the lowest depth.

I landed in Hobart and stayed with Janine McKinnon and Ric Tunney, a couple of well-known ASF members, in their house overlooking the city. The view at night was spectacular.

Soon we were hurtling through Tasmania towards Maydena, then hiking through rainforest carrying packs laden with SRT and dive gear. At the cave (Dwarrowdelf), Janine went in first to rig with the assistance of visiting NUCC member, Mark Euston, while Ric, Pat Seiser (a visiting American caver) and I followed at a leisurely pace. Pat and I stopped at the halfway mark, with 112 m of rope above us and 104 m below. Janine and Mark continued to the bottom of the pitches, both to rig the cave in preparation for my dive, and so Mark could "do" the big bottom pitch (68 m). Ric went to the top of the bottom pitch.

Now that I had seen the cave and appreciated the majesty of it, I felt confident I could make it to the bottom and back. I'd trained for this in WA in 40°C, pouring bottled water over my head while prusiking up a 10 m tall quarry in a full kit with a pack slung beneath me. Still, until today, my SRT skills had been of uncertain quality.

CHERYL BUZZACOTT

Diving at 950 m elevation at Arthurs Lake

A day of rest and then it was up to Junee Cave to test out my equipment in the cold Tasmanian waters before attempting the "Big One". We hiked through national park to reach the cave, got changed into dive gear and entered the dark zone, wading upstream, sometimes chest deep, and battling the rushing water. With Ric and Pat helping carry the gear, finally we reached the end; the beach just before the sump. Janine and I put on our masks and down we sank, into the flooded tunnel. Visibility was the length of my arm at most — basically, we were diving alone, a few minutes apart. We had tanks underneath each arm instead of on our backs because the cave was low in places. I was having a fabulous time; the gear I had been given by Fourth Element was even warmer than I'd expected and my dive gear overall was perfect in these conditions. I was ready.

A couple of days later we hiked through the dense rainforest back to Dwarrowdelf, carrying packs filled with dive gear, including two 6 litre tanks on loan from Stefan. This time Janine, Ric and I were joined by Alan Jackson and Petr Smejkal, a keen caver from the Czech Republic living in Hobart for a while. We got dressed in trog suits, (mine was a Northern Diver dry suit that I'd cut the feet off so I could wear it over my new gumboots), put our SRT gear on and in we went.

Inside, the cave was about 10°C and we were planning a long day, alternating between resting while waiting for the ropes to clear or working hard, so I'd chosen to wear two Capilene undergarments inside my trog suit, a short-sleeved top over a long-sleeved top. That way I could take one off if hot but, in reality, I never got hot enough to strip down and take one off.

Down I went, into the dark, abseiling on a 9.5 mm rope, pitch after pitch. The rope was stiff and creaked a lot, plus I bounced around more than I was used to on the 10 m pitches back home; all-in-all it was marvelous fun. Between my weight and the pack underneath me I was sure the rope

RIC TUNNEY

Exhausted but happy to have made it up and out

was going to snap. One pitch in particular stood out — we had to squeeze through a short narrow passage and reach out over empty space to pull the rope over to clip onto it. Then, we swung out over the biggest drop I have ever seen — 67 m straight down, dripping water all around, and the void big enough to fit an apartment block into. All up, we abseiled 216 m down, my gear divided among the team of five. After that there was a 30 m handline down the final rockpile in the huge chamber where Khazad-Dum (KD) joins in on the other side.

At the far end of this chamber we entered the "Depths of Moria" and then crawled on our stomachs through a low conduit high above a fast flowing stream, squeezed between rock walls in another section until finally we reached almost the end of the cave. Just three constrictions to get through, and a little more streamway, and the diving pool was on the other side.

We were about -280 m underground by now, in a place relatively few people have been. I turned my helmet to the side and started squeezing through the restriction, but it was no good: my chest was too big to fit.

This was a bitter disappointment but, in the scheme of things, we all face set-backs now and then. A summit that can't be reached, a river that can't be crossed, a hole too small for a 48 inch chest. Ho-hum.

We had lunch, emptied the dive tanks to prevent them exploding if they hit the wall on the way back up, and then up we went, hauling ourselves up, my dive gear still divided among the team, hanging underneath us as we climbed. It was gut-bustingly hard. The first 67 m pitch took me 35 minutes without a slung load and I had stomach cramps by the time I swung back into the little passage. I was pretty worn down by the time we crawled out of Dwarrowdelf hours later.

It took me a few days to recover — my legs in particular had taken more punishment than usual, but within a week I was back to normal and ready to make my first Australian high altitude dive, in the Central Highlands.

So, my sincere thanks to the team, and to Ric and Janine in particular for helping with access, guidance, ropes, rigging, packs, tanks and hospitality. The caving was unlike anything else I have attempted and I learned so many new skills during this trip. Next, it would be my turn to host a visitor, when Janine arrived in WA to go cave-diving in the Nullarbor.

Dwarrowdelf statistics

Depth 293 m

Pitch lengths (in order from entrance)

22 m, 21 m, 55 m, 14 m, 37 m, 67 m. 30 m

PART 2

Janine McKinnon

Party: Peter Buzzacott, Liz Rogers, Ken Smith, Mark Pardoe, Janine McKinnon.

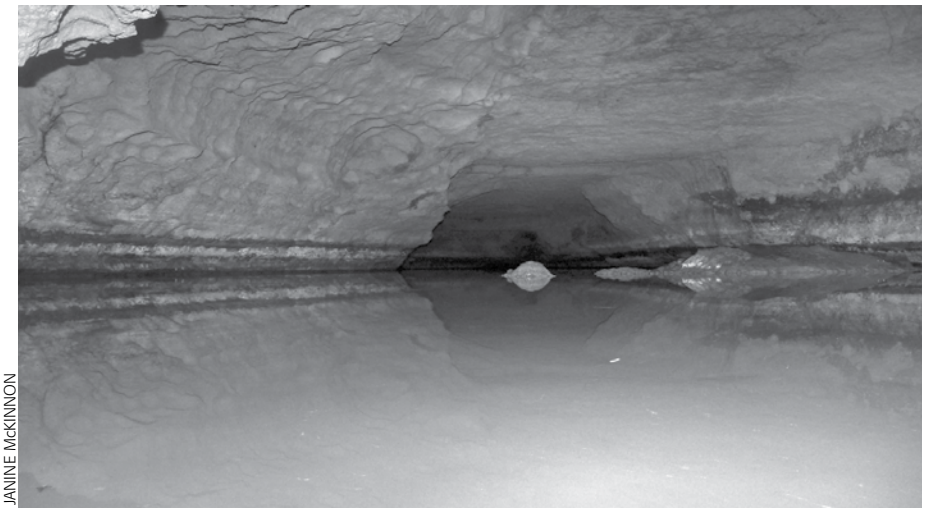
Now it was my turn to play "Stranger in a strange land". (OK a little melodramatic but poetic licence applies, I'm sure.) I was joining Peter, and a few others, for an Easter trip to the Nullarbor, for cave diving. Cocklebiddy, Murra-el-Elevyn and Tommy Grahams were on the plan.

I had managed to get my basic dive gear packed under the 23 kg luggage limit for Virgin. This did involve a few tricks (which I won't divulge here, just in case any Virgin employees are reading) but I will just say that I looked a little over dressed for the climate as I left the plane in Perth.

Peter picked me up at the airport and we headed straight down to his place in Bunbury to do the final organising and packing for our trip.

We (by which I really mean Peter) had almost finished packing by 11 pm, when we called it quits for the night. This was 1 am by my clock and I had been up since 4 am (EST), so I was pretty tired.

We got a cracking start at 6 am, packed some more, and got away at a not quite cracking 8 am.



JANINE McKINNON

View across Cocklebiddy Lake

Thirteen hours of driving, with very brief refuel and toilet stops, saw us setting up camp near the entrance to Murra-el-Elevyn Cave (Murra), five minutes drive from Cocklebiddy Roadhouse. This drive was a bit of a culture shock for a Tassie girl. We think one hour of driving warrants "driver reviver" stalls.

This was now Wednesday night and the others weren't due to arrive until sometime Friday. Our plan was to do a dive in Cocklebiddy Cave, just we two, on Thursday.

We spent five hours getting our dive gear to the water in Cocklebiddy. It is quite a difficult process, as the time it took us implies. I won't bore you with the logistics, but an aluminium ladder and trips up and down a big rockpile were involved.

Once in the water, we had a 200 m swim across the lake and THEN the dive started.

JANINE McKINNON

Entrance to Cocklebiddy Cave

It is a truly wonderful cave dive: BIG passage, clear water, a thermocline and a halocline. My first for both. The recent rains had left about 4 m of cold water (13°C) in a layer over the usual salt water (18°C) of the cave. The optical effects (different refractive indices) were fascinating.

Peter wanted to collect some water samples from the roof and the floor, but due to problems with some borrowed tanks he was off balance and found it too difficult to do the fiddly work required. No worries. He could do it the next day before we geared out.

We turned the dive after 25 minutes and retraced our route. We left the gear at the beach and got back to camp in time to drive to the roadhouse for showers before it closed.

The next day we returned. In the interests of efficiency, I started hauling my gear up the rockpile to the ladder whilst Peter went off to get his samples. This was going very well until he called to me from the far end of the lake. I was at the top of the rockpile at the time, having just deposited a load to lift. I thought he was having problems so I rushed back down to the beach, to discover that he needed more weights.

Can you guess where the weights were? Yep. I had just taken them up the rockpile. Sometimes efficiency isn't all it's cracked up to be.

By 1:30 pm the dive was done and we had finished hauling the gear out to the car. We returned to camp and had a little break. Coffee!!

We started rigging the entrance to Murra after our rest. This required a tripod to lower the gear down to the bottom of the dry sinkhole entrance.

The gear goes down a 35 m drop on one side of the sinkhole and the divers climb down a shorter, 7 m drop, on the opposite side.

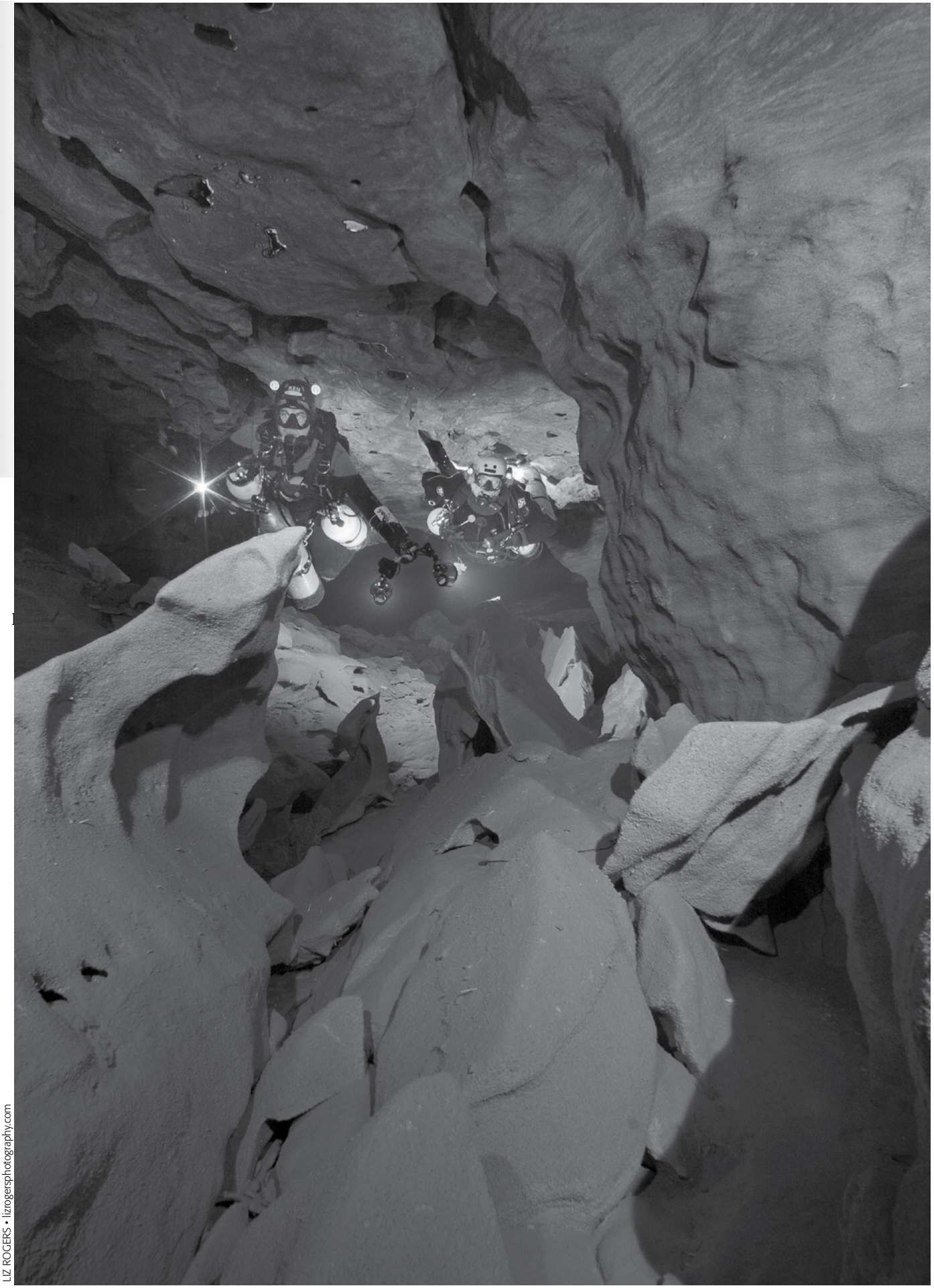
We got the tripod up and then went to set up the aluminium ladder for the climb. Unfortunately, it was 1 m too short, so I rigged it SRT. This subsequently proved a little less than ideal for our cave diving friends, but they all had the basic skills, and managed.

We were finished at last light and went to the roadhouse for our nightly shower. No-one else had arrived yet. We were just beginning to wonder if anyone else would.

However, our lack of faith was misplaced. We found Ken and Liz at the roadhouse having their showers. Mark arrived around 9 pm. There had been ten people on the permit and we were finally five. Ken and Liz are cave divers from the east and Mark came down from Geraldton (WA). That really did show commitment — and the WA attitude to distance.

Several hours were needed to get the diving gear to the lake in Murra on the Saturday. Co-operation and teamwork got the job done as efficiently as it could be and all went smoothly. Most of us didn't know the majority of the others and it was nice to see how quickly we all got the teamwork going. Except for Ken, who was off getting his buckled suspension fixed. He had hit a stump the previous afternoon, but that's another story …

There were several proposals for what people wanted to do over the time we were



LIZ ROGERS • lizrogersphotography.com

Ken Smith and Mark Pardoe in Murra-el-Elevyn.

JANINE McKINNON

Waiting for (yet more) gear to be lowered into Murra-el-Elevyn

in Murra. Liz and Ken were there to photograph. Liz takes amazing photos and Ken was her model and flash buddy. Anyone interested in seeing what she does, check out her website. Peter was there to do science; Mark and I were just there to see the cave.

Mark and I were first into the water on Saturday afternoon and we went off to lay the primary guideline through the front part of the cave. This cave only has permanent line in the back part of the cave, and a side passage near the entry lake. After we returned from this job Mark went off with Liz and Ken (who had arrived after successfully fixing his car) to be a second flash slave and get into some of the photos if he could! This he achieved very successfully.

Peter was planning to put some temperature loggers into the back part of the cave, and leave them overnight. This cave is 18°C but there are anecdotal reports that it was 23°C in the past, also, that there are "warm patches" of water in a back chamber on the eastern arm of the system. Tommy Grahams Cave is nearby (20 km to the east), and has a temperature throughout of 23°C. You can join the dots yourself.

JANINE McKINNON

Mark at the lake in Murra-el-Elevyn. The dive starts under the right-hand wall

It would be very exciting if the warm water in the far end of Murra is reliably recorded to be heterogeneous.

Unfortunately Peter was having trouble with a back mount harness (for tanks) that he had borrowed and was unable to dive that afternoon, so whilst he fiddled, I went for an explore.

The cave is stunningly beautiful. Gin clear water, large passage and a huge chamber with a massive rockpile in the middle, sculpted bedrock in wonderful shapes and colored pink and white, and three air bells with gypsum crystals covering the walls. It was such a joy to be diving in there.

However, I am getting ahead of myself. I only saw some of the cave on the first day. I did visit the first air bell, which is close to the entrance lake.

Not only does this air bell have gypsum crystals on the walls, it has bacterial mats. These are gossamer thin veils of bacteria (obviously) hanging from the walls and ceiling.

They are thought to feed on guano from the chocolate wattle bats living in the dry entry parts of the cave. This air bell has a dry connection to the entrance and is close enough that lots of guano could easily wash into this part of the cave. The mats are fascinating, delicate and beautiful.

We came out at 6.30 pm. Yes, in time for a shower at the roadhouse.

Sunday was a slow start but we had minimal gear to take in — just replacement tanks for Ken, Liz and Mark.

Peter had given me two 15 litre tanks to use, and they were so huge for me that I wasn't going to need any more for the whole trip.

For the first dive today Peter took Mark and me on a tour of the cave. We visited the two remote air bells and the large chamber (which I had not reached the previous afternoon).

We met Liz and Ken, taking photos, as we returned from these back parts of the cave. The dive took 75 minutes.

Mark had to start taking his gear out after this as he was leaving early the next morning.

Peter sieved for micro life in the lake and I had a short dive. We then went to help Mark get his gear out of the entrance. I drove the car to haul the gear up the drop, Mark attached stuff to the line and Peter acted as signaler and took it off at the top. This all went very smoothly and quickly then Peter got his loggers into the cave.

Monday saw four of us left and we got some dives in before we had to start the haul out after lunch.

This was another four-hour job. The tanks seemed endless. It took each of us several trips to get the gear from the lake to the bottom of the lift system. I drove the car again once we were finally ready to lift everything. I got the last load up just on last light, at 6.30 pm Cocklebiddy time (yes, they have their own little time zone). Just in time to get to the roadhouse for a shower.

We had a small celebration to mark a successful trip and were all in bed by 10 pm. We were very tired!

Tuesday morning we were up at dawn and took a few hours to disassemble the A frame and pack everything up. After a small delay of half an hour trying to find the car keys we were off at 9 am.

Ten minutes later we were back as Peter realised he had left some gear behind. Nice to know I'm not the only person who does that. Then we were finally off again at 9.30 am. We had a tailwind most of the way home so it was only a 12 hour drive back to Bunbury.

Peter provided all the camping gear, rigging gear for the cave entrances, tanks and assorted diving gear, transport and even my dinners! It was so easy to just turn up at the airport with my personal dive gear, shop for food, and go. Peter had everything else organised.

It was a wonderful experience that I will remember fondly and, maybe, repeat some time.

And what happened to Tommy Grahams, you ask?

Well, much as we wanted to dive there, or even just visit it, the logistics of getting gear into, and out of, the two caves we did was very time consuming. We realised by Saturday night that we wouldn't have the time to get there, too. A pity, but it gives me more incentive to return.

Cleaning in Tasmanian Caves

David Wools-Cobb
NC, SRCC

ABSTRACT

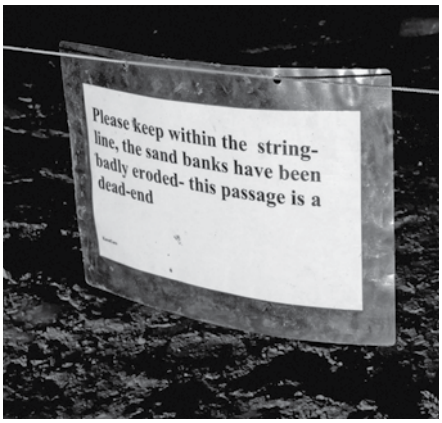
Karstcare is a group of cavers who work under the umbrella of Wildcare: an organisation of volunteers who assist the Tasmanian Parks and Wildlife Service with management. Karstcare, as the name implies, focuses on karst areas, mainly underground, but also above ground when the member's vitamin D levels are dropping.

The article focuses on the experience gained cleaning within caves, but it also touches on related cave management issues.

EARLY IN-CAVE MANAGEMENT

A principle of cave management at the earliest stage is defining routes through the cave. Often this defaults to the 'easiest to navigate route'; however, that would be in the best interests of the cave visitor, not necessarily the cave. Various route marking systems have been used in the past, with many caves requiring a combination of several systems. Reflective markers are only of value if they clearly define a route, preferably the limits of both sides of the 'pathway' and located closely enough to leave the route in no doubt. Such markers are not particularly 'aesthetic'; however, they are for the good of the cave, not the visitors! Sometimes a single line of markers can be used, with the intent of keeping visitors at least close to that route only. Even rock falls benefit from such marking at the earliest stage of cave exploration, as future visitors who are unaware of the route through such an obstacle, will invariably wander all over the area, tracking mud extensively … and continually. Is it not better to keep the caver impact to one route?

String lines of various inert materials have been used extensively, at little expense. Stringlines can be placed with consideration for future cave photographers: low, or even temporarily removable so as to not obstruct the scene.



DAVID WOOLS-COBB

Sign in Tailender Cave

Natural anchors for string lines should be utilised as much as possible. However at times, we have found stainless steel pegs quite useful. Aluminium is not suitable as it degrades in a damp cave environment.

I have observed situations with route marking installed well after the area has been trampled … in only a few years it is obvious what a positive difference track marking has made.

Why mention track marking in an article about cave cleaning?

Good route marking can limit mud tracking: inadvertent transfer of material from a muddy area to a cleaner area. Such early management has a major impact on limiting 'damage' to a cave, and reducing the potential necessity to clean after visits. After most of the floor surfaces of a chamber have been 'trogged', it is often impossible to clean up. If a route is defined early, limiting the spread of tracked mud, then perhaps only the route needs future attention.

Karstcare, as an organisation, emerged from the need to reverse some of the impact from past visits to such caves as Kubla Khan in the Mole Creek area of Tasmania. Much of what we have learned has been the result of our experience in this and other caves.

ROCK VERSUS FLOWSTONE

Our experience has taught us that natural rock is usually easier to clean than flowstone. As long as the rock is non-friable, mud can be scraped, scrubbed and washed off, down to the base rock level. Flowstone is also cleanable, however, because of microgours, tiny mud particles are readily trapped in the 'dams'. This can sometimes be loosened with high pressure water. A problem with active flowstone is that mud particles eventually become embedded in the new layers of secondary deposit growth. This may occur after only a relatively short period. Consequently, it is important to begin cleaning efforts soon after any muddy deposits have been left.

CLEANING TECHNIQUES

Water has been the basis for most of our cleaning. The proximity of a water source is a major factor in determining just how difficult a cleaning job will be. Fortunately, many Tasmanian caves are wet or have a water source within a few hundred metres. Initially we utilised fire-fighting backpack sprayers to transport water, with the pump giving added pressure when needed. The flexible type of backpack unit is more cave friendly, being able to be rolled up within a normal cave pack for transport. The cheaper rigid plastic type has also had extensive use. However, because of their size and rigidity, sometimes transport to a work site becomes a torturous affair.

In areas some distance from a water source, we have utilised wine cask type

bladders. The 10 litre water storage ones are best as they are not contaminated. Unfortunately they do not fit easily into a standard cave pack, so usually a full 10 litres is not carried.

A caution must be made regarding normal wine cask bladders. We have found, even after a 'double rinsing' that some contamination still remains, resulting in an organic scum on water carried and stored for an extended time with these.

Another innovative way of storing water for future cleaning projects is the use of children's blow-up swimming pools. Two of these were utilised in Kubla Khan Cave, installed in the winter of 2004 leading up to the last Tasmanian ASF conference, thereby ensuring a plentiful supply of water when we had lots of labour to enjoy working bees.

Transporting water is hard, back-breaking work, and potentially causes an increase in impact on the cave: moving to and from a water source, with a heavy load, results in greater track use … and worn out cavers. Negotiating through delicate areas with such a load also has its potential impact on the cave.

To circumvent this, we came up with the idea of siphoning/pumping water via 12 mm black plastic hosing. This is readily available cheaply from most hardware stores, with a variety of joiners, taps and other fittings.

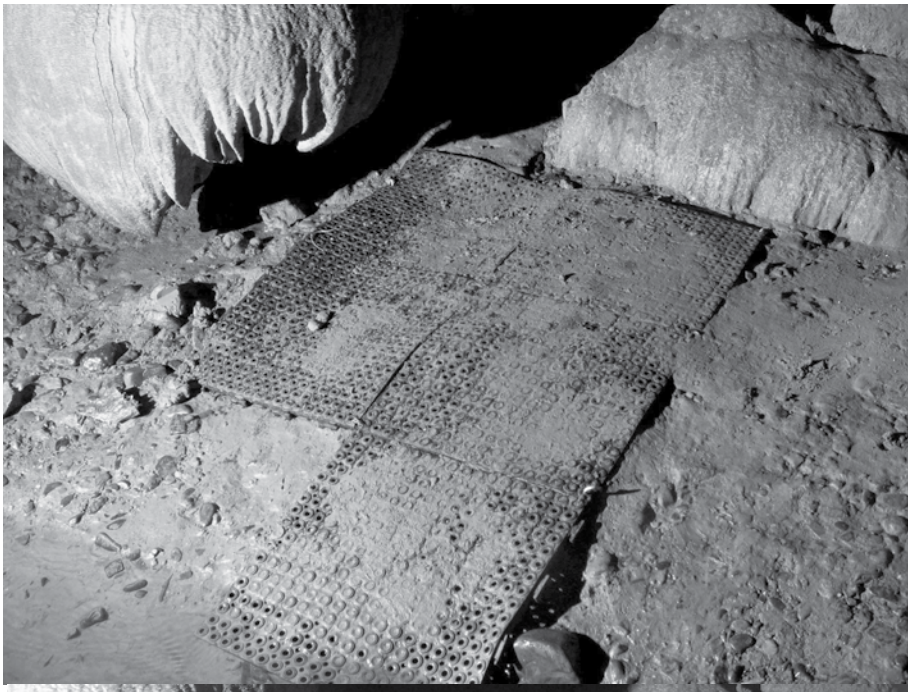
If a lift is required, a 12 volt marine pump can lift up to 9 metres, with more installed in-line if required. Twelve volt motorbike type batteries have been utilised, and although heavy, have been found to save cavers lots of work. Such a battery will last about one hour pumping a head of four metres.

Siphoning has been extremely effective, sometimes with pressures that have blown out our joins, requiring worm-screw clamps to retain such hose joins!

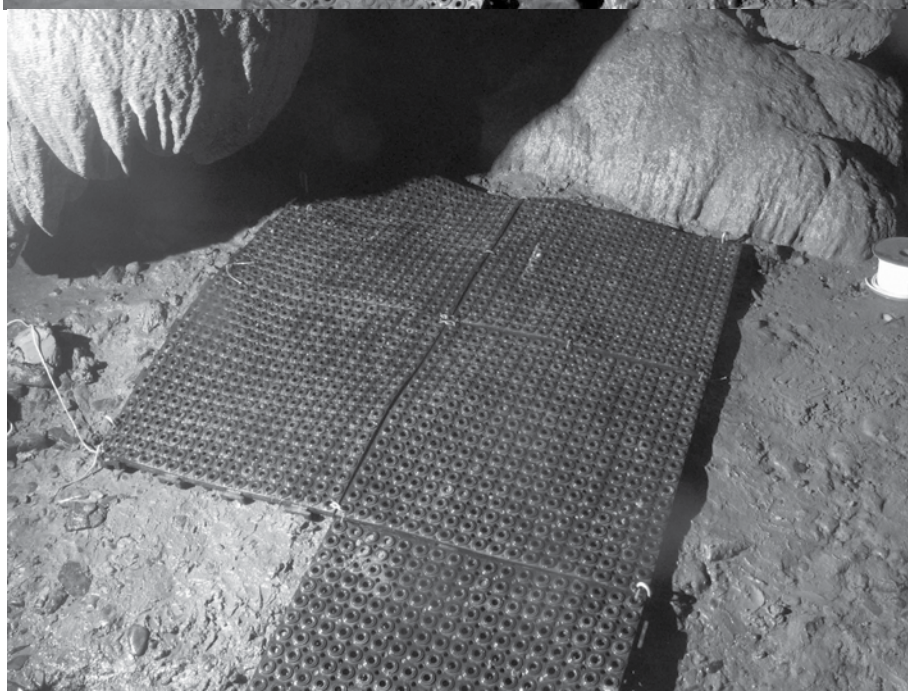
To preserve battery life, we have found it necessary to have an operator at the battery, disconnecting and reconnecting as water is required. This can be a boring job! To enhance this system we found that attaching a fire-fighting pump to the working end of the hose allows good control and when required, increased pressure.

Cleaning is done using a stiff plastic scrubbing brush (not wooden — they soften and shed wood and bristles). A sequence of "hose, scrub, hose", sometimes with added pressure to lift the mud, and a final rinse can produce amazing results.

It is important to be aware of the dirty water run-off. If this is on to otherwise clean parts of the cave, then filter dams, made from old towels or cotton nappies, can be installed below the work area,.



DAVID WOOLS-COBB



DAVID WOOLS-COBB

A mat in Cyclops Cave before and after cleaning

DAVID WOOLS-COBB

Gerard Collins tops up a water supply in Kubla Khan

DAVID WOOLS-COBB

Paul Darby services a bootwash in Tailender Cave

UNCLEANABLE AREAS

Some parts of a cave are, frankly, uncleanable. Either the mud is too deep or it has no solid base. It is important to view such areas as part of the cave management: perhaps such an area needs to stay that way, or perhaps it can be covered with an inert mat. We have often utilised the plastic tube matting available for marine flooring. This can be cut into 300 mm sections — wide enough for a caver to walk comfortably and cut around natural obstacles. On a slope such matting seems too slippery, and other types of industrial matting can be installed. The concept is to keep the caver's boots above the mud. Lengths of such matting need not be extensive – sometimes 'stepping places' can be installed.

Some areas of mud are too extensive or too soft for matting. In this case, we elect to leave such mud as it is, and install a boot washing station at the end of this muddy section. This involves a large plastic bin, filled with water and a scrubbing brush. If applicable, plastic matting is installed around this area to enable the cleaned boots to move to a non-muddy area. Such boot washing stations are installed in a number of Tasmanian caves and have proven quite effective. Ongoing maintenance of boot wash stations, removing excess mud and keeping them topped up with water is done on a periodic basis by Karstcare members. This is often carried out whilst on another working bee, or sometimes as part of a normal caving trip. In areas with poor water access it may be feasible to install a water storage unit outside the cave and siphon in, or have water stored in situ awaiting a major cleaning working bee. It is possible for cave cleaners to liaise with land managers to encourage each cave visitor over a period of time, to carry in a pre-filled bladder to the site.

Small areas requiring cleaning may only need a small amount of water, in say, a spray bottle, together with a tooth brush to quickly remove any muddying.

COMMUNICATING DURING PROJECTS

Although this is strictly not the topic of this article, I will mention a few things we've observed.

The enormous echo one experiences in a sizable cave chamber makes communicating over any distance quite frustrating. At times we have utilised 2-way radios where line-of-sight is possible; however, we've found the slightest restriction such as a narrowing or small rock fall greatly reduces the effectiveness of these. Sometimes we've resorted to a whistle code for issues like "reconnect battery", "yes, we have water".

TOURIST/DEVELOPED CAVE ISSUES

Tourist caves have infrastructure like concrete paths, stairs and the like, making cave cleaning much easier. However, the numbers visiting tourist caves far exceed those visiting 'wild caves'. This results in a degree of extraneous material being inadvertently transported into the cave and sometimes deliberately left as litter.

Karstcare has been involved in a number of tourist cave 'clean ups'. We have concentrated on the areas that guides generally do not focus on, or are uncomfortable gaining access to. Areas under pathways and below viewing platforms seem to accumulate general litter, chewing gum, sunglasses, etc. Areas that are narrow often involve the tourist scraping past a wall, leaving lint at higher levels, and scuff marks at foot level. Areas away from the tourists may also have an accumulation of old light globes and electrical rubbish. Older tourist caves with wire mesh seem to accumulate a considerable amount of lint on the wire mesh. The approach to cleaning lint requires innovation; that is better left for someone with more experience than the author.

SIGNS AND INFRASTRUCTURE

Minimising 'unnatural installations' in a cave, particularly a 'wild' cave, is preferable. However, for the sake of the long term future of a cave, sometimes things like matting and boot wash stations and track marking are necessary.

At times we have found it necessary to install some basic signs, explaining to future visitors why we've string lined a 'no go' area, or when we wish a boot wash station to be used.

We even attempt to enlist the visitor to transport water back to a boot wash station when we envisage ongoing maintenance to be a problem. Such signs need to be printed on waterproof paper, and laminated with a good margin of plastic around to reduce moisture ingress.

CONCLUSION

Karstcare's approach to cave management has been guided by the principle of management FOR people, not AGAINST them. We cannot force visitors to do anything, but by utilising long-term solutions to cave management we hope that we are influencing the visitor's attitudes to the cave.

Since forming in 2000 Karstcare has contributed well over 2100 hours to cave and karst management. The activities of the Karstcare group have given a very different reason for cavers to go caving.

We've learned a lot along the way. I feel confident in saying that each cave is better for our having been there.

JF-382 Dissidence

Alan Jackson
STC

BACK IN 2008 I provided an account of major extensions to JF-382 Dissidence in the Junee-Florentine karst in southern Tasmania (Jackson 2008).

What had started out as a 15 m deep cave of little interest proved to be a 1.85 km long, 284 m deep classic — the eighth deepest cave in Australia. In 2009 the cave was rigged again and the two best leads returned to — the dig at Smooth Operator and some unpushed (but tight) stream passage at Stockholm Syndrome. Neither of these leads provided much passage and the cave was considered a low prospect for major extensions.

Despite the consensus that the cave had little to offer extension-wise, the cave was still considered bloody good fun with some spectacular pitches and chambers.

For this reason it was suggested as a suitable destination for one of a series of tourist/training trips the China-bound contingent of STC were embarking upon in July-August 2011.

Grant Rees, a visiting mainland caver who was studying in Launceston and keen to get on as many trips as possible, was with us.

He had bottomed Owl and Tassy Pots the previous weekend, marking two new deepest caves for his personal tally, and he was keen to better his week-old mark by making the bottom of Dissidence on this trip. Reaching this point requires a section of rather tortuous rockfall and crappy climbs but it wasn't too onerous a task.

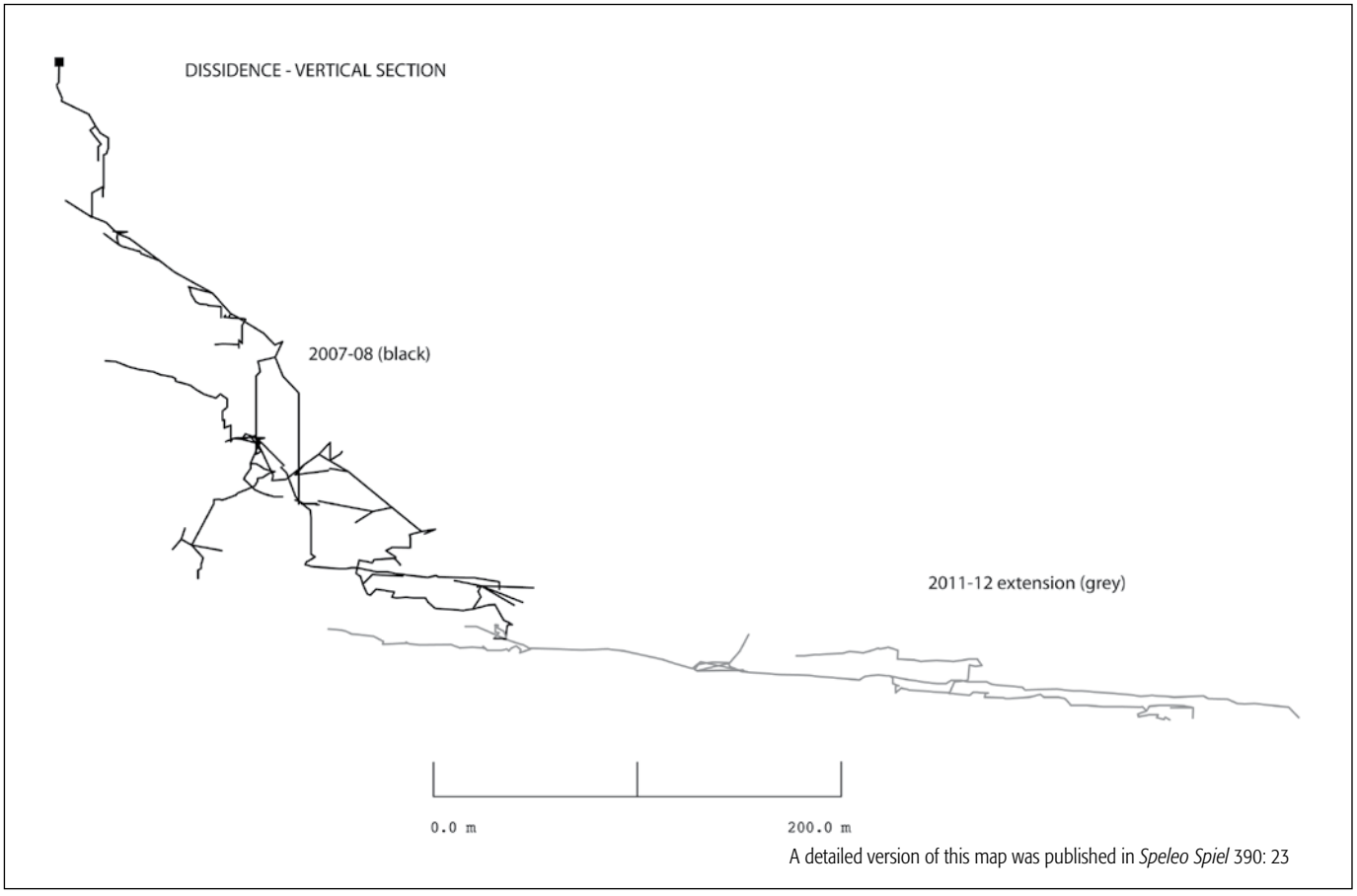
At the deepest point (Quiet Desperation) we re-assessed the draughting slot that stopped original exploration. The draught was still good and a new enthusiasm for returning with rock-altering tools was garnered. Grant tried valiantly to squeeze through, even removing his trogsuit.

While he dressed himself I squeezed through to the other end of the passage to check a sketchy climb I'd not had the enthusiasm to push the first (and only) time I had been there.

It didn't seem so bad so I gave it a crack and was pleasantly surprised to find a low, draughting crawl meandering off at ceiling level.

After about 20 m of crawling the passage opened up into a large breakdown chamber (7 x 30 m) with the magical sound of flowing water below. I swung down onto the floor and made my way toward the sound of water at the far end of the chamber and was presented with a splendid view of wide open stream passage barreling off into the distance. Eureka!

The others hadn't seen where I'd gone so I about-faced and headed back out to them.



ALAN JACKSON

Dissidence section

I knew I wasn't allowed to explore this stuff without the original dissident, Andy McKenzie, anyway. Once I found them, the others were keen to go back and push the new stuff but I explained that with no survey gear and no Andy, that it would be unethical.

Also, another trip member, Trent, was waiting for us half way back up the cave and we couldn't leave him any longer. The trip out burbled with excited chatter over what the new passage might do. There was still over 40 m of extra depth potential in the cave, and a several hundred metre gap to the next known section of cave that carries the Serendipity valley water — Growling Swallet.

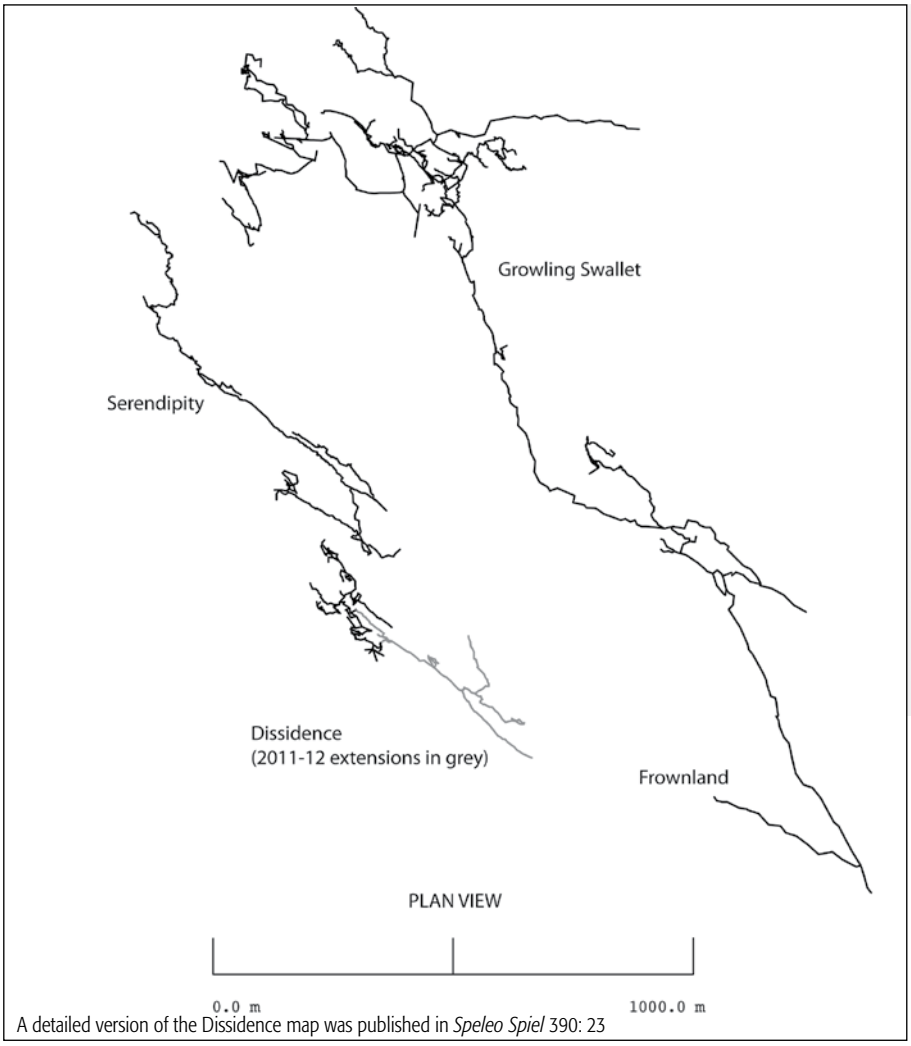
The following weekend five cavers returned armed with survey gear, ropes, bolting gear and high hopes. Andy had flown down from Sydney to relive past glories and stake his claim in any future ones. The trip to the exploration front was a bit arduous with such heavily laden packs. The passage didn't disappoint, though, and although a terminal sump was located before we could find ourselves in the back end of Growling Swallet, we racked up 580 m of survey data and ran out of time and energy before crossing off all the side leads. We had spent over 16 hours underground and didn't surface until 2 am.

By the time we walked to the car, drove back to Hobart, showered and hit the sack it was almost time to get up and have breakfast. But breakfast would have to wait as there was survey data to enter! As suspected, the passage was heading in a straight line for the back end of Growling Swallet.

The new deepest point was 321 m, moving it to 5th position on the Australian deep cave list. It was easily the best day underground I'd ever had.

Two weeks later we were back, sans Andy, to push the side leads. An 'up' lead half way down the extension was pushed first but it got a bit tight and the rest of the team went soft so we left it for another day. We then moved to a fossil upper level of the main streamway that branched off about one third of the way down the main extension which we'd only partly surveyed on the previous trip. This was pushed to its termination in a mud hell hole with no draught. Lameness then kicked in and we headed for the surface.

Back at home the data was processed and we'd racked up another 205 m. The 'uphill' lead was heading for the 'Benson and Hedges Series' at the head of the Serendipity Valley, an area with many entrances in close proximity discovered during TCC's heavy smoking era. Its northerly trajectory



ALAN JACKSON

A detailed version of the Dissidence map was published in *Speleo Spiel* 390: 23

Dissidence area map

also gave it a chance to intersect the likely position of the water last seen disappearing into the two terminal sumps in nearby Serendipity. The fossil streamway paralleled the active streamway and extended some 70 m beyond the sump (i.e. new closest point to Growling), with a maximum depth of 319 m.

Two weeks later I was in China pushing a 700 m deep cave, which kind of put even our best Tasmanian caves into perspective. Despite the good leads still on offer in Dissidence it wasn't until Easter 2012 that we organised a return.

The Easter trip was kind of expedition style, with a base camp established near the cave where we camped for four nights. In the end the trip was a bit undermanned and the weather was atrocious (torrential rain followed by snow), which reduced the productivity of the expedition, but some good work was achieved.

A number of minor leads in the upper levels of the cave (0 to -100 m range) were ticked off and a further 320 m of passage were surveyed in the 2011 extension. The passage heading toward the Benson and Hedges Series was finished (I had a crew that wasn't so scared of tight bits), with another 100 m of passage yielding before it crapped out. One other lead yielded good passage, which was an upstream extension of the main streamway from the point at which I had first dropped into the 2011 extension the year before. This, in conjunction with some dye tracing, helped clarify some of the hydrology theories we'd been developing in the cave.

Dissidence is now 2.96 km long and 321 m deep. Prior to the 2011 extension the distance between Dissidence and the back end of Growling Swallet was almost 800 m. The 2011 extension reduced that gap to under 400 m. The very back end of Growling (Frownland) was never surveyed and it is estimated that the actual gap is more like ~300 m. A survey trip to Frownland is planned for 2012 to confirm this. The Junee-Florentine has a lot of known caves and mapped passage but the most interesting parts are the vast blank areas in between — there is more work to be done.

REFERENCE

Jackson, Alan 2008 Exploring JF-382 Dissidence. *Caves Australia* 176: 19-23

Nullarbor 2011

Thursday 18th August—Thursday 15th September

Ian Curtis
OSS

THIS WAS our fifth trip to the Nullarbor searching for karst features and Denis and I thought we had most of the details down pat.

By now we had a good feel for the area and conversations with Henry, Sue and Nic about Shannon Burnett's findings, presented at the Chillagoe Conference, had helped put much of our detailed work into a wider perspective.

The same team was coming as in past years and we all got on well and knew our basic roles. Margaret had done the food organising and Nic had done most of the paperwork. Maps of the search area had been pored over by Ken and safety details worked out by Sue. Daryl, helped by Cathy and Denis, was to look after the computer work.

Only John Taylor was missing: and we would miss his verbal sparring with Henry, his larrikin sense of humour and his full-frontal caving style.

Our specific tasks had evolved over the years to doing much of the long-distance off-road leg work to reach features, and to enter and bottom everything enterable. This year, after our successful motorbike sorties last year, our plan was to work with Greg, who had prepared two bikes to join ours so that even more terrain could be covered, and in greater safety (Figure 1).

This year we took the BT50, leaving the Land Cruiser at home. As we weren't going off-track we figured we'd save some money on fuel and give Denis a break from his constant tyre mending.

The truck had been fitted with a second battery and, in addition, a 100 watt solar panel was taken to charge the battery so the fridge could run full time, even with the vehicle not being started daily.

We pulled out of the driveway at 2:10 pm on Thursday 18th August, towing, as usual, the trailer, stuffed with a motor bike and four weeks' water, fuel, camping gear and caving gear. As usual we slept on the side of the road in lay-bys, and kept a close eye out for unusual cars and birds.

IAN CURTIS

Figure 1 Motorbikes and long grass

IAN CURTIS

Figure 2 Arresting language on the South Australian billboards exhorting locals to drive responsibly

Highlights of the drive were stumbling upon the desert arboretum at Broken Hill, checking out the old Chevs in a Peterborough shop window and admiring the arresting language on the South Australian billboards exhorting locals to drive responsibly (Figure 2). The Nullarbor golf courses, too, especially the green greens, amused us (Figure 3).

Caving vehicles from Adelaide, Melbourne, Launceston and Orange miraculously met up at the Nullarbor Road House, on time, as planned, and headed in unmilitary convoy style off into the scrub.

IAN CURTIS

Figure 3 Nullarbor Golf Green with Astroturf

When collecting firewood just off the Eyre highway we stumbled on our first find, a six-metre hole blowing out, only a few metres off the grader scrapings.

A couple of kilometres further we came upon and investigated our first wreck, an Austin Westminster, before heading up over the old highway, across the treeless plain, to our chosen camp site where Ken was waiting with the plane. My glasses were missing. Where to look on the way back: at the hole? The wrecked car? The rendezvous? And no second pair! So started our trip.

We quickly settled into camp routine; flying (Figure 4), riding and walking during the day, sitting around the camp fire at night, discussing our finds, listening to Henry singing 'Bluey Brink' as we washed up, and planning our next day.

The weather was quite unsettled (more so than in April when we were usually there) and tents were torn apart and flattened in the gusty, inclement conditions (Figures 5 & 6).

The plane was unable to fly daily, so unvisited features from previous trips were downloaded from Daryl's computer and

NICHOLAS WHITE

Figure 4 Ken taking off

IAN CURTIS

Figure 5 Mud, mud, glorious mud

IAN CURTIS

Figure 6 Weatherproofing the eating area in camp

IAN CURTIS

Figure 7 Greg mending a flat

IAN CURTIS

Figure 8 Rotting camel in rock hole

searched out so people had enough to go on with.

The motorbikes, working together, proved so effective that the riders had to take care not to visit features in easy walking distance of the road, as that left nothing for the walking parties.

The efficiency of the bikes and the harmony of the riders, often many kilometres from camp, was most comforting. Holes were quickly located (because of the added height) and longer distances covered.

Unlike cars with flat tyres, bikes with punctures were able to limp back to camp. Our little ag bike could pick its way effortlessly around clumps of blue bush and avoid (mostly) being ridden into old rabbit or wombat holes.

These were much harder to pick than last year because there had been a good season and the grass was long — often as high as the handlebars — unlike previous years, when much of the country was bare.

To compensate, though, wildflowers were everywhere in profusion.

The ability of the bikes to cover so much ground encouraged us to ride to features so far off road as not to have been contemplated in past years and their reliability encouraged the walkers, some of whom were non-riders, to pillion.

Greg proved a most adept mechanic; changing wheels, repairing punctures and confidently starting reluctant bikes. His air of mechanical assurance made all the riders feel confident with him (Figure 7).

Brett Dalzell, Senior Ranger Western District, dropped in to see how we were going, and accompanied the walking groups for a couple of days, as he had last year.

He rode one of the bikes up and down the road a couple of times before declaring that when he came out to visit us next year he would be bringing his bike with him and possibly staying a few days longer.

Brett's assessment last year that camel numbers would soon need to be controlled was this year obvious to all. One water hole (5N4791) was choked with a rotting camel which had been dismembered by dingoes (Figure 8).

Most rock holes were silted, camels having eaten the vegetation around the pavements in the dry times.

With nothing to hold the soil when the rain came (as it had this year) the pavements were covered in mud and camel dung.

This year, too, we saw camels regularly on our rides, sometimes singly and sometimes in groups of about a dozen or so. While we had seen camels on previous trips we had not seen them this frequently.

This year we saw kestrels nesting in many of the holes and fledglings and eggs as well. The season had obviously been a good one as we counted from one to six eggs and up to five young birds.

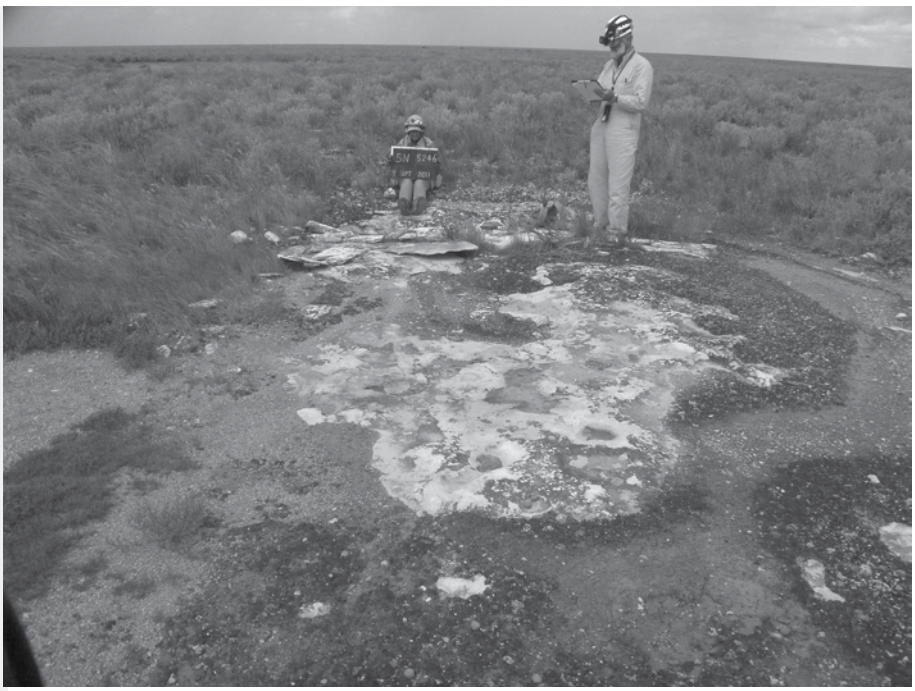
Only at one hole did we come upon a kestrel outside a hole being encouraged to fly (Figure 9).

The numbers are certainly encouraging as we saw evidence of rabbits (food source) and no cats — though we found a carcass in one hole. Should there be a study on kestrels in the Nullarbor our caving reports would be helpful to researchers.

Despite finding and recording many features (Figures 10 and 11 overleaf), only one large cave (5N4793) was found and a map started. This cave, 7 m deep, free climbable

IAN CURTIS

Figure 9 Young kestrel learning to fly



NICHOLAS WHITE

Figure 10 Author documenting cave

NICHOLAS WHITE

Figure 11 Entrance pavement for 5N4793

and with a large hole in the roof, had many dingo skulls and piles of small bones within.

More than 200 m of passage were surveyed by the survey party. A possible second long cave, to the south, was only partially explored.

No evidence of indigenous habitation was noted. Although flints were seen around all the rock holes (and there were several found this year), no hand paintings were found in any of the caves, unlike last year.

IAN CURTIS

Figure 12 Koonalda

Our last evening, Sunday, was spent down south at the Koonalda Homestead, where we had moved for our final night after the others had departed, just in case it rained and we were unable to leave (Figure 12).

A pleasant evening was spent there in front of the fire on a cold night.

Retracing our steps to the Eyre Highway, a careful search for the lost glasses was unsuccessful. Four nights later we were back home.

The decision to take the Mazda BT50 rather than the Toyota Land Cruiser proved wise.

We had no flat tyres (possibly 10 last year) and averaged 10.04 litres per 100 km for the trip.

On previous trips we had averaged between 16 and 18 litres per 100 km. The solar panel and the second battery to charge the fridge were great successes; the 240 V/12 V inverter which blew fuses less so.

PARTICIPANTS

VSA

Nicholas White, Susan White, Greg Leeder, Ken Boland, Christine Dempsey, Daryl Carr, Margaret James

OSS

Denis Marsh, Ian Curtis

CEGSA

George MacLucas, June MacLucas

CSS/HCG

Cathy Brown

NC

Henry Shannon

Senior Ranger Western District

Brett Dalzell

Hungarian Cave Exam Part 3

Sue White
VSA

The Hungarian Caving Exam finishes with this issue. The first section dealt with caving techniques and last issue looked at safety techniques. Our final section deals with scientific knowledge. If Hungarian geography is too arcane, try substituting Australian.

Enjoy the quaint English. Remember that the questions in Italics are for advanced students.

X. SCIENTIFIC KNOWLEDGE

Biology of caves

1. Describe the flora of caves. What groups do you know?
2. What is lamp-flora? What causes it?
3. How can we group the animals of caves?
4. Describe trogloxene animals. Give examples.
5. Describe troglophil animals. Give examples.
6. What are the characteristics of troglobiont animals? Give examples.

XI. SCIENTIFIC KNOWLEDGE

Climate of caves

1. What sections can a cave be divided into from a climatic viewpoint?
2. How long is the entrance section? What are its characteristics?
3. What is the cold point?
4. What are the characteristics of the cave section?
5. What is the turmoil section? What are its characteristics?
6. What elements of climate do you know of?
7. What is the basic determiner of the cave's air? What other factors can be determiners?
8. What is the usual temperature of caves in Hungary?
9. What causes draught in caves? What determines its direction and intensity?
10. Why is there stronger draught in caves of larger airspace?
11. *What is the sack effect?*
12. Describe the winter and summer airflow of caves.
13. *How are ice caves formed and how do they work?*

XII. SCIENTIFIC KNOWLEDGE

Cave protection

1. Compare lights from the viewpoints of environmental protection and cave protection.
2. What do you have to pay attention to when eating in caves?
3. *What do you have to pay attention to on a bivouac trip?*
4. Why are winter time visits to those caves in which bats sleep limited?
5. Why is it critical for bats if they are awakened?
6. How many awakenings can a bat survive during wintertime?
7. *What do you have to pay attention to when locking caves?*
8. *What damage does the cave's light pollution cause?*
9. What does the law of environmental protection say about cave protection?

XIII. SCIENTIFIC KNOWLEDGE

Mapping caves

1. What is azimuth?
2. What is declination?
3. Which tunnel width appears on the map of a cave?
4. What is the polygon? What data characterise certain sections of polygons?
5. What is the map of a cave?
6. What is the length-profile and what is the cross-profile?
7. What is the difference between a layout and a projected length-profile?
8. Where is it practical to take the cross-profile?
9. How do maps mark the different levels of tunnels?
10. What data do we have to indicate on maps of caves?
11. What is the length and what is the depth of caves?

XIV. SCIENTIFIC KNOWLEDGE

Cave geology

1. Group rocks according to how they were created.
2. Group sedimentary rocks. Give examples.
3. Group magmatic rocks. Give examples.
4. How do metamorphic rocks come into being? Give examples.
5. Describe how mountains are formed.
6. *What is the geometric gradient? What causes it?*
7. What is the definition of rock?
8. What is the definition of cave?
9. List karstic and non-karstic rocks.
10. Describe the types of syngenetic cave formation.
11. Describe the types of postgenetic cave formation.
12. What is the function of mixture corrosion? What role does it play in cave formation?
13. Why is limestone the most suitable rock for cave formation?
14. What role does tectonic performance play in the formation of caves?
15. What are the effective factors of limestone dissolution?
16. What is a sinkhole? Where do we find them?
17. Describe erosional cave formation.
18. Describe corrosional cave formation.
19. How do levels of caves get formed?
20. *What marks vertical caves? How do they get formed?*
21. Draw and name the main units and types of karst.
22. What is the definition of erosion base?
23. *Describe deep karst.*
24. *Describe shallow karst.*
25. *How does a karst spring gaining water from a deep or a shallow karst react to the rain falling on the surface?*
26. *What flowing factors determine shallow and deep karst?*
27. What is the typical cavity-forming effect on the deep and the shallow karst and on the border of the two?
28. What is the border of the shallow and the deep karst?
29. How do a sinkhole, a doline and a collapse get formed?
30. What is a clint? How does it get formed? What are its types?
31. What is a polje? What are its characteristics?
32. To what effect does lime separate from karst water?

33. Why do travertine dikes get formed by karst springs and why by waterfalls?
34. Group deposits in caves.
35. What are stalagmites, stalactites and stalagnates?
36. Describe the process of dripstone-formation.
37. List the main types of dripstone.
38. What are a sifon, a helictite, and a meander?

XV. SCIENTIFIC KNOWLEDGE

Cave geography of Hungary

1. Mark the main karst territories of Hungary on the map.
2. List the three deepest and the three longest caves of Hungary. *
3. List show caves open for the public in Hungary. *
4. *List caves in Hungary which have bat colonies in winter.* *
5. List caves in Hungary in which archaeological finds have been found. *
6. Write examples for caves which have many levels, for shafts and sinkholes. *
7. Write examples for crystal-caves, stream caves and thermal-originated caves. *
8. *Name caves, the forming rock of which is not limestone.* *

(* Mark at each cave on which karst territory it is.)

Answers to Hungarian Cave Exam Part 2

Sue White
VSA

AS PREVIOUSLY STATED in the article on pages 13 and 14 of *Caves Australia* 189, the answers to this quiz/exam are not easy to give in an Australian context.

Some of our systems are different, so the answers are therefore given in a general sense, rather than as specific answers to specific questions.

If you feel some of the answers here need further elucidation please let the editor know and *Caves Australia* can publish updated information in later editions or in *ESpeleo*.

Some of this information will vary according to particular trips and particular areas of Australia. Nevertheless, it is useful to see the European perspective.

VI. KNOWLEDGE OF SAFETY TECHNIQUES

Safety techniques

This section is mainly questions about vertical caving techniques. Again, rather than just summarising existing information, we refer you to the latest edition of Al Warild's book *Vertical* for a good summary of practices used in Australia. Other books may also have similar information. The ASF Safety Code, too, has some of the standard practices in Australia.

Most of these questions are important if you are caving in vertical caves where understanding belaying, the differences between static and dynamic ropes and types of ascenders and descenders can mean the difference between a safe and exciting trip and a dangerous one.

Belaying should be used on climbing pitches and where a ladder is used.

A safety line should be rigged where required (depending on the experience of the party) or when requested by a party member.

There should only be one person climbing at any given time. Details of different types of belays are discussed in *Vertical.*

If the abseil is long, self-belaying is a good idea. Should it be necessary to stop and untangle/adjust the rope, or just have a breather, there may be ledges to perch on and do so.

On the other hand, self-belaying may be less appropriate if the abseil is short; particularly if it is into water or down a heavy waterfall, where time can be important.

A combination of rope/device will almost assuredly result in a slow descent anyway.

Ascenders are mechanical devices used for climbing a rope and use mechanical means to grab rope in one direction while allowing free passage in the other. There are a number of brands e.g. Jumar, Petzl, CMI.

Descenders come in all shapes and sizes. Types include a number of Petzl devices, rappel racks, figure-of-8 devices, the stop descender and the old whaletail (which some Australians still use).

All of these devices have advantages and disadvantages and the specifics of each need to be understood.

The two methods of controlling the rope when holding a fall are the static belay and the dynamic belay.

The static belay does not allow the rope to run. It is used when a climber falls from a position below the belayer.

Belayers must prevent any slack between themselves and the climber if the static belay is to be effective. The energy produced by the fall is absorbed by the rope.

This results in high impact forces, even in short falls.

The dynamic belay allows the rope to run if a fall occurs. It is used to keep the force of a severe fall within acceptable limits on the climber, belayer, climbing rope and belay chain. Dynamic belays should be used whenever a climber is in danger of falling from a position other than directly below the belayer, such as when traversing, when located above the belayer, or when belaying through pitons.

The difference between static and dynamic ropes is explained in a number of books such as *Vertical.*

I found a very useful article, 'Physics for Cavers' (L*ite Physics, 99% Maths Free)* by William Storage & John Ganter on the web at theeyegame.com/speleo/Pubs/rlenergy/Default.htm This covered the issues of static and dynamic ropes, fall factors and the physics of ropes and belaying. I found it great as its target readers are the general reading public.

VII. KNOWLEDGE OF SAFETY TECHNIQUES

Sources of danger and resources in caves

Some of the language in this section is not what is generally used in Australia.

An **objective** danger is a risk, such as an avalanche, flood or storm, over which a person has little or no control, and which is not merely a figment of his or her imagination.

Such a danger would include weather-related dangers e.g. flooding or excessive heat. (Note that these are not climate but weather-related dangers. Climate is the average weather over a MINIMUM of 30 years, preferably longer.)

A **subjective** danger is an avoidable and manageable danger that is potentially under the control of a caver (e.g. by the correct use and choice of equipment). The role of chance is lower in an avoidable situation. Human error is not due to chance.

In some situations, visiting caves at night may be more dangerous than during the daytime. This is more to do with travelling

on the surface to and from the cave rather than the caving itself.

Resources can be grouped as information related, equipment, human, time and locational. These questions are more related to the theory of outdoor recreation.

VIII. KNOWLEDGE OF SAFETY TECHNIQUES

Accidents in caves, rescue

Cave accidents and rescues in Australia have typically been managed by the party (partner rescue) involved unless the rescue is too complex.

Cave rescues (and all outdoor rescue operations) in Australia are usually under the direction of the police, a state based government organisation.

Some states, e.g. NSW, have a specialist cave rescue organisation (NSW Cave Rescue Squad) but they are still "called out" by the police. ASF has a Cave Rescue Commission and this has run some cave rescue practice activities. If a rescue is needed, you should call the police (000).

IX. KNOWLEDGE OF SAFETY TECHNIQUES

First aid

Most of this section can be checked in an up to date first aid manual. Interestingly for Australians, there is nothing on snake or spider bites.

Perhaps this is something we are more aware of, especially if we are walking through bush or long grass.

There is a question on hypothermia, when the body temperature drops below the temperature for normal metabolism and body functions (35°C) but nothing on hyperthermia or heatstroke.

Heatstroke is an acute condition caused by prolonged exposure to excessive heat or heat and humidity. The heat-regulating mechanisms of the body eventually become overwhelmed and unable to effectively deal with the heat, causing the body temperature to climb uncontrollably.

Similarly, there is no question on dehydration, something that here we need to be very aware of.

In this section it is the omissions that are relevant to Australian conditions that are important.

Electronic Journal Exchange

Alan Jackson
STC

THE 21st century has arrived and most of us are happy to acknowledge the fact, although some were dragged in, kicking and screaming.

Most of us have ditched our 56 k modems and have signed our lives away for high speed and high data allowance internet connections.

Things might get even faster if the Gillard government can get its act together and deliver the NBN rollout before Tony Abbott scraps the idea and re-introduces carrier pigeons, but this is not a political piece.

The last ten or so years have seen a shift in the way ASF-member clubs exchange their respective journals and publications.

When I first joined STC in 2001 the only way to receive the club's journal, *Speleo Spiel,* was a hard copy posted to your letterbox.

Within a few years an electronic option was introduced (with the benefit of reduced membership fees) and it has become progressively more popular to do away with the hard copy, with only the Luddites and the infirm continuing to insist on receiving a hard copy.

The next step seemed obvious to me once I took over editorship of the *Spiel,* which was to reduce the number of hard copy exchanges in which STC engaged with other ASF clubs around the nation and to various libraries.

The latter proved to be fruitful, with the State Library of Tasmania and the IUS library both happy to accept electronic lodgments (no more expensive postage to Switzerland!) — only the National Library of Australia is unable to accept electronic submissions (but they're working on getting legislation through the federal parliament). Most ASF clubs around the country have come on board in the last couple of months, too.

Different clubs have different attitudes to distribution of their electronic journals. For some, anything to do with the internet seems to conjure images of pirates and evildoers licking their lips at the opportunity to rifle through online journals so they can locate caves and vandalise them, but the electronic journal deniers are slowly coming around.

OK, if the journals contained GPS coordinates of cave entrances then we might have some problems, but I don't think anyone is silly enough to publish these things.

The majority of ASF clubs now have some form of electronic journal distribution.

Some, like STC, post their journals on a website for all and sundry to download, using some form of email notification system to advise members and other interested parties when a new issue is available.

Others post on a website but restrict access to members and other password-holders or simply have a select email group they email each new issue to (members and other approved cavers can ask to be on that list).

I think we should have some centralized system for notifying all ASF members when a new edition of a club journal is published so we can all keep abreast of what the other clubs are doing.

This should lead to more inter-club interest, activity and relationships, which has to be beneficial in the long run for Australian speleology.

We have a national membership database which can be used to send out emails to all members. Why not have club editors notify ASF when a new issue is published so the news can be spread throughout the membership and all interested individuals can be directed to the download site?

I'll leave it to the ASF powers that be to devise the system and in the meantime I'll continue to enjoy the systems I have in place with VLCT, SUSS, VSA, SSS, NC, HCG, CSS and CEGSA.

CATHIE PLOWMAN

Vale Stephen Blanden

14 July 1957–1 July 2012

Cathie Plowman
Northern Caverneers

AUSTRALIAN SPELEOLOGY has lost a great friend and caver with the death of Stephen Blanden.

A member of the Northern Caverneers for the past 10 years, Stephen was a dedicated caver, particularly in exploration, and meticulous in his documentation with numbering, surveying, mapping, photography and trip reports.

Over the past 10 years he has carefully 'combed over' the Mole Creek karst, looking for new caves and re-finding and documenting caves that had been named and numbered in the past. To date there are 451 numbered cave entrances in the Mole Creek karst and Stephen numbered 212 of these. He never 'put off' writing up a trip report. If he didn't complete it on the evening of a trip, he got up at 4:00 a.m. the following morning to write it up. A standard set for the rest of us.

Away from Mole Creek, Stephen had a long membership of the Savage River Caving Club and spent considerable time with members of that club in the Mt Cripps karst. He also explored and documented the karst at Gunns Plains, Loongana, Moina, Wilmot River and the Vale of Belvoir. He published a summary of the Gunns Plains karst in a book that featured his photo of crystal flowers in Emperors Cave (GP-60). This photo earned him the people's choice award in the photography competition at ASF conference at Dover in 2005. At this conference he was also awarded a Certificate of Merit which cited his significant and lasting contributions to the advancement of Australian speleology and for his enthusiasm and tireless efforts in the discovery, surveying and documentation of caves and karst in northern Tasmania.

Stephen's home range was Gunns Plains where he had his home and managed one of the main farms. He managed the property as a hop farm and, when the property was sold, he managed for the new owner — pulling out the hopfields that he had previously so carefully tended, and then developing the property into a cattle farm. The Gunns Plains Cave was also a key part of his life. He knew the cave intimately and self-published a pictorial souvenir book for visitors.

Stephen's caving interest also included exploring documented history. He spent hours in the Burnie library looking up old newspaper accounts of visits to Tasmania's caves. In recent years he made good-use of the Trove website. His home abounded in caving magazines and trip reports; the kitchen bench and table were used more for storage of caving journals than food preparation. He meticulously followed through

to link up threads in documentation and written history. Literally no stone was left unturned as Stephen's keen eye looked for historic autographs in caves and then endeavoured to match these with cemetery headstones. Stephen was also a very courteous caver. While there have been some issues with access to private land in the Mole Creek area, Stephen contacted the landowners and property managers and usually was able to access the land he wished to. He also helped people who didn't have his underground experience and skills, gently encouraging them both in their physical skills and their interest in the cave. Stephen was a consistent contributor to the NC newsletter *Troglodyte* with trip reports, photos and expertly drawn maps. However, he always kept in mind the wishes of private landowners and did not publish details if they had requested this.

CATHIE PLOWMAN

Surveying in Sassafras Cave

In recent years Stephen became entranced by the karst at the Vale of Belvoir, near Cradle Mountain, which he explored, researched and documented. He was a keen supporter of the Tasmanian Land Conservancy, which has acquired the Vale to manage for conservation.

Local and interstate cavers were regularly given hospitality at Stephen's Gunns Plains home and he would give extensive assistance to others in planning and undertaking trips in Tasmanian karst areas.

Stephen's active caving was abruptly put on hold when his brain tumour was diagnosed. He fought the cancer and looked forward to recovery, and meanwhile redirected his caving energies into carefully checking the details of the numbered caves at Mole Creek and updating the list previously prepared by Arthur Clarke *(Speleo Spiel* 321). As Stephen wished, this updated list was recently published in the June 2012 issue of *Troglodyte*. ASF members can locate this online via the STC website.

Stephen's friends in Northern Cavern-eers express their appreciation to members of the caving community from around Australia who have supported both Stephen's family and his caving mates with email messages and coming to join us at the time of Stephen's funeral.

Stephen had lengthy memberships of the Australasian Cave and Karst Management Association and the National Speleological Society (USA). He is sadly missed.