CEGSA NEWS

Newsletter of the Cave Exploration Group of South Australia Inc.

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CAVE EXPLORATION GROUP SOUTH AUSTRALIA Inc.

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http://www.users.on.net/smilner/index.html

Meetings held on the fourth Wednesday of each month, except December, at 7.30 PM usually in the Royal Society of South Australia meeting room, Natural Science Building, South Australian Museum.

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Cover Photographs:- (top) Croesus Cave, Mole Creek, Tasmania.

(Bottom) Steve Milner and Amanda Wagener with fossils at 5L412.

Both Photo's by Marie Choi.

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The deadline for copy or background material for Volume 43 Number 4 (Issue 172) must reach the Editor by Wednesday **11th FEB 1999**. Material not meeting this deadline may be retained for possible use in a following issue. The preferred method is on 3.5” IBM floppy disk or via E-MAIL at atholjax@cobweb.com.au as an attachment, in Word or ASCII text format. Of course other forms of communication will still be gratefully accepted.

PRESIDENTS SPOT

On the 1st of November in Bonython Park, the SA Speleological Council had a caving display at the Life Be In It - Leisure Day in the Park. Members of CEGSA put together the display and offered a 'Come and Try Caving' event at Punyelroo the following weekend. While there were no takers for the caving trip, the general public showed an awful lot of interest in caving and throughout the day there was a continuous stream of people talking to cavers. This turned out to be an excellent public relations exercise. I'd like to express thanks to my employer (GroPep Pty Ltd) for the loan of the professional display stand and also thanks to Graham Pilkington, Mark Sefton, Marie Choi and Paul Murton (CAVEX) for their assistance on the day.

There has been a fair bit of caving recently, to the Yorke Peninsula, to the Flinders, the Upper and Lower South-East (see the reports elsewhere in this issue) and also to the Nullarbor. The Nullarbor trip was pretty successful from all points of view and plenty of new cave was found; new caves are simply out there for the finding (see the Nullarbor caving report in the next issue of CEGSA News). This was a truly international affair as we had two visitors from overseas; Tom Wigley, a former CEGSA member living in the States and Mike (Trebor) MacDonald from the UK. Like everyone else, they had a great time caving down-under.

Looking to the near future and with the realisation that the months are ticking away like weeks, the CEGSA AGM and Dinner will soon be upon us. Preparations are under way for this social event of the year (see the advertisement elsewhere in this issue). In a similar vein the pre-Christmas social event is to be held at Woodhouse this year (see the ad.). Come along, bring your friends, families, tent and BBQ. Have your kids (if any) drag you around Challenge Hill or go for walks around Mt Lofty, and collapse in the evening and talk about caving and plan some great caving for 1999. Why not come along and give it a try.

George MacLucas has informed me that there has been massive progress in the organisation and cataloguing of the Records and Library and he invites everyone to perhaps come and browse the records. Also George asked me to let everyone know that he will bring in all the latest issues of journals to the general meetings for perusal and for loan.

There have been some minor changes to the Website with the inclusion of the general meeting minutes, membership status and membership forms, thanks to Dave Trehearne for these suggestions. The e-mail addresses of all CEGSA members are now up to date and 35 are now wired! There have been two additions to the links page - a link to FUSS and a link provided by Bart Jansen to the Virtual Cave - check them out.

Lastly, members of the committee are working on a new fund-raiser. The aim is to put all the issues of the CEGSA News and its forerunners onto CD-ROM. The end product would probably be in an html format, include all the images and be fully search-able. If anyone would like to help out or would like to provide some input, please get in touch, we haven't started yet and it's not too late to accommodate new ideas.

Steve Milner.

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TRIP LEADER INDEMNITY

Included with this edition of the CEGSA NEWS is a "Trip Leader Responsibilities and Indemnity Agreement". This form replaces the old "Trip Leader Indemnity Form".
Would any "Full Members" wishing to lead "Club Trips" please complete the form and return it to a committee member prior to their next trip. This form is a once off and does not have to be done for every trip. Please remember that all "club trips have to be under the control of a leader approved by the club.

Frank Hankinson (for the Committee)

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NOTICE OF MOTION

That the fees for Full and Associate membership for 1999 be increased by one Dollar ($1.oo).
This is to be discussed and voted upon at the January General Meeting.
The Committee.

TRIP REPORTS

Tasmania, Christmas 1997/1998

Group : P Harper, M Choi, I&S Charlesworth, B Binks, F Hankinson, J Guede, D Glowacki, J&G MacLucas, C Hales, C Rieley (Northern Caverneers)

We arrived and camped at Mole Creek about 26 / 27 December and after arranging permits for the next few days, decided to go to wet cave. An hour into the cave it became very obvious that large groups are slow and awkward and that it would become necessary to split the group into two for future caving. Those that had not caved in Tasmania before soon became aware of the cold water and air and the beauty of the caves there. It also gave us a chance to check and streamline our gear for the remainder of the trip, which was the reason I had given, to get them in there, as the scheduled caving wasn't due to begin until the next day. We actually visited Wet Cave 3 times during the holiday and further into the report you can read about it and all the other caves we visited.

The Trip Report writing has been shared by all the group to give various opinions and decrease my workload (I'M lazy).

One of my worries on a trip like this is that everyone gets along and no cliques form. When I split the group into two after the first day there was an Immediate "us and them" reaction that continued for the whole trip. Thank goodness it was done in fun. Actually the banter was quite entertaining with both groups striving to out score the other each evening at camp. Socially everyone got along fine.

Thanks to Paul for arranging permits, Marie for SRT equipment and the Charlesworth's and MacLucas's for making their vehicles available for bodies and gear, and Chris Riley and Iggy for guiding us through Kubla.

Chris Hales

Kubla Khan Cave, 27.12.97

Rob (guide), Bill, Marie (leader), David, Ian and Julius entered the cave at the top entrance at about 12:30pm. The first pitch, immediately inside the gate was abseiled with a double rope. Julius found that trying to get on the rope whilst still in the squeeze, then abseiling down to the edge was very difficult. Fortunately, as this was already slowing us up, Rob told Bill and Ian to go through the squeeze and start free climbing down the pitch before attaching to the rope.

So after about 30 mins, all six cavers were safely at the bottom of the first pitch. It was already obvious to me, from the size of and decoration in this first chamber, that Kubla Khan was going to be very spectacular compared to other caves.

After pulling the ropes down behind us, we looped it round a sturdy stalagmite and began abseiling down the second pitch, just below the first. It was amazing that the formations, such as stalagmite anchors and the flowstone we were walking over could be used this way. Then again, virtually every visible surface was covered in formation, so it was impossible to avoid.

The third pitch began where the second one finished. This was longer and felt much more exposed than the others, as a huge chamber loomed to the right hand wall. We descended into a small chamber through an opening in the floor of the large chamber. Here, in the waiting room we removed our harnesses and packed them in our bags to carry further into the cave. After washing our boots in the tub of water provided. We moved into the next chamber, where a tricky traverse across a steeply sloping flowstone wall was negotiated. The lower section of the chamber had some impressive aragonite formations, and we spent several minutes here taking photos. Julius and Dave took photos with help from Bill, while the others waited above.

We moved on into further chambers where the size of the decoration seemed to match the scale of the chambers - Huge. A series of strategically placed boot scrubbing baths helped reduce transfer of mud from the well-trodden path into well-decorated areas. In one section, a ½ metre wide track defined by rope on either side, skirted around a massive glistening white flowstone formation. More photos were taken here.

We moved on into the Forbidden City, a large roomy chamber dominated by numerous totem pole like columns and stalagmites. We climbed up through the formations to a central ridge and another footbath. Ian and Rob waited while the others climbed down into a lower section called the Silk Shop to gape at and photograph the exquisite bacon like curtains. An area of rim pools and flowstone next to the silk shop was 'out of bounds' completely, even without boots on. It was good to see that while we were getting used to walking over decoration and using it for climbing holds, some areas were totally protected and were obviously pristine. While Marie, Dave and Julius pondered their photographic strategies, Bill had climbed back up to the Forbidden City and the call came out to 'hurry up'. We climbed out of the Forbidden City over a tricky sloping flowstone face which required a tape belay (except for Bill and Rob who were able to make 'the move' and free climb it.

A Sloping rock surrounded by more aragonite flowers led into an open rock filled passage. The slope then dropped off into a massive chamber that swallowed up our collective light. Two huge formations, the Khan

and the Begum, loomed in front of us. Julius and Dave tried to take photos, but much more time would be required to photograph this chamber properly.

We climbed down into the chamber then turned to the right and out of it, via Sally's Folly, a deep crevasse in the floor. This led to some smaller passage, the walls covered with formation and several floor pool edges, Julius fell into the water.

After climbing up from these pools we emerged at the head of the 4th pitch. An open, flowstone floor sloped off into what initially seemed like a bottomless pit. We could now hear the rumble of the river far below us. We abseiled into the void, trying to stay close to the right hand wall, as this was the shortest route down. The problem was that the rope wanted to swing out to the left. Ian succumbed to this and slipped 4 metres to the left on the way down, but was ok. Pulling the rope down proved to be another obstacle. The rope had twisted at the top, and Rob had to eventually prussic back to the top to free it.

Rope recovered, and all safely at the bottom, we made our way to the last major feature - The Pleasure Dome. This spectacular chamber covered with huge rimstone pools and waves of flowstone was another boots off zone. (no outer suit) After a final photo session, we returned to the stream below and continued up stream towards the way out. Our final obstacle was a water filled passage surrounded by dripping formation. Ian, Dave and Rob traversed the pools along the precarious stalagmite shuffle above the stream, while Bill, Julius and Marie decided to brave the icy water and swim below. The two groups rejoined at a small waterfall and climbed up the steep slope to the gate at the base of the huge lower entrance chamber. A long staircase running up to the base of the final prussik out, getting colder as the light above faded. Finally, the last person, Bill emerged from the hole and we staggered down the hill to the cars, after approximately 10 hours underground, and what felt like a journey to the centre of the earth and back.

Bill Binks.

Croesus Cave

Monday 29.12.97 Duration 6hours (except Paul Harper - 41/2 hours)

A party of 6 consisting of Chris Hales (geriatric leader), Paul Harper (his wife), Suzanne Charlesworth, June MacLucas, George MacLucas and Frank Hankinson (I know - speleo spice)

Well almost 6 entered at 10:30am to explore the depths of this apparently magnificent stream passage. Unfortunately our leaders helper had forgotten to give the 'A' team a certain key, so promising to catch up soon he dashed off in pursuit of the 'A' team leaving team sloth to penetrate the unknown depths.

Upon entering, the 5 remaining members closed the gate but didn't lock it as their missing key runner was sure to be back soon. Frank and Suzanne went slightly ahead of the rest of the team. After a slow casual stroll for 1½ hours expecting Mr Harper to catch up, a frozen team had turned purple. Upon discussing the absence of P H and after deciding he must have run out of fuel felt suitably sorry for him and was about to depart for places unknown when a great splashing and wallowing announced the arrival of P H. In depth questioning ascertained that it had taken him 1½ hours to make a spear and open an open lock.

After expressing our commiserations we continued our journey up a rather wet and extremely well decorated passage to a small boat. After all the party had a short but enjoyable boat ride (two at a time) one member of the party was persuaded to do a balancing act with a flash. Suzanne and George decided to take a break while the rest of the party pushed on to try to locate the far entrance of the cave. An attempt that was aborted within metres of success due to our heroic leader being left in the dark (they were new batteries - trust me). So we returned to the others and exited. In short it is a very easy to traverse and very beautiful cave, well worth a visit.

Frank.

Genghis Khan

The 'A' Team plus Riley

We had a slightly later start to this trip, as it is one of the easiest caves in the area. The group consisted of Ian C, Bill B, Julius G, Dave G, and myself. (Bok Choi) and Chris Riley of the Northern Caverneers

Genghis Khan is not far from Kubla Khan and requires a 15 minute walk up a steep slope (oh my aching knees). Entrance into the cave can be made by using a hand line (15 metres) down a rocky slope. If you keep to the right, it's a rather simple act. Dave and Julius went slightly left which requires a little hanging around.

This is not an extensive cave but has some excellent aragonite. Unfortunately the most photographed piece is no longer there (Riley refers to it as the 'Khan's ball')

After viewing the aragonite and taking pickies the next area we went to involved a climb down near some 2-3 metre long straws. This area contains a rather pretty white stalactite and golden flowstone. You

have to be careful where you place your camera gear as I recall someone spending 45 mins reclaiming their lens cap from a floor crack.

We spent some time photographing the area and Davey bear posed for some pictures. We tried to find a small area of red flowstone but couldn't. Riley believed it might be buried under a pile of boulders. The area was hit by an earthquake around August. We took a look at the large stalagmite formation in the main chamber as we exited after a 2 - 3hour trip and went back to the cave hut for a well-deserved cappuccino - What a life.

Marie Bok Choi.

Wet Cave 31.12.97

Party = all minus George, June and Marie

We wanted to visit the upper chambers to show the newbees the decoration. We went to the end of the river, found our way through the rock pile and into lower Georgies. We then went down to the stream and to the flowstone climb up to Eldorado 2. Julius and David stayed in Eldorado 2 with Chucky and Suzanne to take photos while Paul, Chris, Speleo Spice and Bill found an easy way down to the river while looking for the way on past the second sump. We then left via Eldorado 1, Roothall, Upper Georgies and the rock pile.

When we reached the river we followed it upstream for 10 mins via deep pools and found a chamber which we had not been to before…… we will return.

Paul.

Lynns Cave

Party : Dave, Julius, Marie, Bill, Jan, Paul

We started off with a drive from Mole Creek about 15 km and arrived at a car park near the bridge at Mersey River. Next we walked down the river for about 1 km to the entrance to the cave. The cave has an active out flow through a small hole, but we took a side entrance. The first obstacle we encountered was a small water fall 2 metres high, after we scrambled up some more. Soon the passage opened up into some larger chambers. Some of the chambers contained large formations of pure white. About in the middle of the cave there is a rock pile, which involves squeezing through water filled squeezes and generally getting very muddy.

The cave once again opened up into roomy chambers with some of the best decoration in this part of the cave. Massive flowstone and huge straws. The cave slowly starts to get smaller again. Marie left the group to take some photos of the time tree.

The rest of us went on for another 50 metres or so, to a small passage with some excellent decoration. This was the end of this cave apart from the sump, so we headed out. After we came out we all had a swim in the river before the long walk back.

Highlights:- Us thinking Marie was going to the toilet and taking a long time (but was actually taking photos), Paul wanting to dive the sump, Me freezing, and the rock pile

Dave.

Westmorland Cave, The rest day trip by George and June.

Guide to cave : our leader – Chris.

Reason for trip:- June to check out for possibility of art work for her future art show at Burne Gallery.

The cave had an entrance of stoop down an incline of 10 to 15 metres to a 'T' junction where the creek running down cave is supplied by a waterfall.

The whole structure of walls and rocks in the creek line was of black rock, either granite or 'black limestone'.

Overall concept:- A wonderful spiritual feely cave.

The reasons to this feely is in my thoughts

- The 15min walk thru rain forest to the cave puts one in a meditative awe.
- Over the top of the entrance is 3 large fallen trees of 1 ½ metres which seems to act as sentinels
- The black concept of cave with 2 waterfalls are very soothing

The outcome of the trip:- After two hours of photography, three shots by time exposure, June decided that this cave needed either a charcoal drawing or a etching print to capture its mystique.

After the visit to the cave we continued on to Westmorland Falls, a further walk of ¾ hour.

George MacLucas.

Cyclops Cave

All members except Ian and Suzanne

The cave:- A small dry creek cave just above the existing outside creek. A 4-metre dirt slope entrance to the cave. Near the entrance was the traditional guard .. a Tasmanian as big as your hand spider.

Observation:- This cave with mats laid for the crawl up , and at the entrance a permanent rope with knots for assistance is possibly used by a private guide for patrons or by a farmer and his family.

The trip:- All members enjoyed the easy walk in after the last crawley cave (Sassafras).

- Rat holes investigated by Dave, Julius and Bill
- Frank had a bit of dirt dig to where we all had been
- time spent in cave about 30 mins

The Memorable event:- On the way back from the cave… Intrepid hunters Dave, Julius, Paul, Frank and Bill sighted a trout in the stream. They shifted rocks, blocked off small areas and with bare hands caught two fish.

June photographed the fish back at the car, Paul cooked the fish wrapped in alfoil. George concurred the fish was ready, Paul cut it up into pieces so all members had a taste

George MacLucas.

My Cave Sunday 4.1.98

After leaving Baldocks Show Cave Chris Hales led a party consisting of Suzanne, Frank, George and June to My Cave.

Paul's group had tried to find this cave earlier in the day without success. Chris found it through thick scrub without too much difficulty. A 10 metre rig was set up at the opening and all entered what proved to be a very nice cave. We followed a shallow stream that varied in depth from ankle to thigh deep throughout the cave along narrow passageways and squeezes and small chambers. This is a very photographic cave with quite a lot of decoration, which meant we stayed in there quite awhile.

On leaving the cave we found the other parties bags. They had eventually located the cave and made a very quick trip through without cameras. A pity, a pretty cave. We left them here and made our way out of the bush only to find we had to retrace our steps as we were temporarily lost but not for long. Don't miss this cave - its a must.

June MacLucas.

Marakoopa Show Cave and beyond

Party consisted of Marie, Dave, Bill, Super Marios brother and Ian

After abseiling from public platform viewing area to the river below, we climbed up a rocky slope, past the water tank which supplies water for the 'natural' show cave rim pools and toilets and tried to understand verbal directions given to us. After giving them the big A, Dave found a lead that led under a wall into a huge chamber. We followed the RHS wall finding track markers, which led to the 'fireplace' and a photo session. We went up a climb to very pretty formations, helictites and aragonite crystals, to a low passage and a lovely small chamber with high resonance qualities.

On the way back, we did several long passage shots with 3 slaves. We exited after 3 ½ hours, about 1 ½ hours trying to follow resonance directions to the first track markers. We climbed out after a good caving evening, arriving back at camp about 11:45pm.

Conclusion:- Very pretty, lots of leads, one of the best so far.

Ian Charlesworth.

Sassafras Cave

Complete party of eleven made our way to Sassafras.

We entered from the main entrance and stoop walked (except for short people) along a chamber which varied from 20 to 30 ft wide. We came across some very large spiders approx 3 inches, one with a huge egg sac. We stayed a while there taking photographs and then proceeded and came to a Y junction trying to proceed to the glow worm display but they heard us coming. We proceeded down a very muddy smelly sump,

continued onto the second sump that we couldn't get through, turned around and came back to the Y junction where the party split in two. George, June, Chris and Suzanne went out through the main entrance and because there were only four instead of eleven people we saw all the glow worms which were not alight when we went in.

Dave found a shortcut out of a squeeze and that party took only 3 minutes to get to the surface.

Suzanne Charlesworth.

Baldocks Cave

Present ; George, June, Frank, Suzanne and Ian.

Baldocks is an old show cave with much of the old lighting system still in place, but in poor condition. It was quite muddy, the decoration would have been good in its day, but much is now broken and degraded. There are pockets of regenerating straws. We followed the tourist path, June took several photos and we left by the second exit.

An interesting cave for its past history, apparently closed because Marakoopa and King Solomons cave were opened as show caves.

Ian Charlesworth.

Prohibition Cave . Wed 7.1.98

Our enthusiastic guide, Northern Caverneer Dave(??) arrived at the camp site and inspired us into action with a description of this "Classic Tasmanian cave". An adventurous band of cavers; Marie, Julius, Bill, Ian, June and George, Paul and Dave set off for the cave, located in dense rainforest in the hills above My Cave.

The cave has two distinct sections, each entered through separate holes at the base of the doline (with a stream running into it, surprise! surprise !) We entered the first section, climbing down a rock pile into a rift passage. The passage 1 - 2 metres wide and very high gradually descended into the hill. This part of the cave was dry and dusty and reminded us "mainlanders" of caves back home. We reached the first of two small (5 metre) pitches and rigged a ladder from a conveniently, yet precariously, poised chock stone. The passage continued dead straight and descending to the second drop, then eventually to a large deep pool that blocked the passage. We pondered the sump, wondering how deep the pool was (> 8metres ?). After advice from Dave that the cave essentially stopped here (at least above the water), we returned to the entrance. As Bill climbed out of the rockpile, Ian below, decided to head butt a loose rock that was accidentally dislodged from above.

After lunching in the leech-infested doline, we re entered the cave through the other entrance, where the stream flowed in. The contrast between this steep, cold and wet passage and the other section, just metres away was remarkable and immediately obvious. The passage dropped almost vertically in serpentine fashion, twisting and turning back on itself. The stream flushed down this sculptured passage continuously, making climbing down exciting. After only about 10 minutes of climbing down, the roar of the stream intensified as we approached the head of a 10-metre waterfall. Dave began to rig the pitch, which would have been simple, except he (thoughtfully) chose to rig it away from the actual waterfall just to the right. He placed two re-directions in the rift above the waterfall so that the rope hung clear of the water.

One by one we attached to the rope at the head of the waterfall, locked off, swung out to the right and abseiled down. The only exception was Marie, who for some unknown reason managed to abseil straight down the guts of the waterfall, getting totally drenched.

After waiting in and around the pool at the bottom, we moved off to see more of he cave. After clambering down over rock filled passage for a short distance, we entered a large rockpile area. Dave said there was a large chamber somewhere on the other side, and we started to look for a way through, avoiding the muddy wet passage at the base. Several in the party at this point began to head back to the waterfall. Suddenly there was a very loud rumble, as several large rocks collapsed near the exit from the rockpile. Ian had become (temporarily) geographically embarrassed, but after a few tense moments, we found the exit hole was still intact and directed the exiting group back to the waterfall.

Abandoning the rockpile and cave beyond, we all then returned to the waterfall and began the wait to prussik out. Predictably, the climb up took much longer than the abseil (8 is a large number in this cave). Eventually, Bill prussiked out last and de-rigged the pitch. After several minutes poised above the pitch, very exposed (and not looking down) Bill climbed safely down to the main passage. Bill, Paul and Dave packed up then climbed out of the cave to meet the others at the surface. Total 6 hours.

Bill Binks.

Kubla Khan, Last day of our trip at Mole creek

Chris Riley (guide), Chris Hales, Paul Harper, Frank Hankinson and June MacLucas.

Kubla Khan is considered to be Australia's best decorated cave, it is easy to see why. It has and extensive system and the enormous calcite formation include Australia's largest stalagmite, the 17 metre high Khan. The cave also has other remarkable features, the Begum, the Forbidden City, the Silk Shop and the Pleasure Dome. All places cavers dream of visiting. (pp 71 'Vertical Caves of Tasmania' Stephen Burton)

The walk to the entrance was reasonably fast, high up on the hill and very hot dressed in our thermals and caving gear ready for the decent into the cave.

We opened the gate and entered the cave around 10:15 am. All went well through the gate squeeze and down the first two abseils. The third was a little more difficult trying to abseil to the left and down into the centre and took a few extra minutes to continue on down.

After removing our harnesses we went down through to the Opium Den to where there was a large bucket of water with brushes to scrub our boots. This caused quite a bit of a hold up, so it was decided as there were several of these stops for clean up within the cave, that we should all help each other to scrub boots to save time. With this done we continued on along a tricky traverse over slippery flowstone that had a horizontal crack running along the middle just long enough for fingers to grab for support.

This was one horror section I had been told about days before and it was now behind us. The mind can play tricks on you when told of other people's experiences, we were happy to leave this section and be on our way.

We moved on into Forbidden City, it was huge with tall columns standing like support pillars in a huge cathedral. It was hard to gauge the scale of this area from little head lights that hardly penetrate the blackness and vastness of this chamber.

Once again after washing our boots in the communal bucket provided we continued on up through the formation and along a central ridge past the Khan's army, a row of stalagmites standing like sentries along a wall of a city. Here we stepped down into a smaller chamber into the Silk Shop. This chamber was full of beautiful shawls that hugged the walls like wind blown curtains or flags. Here we all took photos as we were told of the nearly hidden areas with pristine formations and decorations that only a few have had the privilege of seeing. After leaving the Forbidden City and the Silk Shop we went up and over tricky formations requiring a tape belay as we climbed up and into another chamber.

This was another huge area and it took some time to take in the fact that before us was two huge formations - The Khan and the Begum. It was impossible to take photographs of such forms as the Khan looms up, up towards the ceiling all 17 metres of him. We decided to all use our slaves to try to photograph this monumental Lord but there was still not enough light or space to take a complete picture of what was before us.

After leaving this area we climbed down into a rock filled chamber looking for Sally's Folly, a deep crevasse in the floor. Chris Riley went one way and Paul Harper went another. After a short time Paul found the entrance and a rope was set up to abseil down through a narrow opening. At this point, Frank decided to free climb down and within minutes was down waiting for the rest of us. One by one we went through until Paul came down on a double rope so we could pull the rope free to take with us. Unfortunately in the derigging of the descent gear the rope became jammed and no amount of pulling, tugging, twisting or whatever could free the rope that was jammed over the opening. At this point Frank was the only one willing, or crazy enough to climb back up and try to free it. He edged his way carefully along the edge by bracing himself either side of the hole and with care and lots of 'flowery' comments from Frank that I cannot repeat, he freed the rope from its snag. After a bit of patting on Franks back with a few ' well done' comments we moved on down through a narrow water filled passage that required manoeuvring along a narrow ledge while pinching tiny pieces of decoration set into slippery flowstone. Here June fell backwards into the water where she was plucked out before she had hardly landed. Unfortunately the camera was stuffed down the legs of her overalls and became water logged and refused to function from then on.

After climbing up from this area we came out to face a 5th pitch of about 25 metres down to the river below. This was an awkward abseil to the right hand side over slippery flowstone. Frank went first and we heard a loud bang as he slipped off the flowstone and sailed straight over to the other side. June went next and did the same thing, the others abseiled in perfect control. After all were safely down we went on to look for the entrance to the Pleasure Dome. This took us quite a while with lots of false starts over a rock pile. Frank tried to climb up to a higher level and fell backwards taking a nasty tumble. Luckily his fall was broken after he landed wedged between two rocks. He appeared to be unhurt so the search continued. Eventually I think Paul found the way on and we all followed. The Pleasure Dome is just that, a large chamber of flowstone and rim poos that travel all the way up to the ceiling. Here we had to remove our outer clothes and shoes. With this done we climbed all the way up to the top. The thought of walking on such decoration felt wrong but here we were basking in its glory. Paul and Frank took quite a few photographs. I always remember being told that some caves are unphotographable because of their size. You have to share the memory of what you see and recall it for your own personal pleasure and this is just such a spot.

We eventually pulled ourselves away, dressed and returned to the stream below as it was time to head out. The passages were becoming deeper with several deep pools. June was set to do her stuff as she had learnt to swim prior to the trip just for this occasion but both Chris Hales and Paul Harper were not taking any

chances and produced a long green rope. June was advised to push off from the edge of the wall with Chris behind her to make sure she did just that, Paul pulled the tape. This was quick, painless and for June anyway, a lot of fun. The trio performed this twice without a hitch. Before leaving the river for higher ground that went up to a gate over a 5-metre flowstone wall. Here a tape was set up. This took a while as it was awkward and we were wet and cold. Here June seemed to run out of puff and needed help to climb the flowstone. Chris Hales pushed and Frank, one leg around a stalagmite and hanging onto the gate reached down and pulled.

By now we could see the daylight high up in the distance as we made our way up the metal staircase to the last major obstacle, the prussik out.

Chris Riley went first, then Paul, then June, all went well at this stage until Chris Riley pulled up his red bag to find it had become caught and he pulled again. The bag came loose cascading down the wall and down the slope over and over, past Frank and Chris Hales both waiting on the ladder below. It was said that the bag kept flashing a pink light on and off as Riley's helmet light was inside his pack. It rolled without stopping until it reached the bottom of the pitch. Chris Hales retrieved it after a tricky climb down the sloppy slope to find the light broken into a thousand pieces. With no more mishaps we were all out, our journey taking 8 hours.

This was a wonderful cave with care and safety the main factor. As we made our way back to camp all were a little high from the experience, so much so, as we drove along the wooded path June spotted a rather large black snake making a hasty retreat out of our way. She yelled 'snake' with that the brakes were applied with some speed, 3 males jumped out of the car leaving the doors wide open and ran, one with bare feet, another with thongs into the bush after the creature. So much for safety, in the 'high ' of the moment all was forgotten. I'm happy to say the snake was a lot smarter and made a quick getaway into the bush,

June MacLucas.

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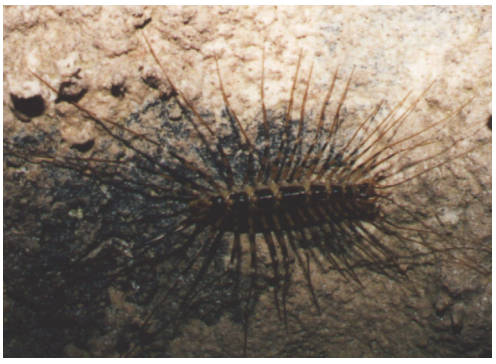
Subterranean S-E Asian Adventures

On a recent all expenses paid trip through a number of South East and North East Asian Countries (courtesy of the RAN !), I had an opportunity to check out some caves in Malaysia and Indonesia. What we saw triggered the imagination and set an itch that will only be soothed by returning with full caving and cave diving equipment, along with ample time and plenty of line on an exploration reel!

Before we left on deployment, I visited a map shop in Perth and checked out the vicinity of each port we were visiting. A couple places looked promising - Kuantan on the east coast of the Malaysian Peninsula (Gua Charas) and Ujung Pandang in South Sulawesi (Bantimurung Cave Reserve), Indonesia. Professor Tomlinson (Tom) was my mentor for the trip - a veteran cave explorer of the Cape Range Caves fame (near Exmouth) and Honorary Professor of Speleology at the University of Subterranean Studies, Pemberton WA.

A 40c bus fare took us 25km from the thriving city of Kuantan to the small town of Panching. As we approached the town we could see our destination jutting out of the surrounding floodplain in the form of a giant karst spire. We got off the bus and followed the sign 'Gua Charas→' (Charas Cave) which directed us to a path leading through an enormous palm plantation. The track wound its way towards the giant rock that rose in an impossibly vertical fashion for at least three hundred metres straight into the air from the surrounding flat floodplain. Quite a sight and something I still find difficult to comprehend - it was about 7km in circumference. Shadows on the vertical limestone faces marked the entrances of caves leading on through the dark interior of the rock. This was where Gua Charas was located - about 100m up the rockface after a climb up a tonne of steps consisting of rusting iron railings and carved rock.



Malaysian Skedigerymorph

We figured, from the description in the Lonely Planet Guide that Gua Charas was simply a recess in the rock with a Buddha carving there - slightly off the mark as it turned out! So, we avoided it and checked out the caves nearby instead and found some fabulous passages - enormously high domed chambers with thousands of bats swirling high up in the roof, wonderful formations and crystalline deposits. Some of the formations were still active and the cave sounded more than alive. The cave fauna was remarkable - we saw Skedigerymorphs (please see photo - too hard to describe!) as identified by Tom which moved as quickly over the rock as the name does over the lips (ie quick!!!). We also saw cave spiders, cave crickets and cave geckoes - Speleo biologist heaven! Wandering between chambers we came across a ledge which dropped into a void - a fifty-metre pitch down into an enormous cavern. Looking down, we could see that there was a path and electric lights down there too - Gua Charas !!

After this realisation, we hastily backtracked and went into the Charas Cave - a series of enormous caverns linked together over a flat, compacted dirt floor. Making our way through, we could see the ledge far above us where we had been minutes before. Scalloped walls gave an indication that this once had a high volume of water flowing through it. Several Buddhist statues, a shrine and the reclining Buddha were the main features, however the cave itself extended several hundred metres with a roof height averaging 30m. Quite

impressive! The rest of this giant rock is obviously riddled with caves like honeycomb, although most of it would be virtually impossible to access due to the sheer sided nature of the rock and sharp edges of the dissolved karst. We left satisfied, but at the same time tantalised by what else we knew must be there. These caves hardly rate a mention in the tourist brochures - apparently the ***real*** *caves are in the mountains and in Mulu National Park, Sarawak Province on the island of Borneo. (Reputedly the world's largest chamber, Mulu Cave is large enough to fit six Saint Pauls Cathedrals or 27 Boeing 747's within it!!)*

Indonesian Cave Spider.

Early morning, the day after arrival in Ujung Pandang, Sulawesi Selatan (South Sulawesi) we took a 700Rp (40c) bus north to Maros and then a bemo to the Leang Leang turnoff. The 'Professor' began to relax as the flat coastal plain ran directly into towering karst mountains - a fine sight for sore speleo eyes!! Walking towards Liang Liang, we saw a sign as we passed through a small village: 'Gua Bettu→'. 'Is Gua, Is Good' we said as we headed across the rice paddies towards the limestone hillside. Some kids opened a gate and acted as our guides for a small fee. The cave was a number of chambers connecting collapsed sinkholes, which began on one side of a hill and came out on the other. We saw cave crickets and the biggest, blackest, hairiest cave spiders you've ever seen. A unique type of cave spider was seen - ones with a set of trap-jaws. These fearsome looking beasts didn't scurry too quickly so I was able to get a couple photos. The sensory antennae of all the troglodytic insects we saw were disproportionately long compared to body length (about 4 or 5 times longer) - obviously very sensitive pressure / vibration sensors.

With our Speleo appetites whetted, we marched onwards to the famous Leang Leang Caves (what do you mean: 'Never heard of it'?) where we saw the 5000 year old hand stencil rock art and beautifully preserved paintings of the Babi Rusa (Pig Deer). There were however, no real caves there, which was a little disappointing so we headed back to the main road and the track to the Bantimurung Cave and Butterfly Reserve.

Passing under the Giant Monkey (exquisite !) we entered the reserve, set amid towering limestone cliffs. A stream with a high volume of water moving through it came over a 50m high waterfall and a tributary poured out of black holes at the base of a cliff. The bemo driver we had chartered advised us - "Nobody find end yet"! Tom and I exchanged a glance - endless caves - indeed!! After our chauffeur agreed to pick us up at ten the following morning, we set off for a quick recon of Bantimurung Reserve.

We followed the track alongside the milky, calcium saturated stream, above the waterfall to its source - another waterfall issuing from the wide, dark mouth of a cave in the side of a hill. A sign next to the waterfall advised against entry and listed recent deaths. Not to be easily deterred, we cautiously proceeded around and over the dry access and came back down into the cave - a large pool of water with extensive calcite rim deposits that you could walk on like a balcony - fascinating. Working our way up the water flow we reached the point where the water flowed into the cave - from a large suspended lake encircled by vertical walls of towering karst!

Sulwesi – Inside Perspective.

Sulwesi Stream Passage.

The lake was about 200m in diameter and we swam to the opposite side. Ducking under a ledge, we came up into a 10m diameter chamber with the green-blue illumination being provided by light scattered through the water - a gorgeous sight indeed. Heading back to the path we checked out a side cave - Gua Batu (Rock Cave). A number of church sized chambers connected to each other made for an interesting, but simple cave with limited decoration.

The ten am pick up allowed us to complete a 2km through traverse of the largest cave in the reserve - and what was the most beautiful. Hopefully, the photo illustrates a small part of it. There were dry rimpools two feet deep in areas and some stunning crystal sections. We emerged fully primed for the Big One.

A prompt ten am start and we headed up the hills. We were disappointed to find that we couldn't access the cave at the time due to the park ranger not being on duty or something. A backup plan was actioned and a stream in a valley behind the local mountain town that ran straight into and through a karst hillside was our offered alternative. Two locals took us into the mountain and along about one km of beautiful stream passage, walking and wading up to our waists before the way forward was blocked by a waterfall which plummeted down in front of us to a pool of crystal clear water some 10m below.

Sulawesi and other karst rich areas have enormous potential for extensive and unique cave systems. We looked at a fragment of the easily accessible areas and it was obvious that there was plenty more, lots of it virtually impossible to access due to the vertical karst terrain. I'm sure that those with a mind and some time (let's face it, money isn't a problem!) could achieve some excellent new discoveries.

Paul Hosie.

About the Author:
Paul Hosie is a keen caver and cave diver who recently joined CEGSA. His prime interest is in, but not limited to, the Nullarbor wet caves. Paul.Hosie.136034@navy.gov.au for an e-chat !

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Mullamullang Wet Dreaming

Karl, Andy and me headed direct to Madura on Friday morning and met Phil Kuhne who introduced us to the understandably wary station manager, Dennis Nash, who sussed us out before giving us clear directions on how to get to the cave. We told him our intentions and assured him that we weren't wallies who were going to spoil his weekend. Last summer's adventure searching the bush for a stray caver who decided to go walkabout is still very fresh and painful in his mind - we were lucky to get on the property. Phil Kuhne of the Eucla Police had to stake one of a pair of a delicate part of his anatomy on our credibility.

Mullumullang Entrance Doline.

Anyhow, that done we headed out to the cave & got there about 2pm. Toasties for lunch and we headed in - we had the packs all ready to go with sleeping gear. The cave drops steeply down to the floor - approx 110m underground and we had a pleasant stroll for the first 1km, apart from a crawl through the Southerly Buster dragging our packs and going through one at a time to avoid dust and debris being blown into our eyes from the person ahead.[1]

At Oasis Valley we hit our first water pool as well as a warm plastic bag left by someone (as yet unnamed). I was volunteered to check it out (the water, not the bag !) because it looked small and pointless !! The gear up consisted of donning a hooded wetsuit vest, belt with pony bottle, torch and reel clipped on, mask & flippers and dive watch/compass for vital info. The small entrance actually opened into a beautiful room approx 18m long & 6m square with a small (70cm2) tunnel leading off from the end. Reeling back to the entrance, I entered the cloudy water created by the stuff that had fallen in as a result of my access disturbance. We got into a good habit of writing notes on what we had seen on exiting the water straight after we had dried off.[2]

The other pools around Oasis Valley were nothing more than puddles in the rock and we next stopped at S Lake where Andy fully checked out the scene - nothing more than gaps between the rocks of the main tunnel. The next pool we happened across was not marked on the map so Karl eagerly leapt in and checked it out - a tunnel proper led back under the cave wall for 30m or so, ending abruptly. Interesting feature, happy with that, though bloody cold!

Near the One Mile Shrine we headed off to find the pool in the North side tunnel near Yippees Point. We found water and some maze type passage but nothing too huge in the way of water, though the tunnels could do with more looking. Next stop was the E squared entrance, we scrabbled down and set up camp on a semi-comfortable sloping rock - just before the passage became a tortuous route through rock collapse. We had dinner then Karl & I set off inwards to find Easter Lake. Well, without fair warning, it took us about an hour to find the way through - which ended up being what could only be described as a Fallopian Tube - probably a walk in the park for boffin dry cavers, but us wetties like some breathing room, if you know what I mean!! Easter lake was cool, clear and inviting, but we returned to camp and bed - gathering our forces for the next morning's push through the Easter Extension with a couple light travelling packs - just enough to achieve the mission which was to check all water bodies in the area.[3]

'Fallopian Tube' (E – Squared)

We had Andy all psyched up for the Tube and he powered through, not even stopping for a look at some of the fine salt decoration and gypsum flowers on the way through! At Easter Lake we decided to push on to Lunch Junction, then Lake Gelato and Crinoid Maze Lower level - if possible in a 3 hour turnaround. We decided to check Easter Lake on the way back with remaining air from the two pony cylinders we carried. Well, we made it to Lunch Junction! Andy got to dive in a lake at the bottom of a floor hole at Lunch Junction that was marked on our map as dry - it had a small chamber extending out under the rock and a small air pocket.

After some worm-like negotiations, we found the Lunch Junction lower level access pools - mostly puddles in rock at the bottom of faultlines, but one had a small 5m long and 2m square chamber with tight access to it. Given the time it had taken to get where we were, and the time it would take to get to Lake Gelato, we reassessed our objectives and decided to dive Easer Lake before checking out of Easter Extension and move on to White Lake instead.

Diving 'S' Lake.

The most beautiful Easter Lake has a pristine submerged passage leading from it to the North for approx 30m then it becomes a vertical crack type passage to the North West, running a further 20m before pinching out. Another vertical crack near the entrance lake ran to the southwest for 15m prior to a restriction that stopped me, but held some promise of continuation.

After drying off and sketching underwater details, we headed back to our night-stand, packed gear and moved it to the main passage before setting further into the cave to our next destination: White Lake, some 2.5km into the cave at the base of a whopping 200ft high rockpile. This is the area where desiccated skeletal remains of two people were found a few years ago - apparently a couple fellows went in some 70 odd years ago - and liked it so much - they stayed! (Please excuse the macabre humour)

We had a decent break at the large lake which we fully dived and explored - not many goers, but we did notice some fascinating calcite formations in the water on top of some submerged rocks - they looked just like bleached coral fingers growing upwards - I'd be keen to know if anyone else knows about these interesting formations.

The gruelling trip out from White Lake took quite some energy, but I don't believe we quite broke the 4 minute mile! Karl took delivery of the aforementioned package and the cave was left how we found it.

In summary, a great trip. A lot learned by each of us about this awesome cave which predicates a trip of broader scale for the future.

Notes:

1. It was disappointing to see so much rubbish left by people in such a magnificent cave. The first impression received of the cave as you approach the bottom of the entrance talus slope is a huge, yellow, metal REDUCE SPEED road sign along with a smaller 'cockroaches next 1km' sign. In addition the main passage was excessively marked by reflectors - the worst case was over a small rockpile, in one place we stood and there were 8 reflectors within 5 square meters - not that they were marking a clear route over, but randomly scattered about - maybe for aesthetic appeal?! Tourist caves on tourist routes aren't that spoilt, let

alone a grand cave in the middle of the Nullarbor! It might be that we are denounced as 'purists', but all three of us certainly found the whole look quite distasteful. I would certainly implore people to consider their motives before taking or leaving such material in any cave. Will follow up these issues with WASG caretakers.

2. Data collected on the size and shape of the underwater passages and corrections to errors found on the '79 detailed maps of Easter Extension are available for use. Please contact the author on Paul.Hosie@navy.gov.au for more info.

3. ASF Guidelines recommend not camping in caves unless absolutely necessary. The sheer effort of logistics and physical energy required to negotiate Mullamullang meant that we made the decision to camp overnight based on personal safety considerations. Day trips in and out of such a cave are achievable with light gear but physical exhaustion must be considered if accidents and subsequent rescue efforts are to be avoided.

Paul Hosie.

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NARACOORTE HAPPENINGS

Nothing from Naracoorte in the last newsletter due to the tardiness of this correspondent. Plenty happening though with the new Wonambi Visitor Centre now set to open in December and plenty of caving going on.

First the visitor centre. A few delays has set back the opening date but we guides have been privy to see the display. The recreated megafauna creatures look brilliant and the landscape is excellent also. Do hope many CEGSA members come and have a look, as it was CEGSA members that started all this 30 years ago.

Would like a few comments from CEGSA members on the idea that is floating around to dig a walking access tunnel in Cathedral Cave to the fossil chamber to enable researchers easier access and simplify the removal of fossil material.

An idea for a caving light some might like. A 12 volt motorbike battery (sealed) with a frame and carry handle made for it. It has a dichroic halogen lamp similar to what we have in the show caves attached to it. To charge it I have leads permanently attached to the battery in my ute and simply remove the globe and plug the battery in. It is charged as you are driving around and is very quick. With a 20 watt globe it gives four hours or more continuous but only a bit over an hour with a 50 watt globe. The 20 watt is very bright still and is great for taking photos.

I have had a hectic couple of months caving with Liz Reed and Matt McDowell in most of my spare time (much to my family's disgust!). The report of the caves we visited is in no particular order.

Sand Funnel (5U72) was visited again to try and locate the source of megafauna fossils removed from the cave in 1976 (that much we know). A rough map suggests they came from the low clay crawls which doesn't make much sense. There is no sign of any more so does anyone out there remember removing them? (Obviously someone older than me!)

We also visited Saddle Cave (5U62) after eventually locating the right cave. I had 'found' a cave with U62 on a nail in the rock sometime before so confidently led Matt and Liz to the cave. I had studied the map and knew the cave was small and tight. Heading off in the 'right' direction I encountered a very tight squeeze. Some time was spent in getting into this to find a tunnel more suited to a rabbit than a human. Another 5 minutes getting out and checked another direction. Having decided the cave must go down the original squeeze, in I went again. Ten more minutes and I had had enough. Backed out again and then decided to check the number on the nail. U102! Brilliant – wrong cave and much egg on face, as we then had to find the 'other' 5U62. Rest of the day was uneventful after that effort.

We checked out some of the unnamed caves on the park, the most notable being 5U49 which is quite fossil rich.

The highlight so far is probably 5U81 & 82 known as possum 1 & 2. My uncle found these by nearly falling in with his bulldozer clearing scrub. Liz and I spent some time examining the cave convinced it must contain fossils. Careful thinking pinpointed the most likely location in a squeeze. Lying in there looking at pebbly rocks when one looked like a tooth. Paydirt! Sthenurus teeth and then a piece of jaw. (S. browni) We took them out to a more comfortable location to photograph. It was decided to tape off the area where the bones came from and take them for identification. Moving back into the squeeze another bone was spotted on the surface. Also removed and site marked. Turns out to be Protemnedon bracus maxilla (giant wallaby). This place is good! Next trip will possibly involve a full scale fossil dig – likely to be February 1999.

Also visited were Echidna and Rabbit caves (5U66 & 67). The less said probably the better but please keep away from taped areas – there is some important fossil material here. The owner also likes to know who is on his place so let him know.

A day was spent in the Monbulla area. On a previous trip (see report Vol43 No3) to the Lucky Bast'd Cave (5L401) a wallaby skull was removed. This turned out to be Macropus greyi (the now extinct Toolache Wallaby) so Liz wished to see where it was from. The aggressive nature of the floor (most abrasive) and still

being inundated by water meant the rest of the animal had disintegrated. The skull just happened to be left high and dry. 5L25 was pretty thoroughly searched giving up lots of modern bones but only one fragment that may be megafaunal. It is definitely possible that fossils exist in the extremities of this cave. 5L23 was a chance to look at pretty decoration and not bones for a change. The cave (5L413) that the Pom mentioned in Vol43 No3 was looked at as a skeleton in there had me wondering just what it was. Turns out to be a very large Quoll, now locally extinct. A very good and productive days caving apart from the fact that the smart bloke that gated 5L401 forgot to take a key to open the gate and had to go home to get the damn thing.

I have been confused by some numbers and names of caves on Crawfords place. A map shows Dead Sheep Cave and Snail Cave (U56) close together. Seems to me to be the same cave. The cave was closed 40 odd years ago and opened by the owner several years ago. Huge amount of sediment and much recent bone material plus much trashed decoration in this cave. This cave proved useful for Liz as the bones show a lot of invertebrate damage very similar to fossils from Victoria Fossil Cave.

A half day was spent fruitlessly searching Cave Park Cave (5U37) for fossils. Cave should be called Wombat Cave because of the number of their skeletons in there. Still inhabited by large numbers of bats over winter but chances of fossil finds seem low.

A day trip was had to Wandillo to finally get some scientific analysis of 5L365. The nature of the entrance meant that no scientist was too keen to tackle it. A full report will no doubt appear in this newsletter but the author must congratulate the cavers who found it – first for their determination to get in and then to leave most of the bone material undisturbed. I have learnt that a lot of the value in a fossil is where it is in the cave and not so much what it is as a specimen in a museum drawer and that makes this cave excellent for research. While Matt was being extricated from 5L365, Liz and I looked at 5L74 despite being told 'nothing in there'. I found a jet black wombat skull wedged in the wall in a low passage in this cave, amazing that it has been left there.

Two days were spent looking in 5U20, 5U42, 5U23 and 5U24. The owners are not keen at letting cavers in and when two of the three are against it we may have been a little lucky to gain access. Some very nice photos were taken in 5U42 and an enlargement produced for the owners so that should help P.R. They have some nice caves that have everything – great decoration, fossils, cave crickets etc. We can only hope for a change of heart.

Looking back after writing this I realise how much caving has been done recently. We found some great fossil material, which had obviously been overlooked before. If you visit any caves in the Naracoorte area be aware of taped off areas of fossils and keep your eyes open. There are plenty more out there and at last we have someone with a scientific background (Matt & Liz) that will get off their butts and not fob off the cavers.

Steven Bourne.

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FLINDERS RANGES

Date: Wednesday 19 August 1998 to Sunday 22 August 1998

Participants: Eddie Rubessa (leader), Ray Gibbons, Chris Gibbons, Bill Binks, Julius Gheude, Leona Myles, Emma Renzius (Sweden), Kristina Nilsson (Sweden), Kerry Ninnes.

Caves Visited: F12, F121, F158, F159,

Caves Located and Allocated Numbers: F160 - F165

Trip Objectives: To collect soil samples for Flinders University. Survey F121. To explore new karst areas.

I was fortunate to be able to introduce two Swedish agriculture students to caving and farming Flinders Ranges style on this trip. They spent a lot of time giggling so I can only presume they enjoyed both experiences and the fact that they were forced to spend four days with the usual caver insanity and poor taste of humour.

Ray, Chris and Leona had arrived a day before the rest of us so they had our base camp well established with shower and toilet already in action (luxury). We spent some time the first morning showing the two girls around an old homestead at Point Well where they got a good look at some history of the area. We drove to F12, Backwater Cave seeing a large albino kangaroo on the way. We got very excited about this as we had never seen one in the wild before but the girls did not see our excitement as they had seen one at Cleland the week before. At Backwater we took five soil samples from different positions in the cave. The western end of the cave was very humid while the sump in the eastern end was damp and live decoration could be seen in a couple of places in the cave.

Next morning we visited F158 where we spent a few hours retrieving 31 buckets of misplaced soil. After some lunch we discussed our next objective, which was to walk onto F159 but Julius with all the

latest in technology (GPS) in hand, misplaced us. I guess we must all apologise to Julius, as we were not sending out our own signals so he could track us, but he did find the cars. Eventually we all arrived at F159 where Julius was severely punished by being made to remove a dead kangaroo from the entrance. Even with this removed it was too smelly to go inside. Ray leading half the group decided to find some easier walking as the terrain was getting pretty rough. The rest of us continued walking further along the limestone hills. We found a new cave F161 Cactus Hill Cave. The entrance of this cave is 5.5m wide and 4.6m wide, the cave has an incline of about 45^{o} for 4.5m and narrows into a solution tube that is 0.45m round for 6m long. Two bats and Sticknest rat midden were found in this cave. With a further search over this hill we found F162, Prickly Pear Cave. I have not got the details of this cave but measurements were taken and can be found in CEGSA records.

On the morning of the 22nd Eddie, Bill, Julius, Leona and myself visited F121, Real Cave to survey it, which is now completed and to take soil samples. While Bill, Leona and Julius were finishing the mapping Eddie and I walked the hills west of this cave while no caves were found the limestone on these hills are very interesting with every second rock we picked up having a fossil exposed on it. The rest of the group spent the day walking low limestone hills near our campsite.

On the morning of our last day we visited some very promising holes that the rest of the group discovered the day before. One discovered by our Swedish visitors is now F160, Viking Cave. This has four holes leading into a dirt choke. We then drove onto an area where we found three small caves, F163, Fountain Spring Cave, F164 and F165.

On the way back to Adelaide we decided to have dinner in Quorn, bad move. The meal was so forgettable I can't remember what the name of the pub was but try to avoid the first one as your coming in from Port A, it may take you hours to get out again.

Kerry Ninnes

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FLINDERS RANGES

Date: October 15, 1998 to October 19, 1998

Participants: Eddie Rubessa (leader), Ray Gibbons, Julius Gheude and Kerry Ninnes

Cave Visited: F105

Trip Objectives: To visit F10 and establish grid coordinates for CEGSA records. To continue work in F105, Boulder Bore Cave. To continue exploration in new karst areas for caves.

When Julius eventually turned up an hour and a half late we picked up Ray and headed for the Flinders. We got as far as Bunyeroo Creek after dodging numerous roos at 1.30 am before we decided we were all too tired to drive any further. Next morning we drove on to Copley for breakfast where Eddie is getting in good with the owner by working on their refrigeration problems and getting free cakes. A sleepy lizard tried to join us for breakfast and was treated to a piece of mud cake, which it seemed to enjoy immensely. We drove out of town a short way to check out a report Ray had received of a cave, but this was not located, but we did get a puncture out of this short trip. We then checked in with the owner of F105, Boulder Bore Cave and set our selves up for the night before continuing with our work in this cave. We spent about three hours removing about 1.5 ton of soil from this cave before it was interrupted at about 5.15 pm by Julius announcing I had a brown snake right behind me. I quickly exited the immediate area. As the snake then tried to join Eddie and Ray down the cave we proceeded to go into overdrive and attempt to distract the snake while these two climbed out. As the snake tried to go down the entrance that is not used as the normal exit, Eddie who was halfway up clambered out. Then with much yelling and jumping up and down we discouraged the snake from dropping down onto Ray and it eventually slithered into a small hole in the easiest accessible entrance. Ray then did an amazing climbing feat and came out the other entrance but left all the tools down the cave. The snake appeared to have gone into hiding so Eddie quickly went down the cave, put the tools in the bucket and came out again.

This whole episode seem to take forever but was probably no longer than three minutes. It was then I noticed an itchy area on my left arm near my elbow and upon examining it I noticed two puncture wounds. It was immediately treated as snakebite with a pressure bandage being applied. We drove back to the homestead where Eddie called the RFDS on the radio (well he pays for it he might as well use it). Of course they told us what we all knew, I had to go to the hospital. After dodging more roos we arrived at Leigh Creek Hospital at about 7.30 pm. After the doctor, two nurses, an ?Orderly, Eddie and I eventually worked out the instructions on how to test for snake bite it was announced I tested positive for Brown

snake bite and would have to stay in hospital for at least 12 hours for observations. Oh joy! It wouldn't have been so bad if I didn't have to have the hourly wake up calls to check if I was still alive.

Luckily I did not show any symptoms and was ready to go next morning at 7am. When the others eventually decided to come and get me at 1030 am, we drove on to our next destination. A local, who now lives at Beltana, gave us a rough location of F10. But after spending the rest of the day and most of the next day scouring the steep hills of the area we gave up, well for now anyway. We spent that night in Brachina Gorge where we were treated in sighting eight Yellow footed rock wallabies and numerous other wild life.

Our last day was spent searching for another reported cave. You guessed it - we didn't find it. As we drove back to Adelaide that afternoon we were amazed at the number of emus we saw in the National Park, I think the count was 74.

Even though the trip was not terribly successful it was definitely not boring and even though we did not find any of the caves we were looking for we now know where not to look.

Kerry Ninnes

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Caving in 5L412.

I am afraid that like some of previous reports of caving in the South-East, my report of the caving trips into the 'Well' (5L412) on the weekend of the 29th and 30th of August 1998 is going to be somewhat brief. The cave actually deserves a decent write-up and will soon be a feature article complete with photos and a survey. So. for the time-being, please accept the following:

- Purpose: Survey. Explore. Locate, photograph and remove fossils.
- Personnel: Fred Aslin (surface), Bill Binks, Marie Choi, Linda Deer, Dave Glowacki, Kevin Mott, Steve Milner, Dave Trehearne, & Amanda Wagner.
- Two trips: 29/8/98 and 30/8/98.

These trips were a follow-up to the trips earlier this year when a preliminary survey was made and a whale vertebrae was removed (see CEGSA News 43(3) 1998). The aim was to complete the survey and to check out all the leads, and also to remove whale bone #2 which was noticed on the previous trip. However, when we got underground, we decided to leave bone #2 where it was, as it would get too damaged if we tried to remove it. Over the weekend good progress was made with the survey and all of the southern section was completed. Unfortunately, not all of the northern section was finished as Amanda Wagner happened to find another whale bone (#3). The surveying team was then distracted by the excited Amanda, then by photographing the bone *in situ* and finally removing it to take to Neville Pledge at the SA Museum. A future trip needs to be scheduled to go back to push into the northern section and the draughting leads and to finish off the survey.

By the way, don't bother asking Marie to guide you to the cave even though she's been there before: it's best to use a mobile phone to get the location and a GPS to get you there, you are sure to save hours of time!

Steve Milner.

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A "pressing" engagement with some seriously good fossils at 5L365, Wandilo.

Trip members: Marie Choi, Simon Kendrick, Dave Glowacki, Steven Bourne, Kevin Mott, Fred Aslin, Matt McDowell and Liz Reed.

I believe CEGSA members discovered this cave in 1997, and found significant bone deposits within, which they drew to the attention of Neville Pledge, Curator of Palaeontology at the SA Museum. Some time ago, following Neville's suggestion, Marie sent some intriguing photos of the site to our lab at Flinders (don't worry Marie I'll find them ….. eventually), which showed bones literally sticking out of the cave walls. Needless to say we were interested, and finally during a recent field work stint, were able to visit the cave on the 15th of August led by Marie, Simon, Dave and Steve. Fred and Kevin met us there and conducted geological, mapping and surveying work on the surface.

I remember approaching the entrance of the cave feeling a combination of apprehension and excitement. My excitement stemmed from the fact that I had been interested in visiting this site for a long

time and was expecting great things. My apprehension came from an increasing awareness of the fact that the cave was a right $#@% to get out of!! Fortunately apprehension has never stopped me where fossils are involved, so down I climbed. After all, being with so many caving gurus I knew that someone would take pity on me and help me out if I was pathetic enough!

Excitement returned in abundance once I entered the cave and had a look around. It's hard to describe the site in a few words, it has a very interesting and complex depositional history, so I'll just outline a few observations and the types of bone material found. The cave consists of a small chamber with a steeply dipping sediment cone containing bone material. Bones are also present against the cave walls on the sediment surface and under a low area at the "bottom" of the cave. There is speleothem and flowstone development near the current entrance and in places flowstone overlays the fossil-bearing sediment and covers individual bones, providing the potential for dating using uranium-thorium techniques. This potential increases the site's importance tremendously as it gives us the opportunity to place the fossil assemblage in time. One very interesting feature is the presence of bones cemented into a thick, layer of calcified sediment consistent throughout the cave. In one spot a wombat pelvis juts straight out of the wall and in another area a kangaroo tibia (approximately 35cm long) is completely encased with only the distal 5cm left visible. Current drip water activity is eroding away some of these bones providing an important opportunity to observe one of the "within-cave" processes which influences bone survivorship in an assemblage.

Previously CEGSA members had dug a small hole in the floor following detection of a breeze, but stopped digging due to encountering bone. The bone material from this hole had been put aside, and from this I identified a fragment of scapula from the marsupial "lion", *Thylacoleo carnifex*. So, we now had megafauna from the site! Further investigation of surface bone material within the cave led to the discovery of post-cranial elements of *Sthenurus* (extinct browsing kangaroo), and extant kangaroos. In a low area at the bottom of the cave Steve found some very robust limb elements in fragmented condition. One of these was a forelimb bone probably from a large, extinct Diprotodontid, most likely *Zygomaturus*. The other elements were fragments of hind limb bones, which from their size and morphology I identified as belonging to one of the very large Sthenurine kangaroos, probably *Procoptodon*. We did not dig for any fossils this trip and only examined bones visible on the surface. Our aim was primarily to assess the palaeontological importance of the site with minimal disturbance, as premature removal of specimens without consideration of context or proper procedure can ruin future chances for research. The site is of such importance that it warrants investigation in a detailed and methodical manner with adequate time given to research it properly.

We stayed in the cave for a few hours photographing, documenting and thrashing out ideas, but unfortunately the time came when we had to leave. So, now to my rather entertaining (not for me) exit…….. Going in was easy, gravity was on my side, but getting out was a completely different story. Gravity seemed to be saying "oh no you don't"! However, with a lot of squeezing and wriggling, frequent rest periods, expert coaching and the discovery of a few joints previously unknown to me, I managed to haul my sorry butt through that hole. Marie, Steve, Simon and Dave ("the human ferret") made it look pretty easy and I've decided it must be a matter of technique, one that I have yet to learn! Marie had some excellent motivational techniques for stubborn, pig-headed birds like me and to her I am eternally grateful, and also to Kevin & Fred for encouragement and Dave for shouting "go girl!" which for some bizarre reason seemed to help (sad but true). Matt decided like me that he wasn't in any great hurry to leave the cave. So while he was getting out Steve and I had a brief look in the adjacent cave 5L74 in which we found a wombat skull covered in black "clay", wedged in a crack in the cave wall. Some interesting processes have operated in that cave.

While I had been waiting for my turn to exit 5L365, a rather vigorous "discussion" had begun on the surface between Fred and Kevin. They were discussing measures for protecting the cave, as the concrete slab currently in use was proving inadequate. Later in the afternoon we decided that I should send a letter to Primary Industries SA (land holders) outlining the palaeontological importance of the site and alert them to the fact the cave was not protected adequately against unauthorised access, thus increasing the risk of disturbance to the cave and fossil deposits. I am pleased to say that the reply I received from PISA was very positive and they will undertake to protect the site in the near future.

So finally, I'd like to thank Marie, Kevin, Fred, Steve, Simon and Dave for a fantastic trip and the opportunity to visit the cave. I'd also like to thank the CEGSA team for their care and insight during their initial investigation of the cave with regard to the fossil material and its significance. With CEGSA'S ingenuity and expertise and our ability to use (and make up) long words I foresee a bright future….

Liz Reed

Reports from the South East

Victoria Fossil Cave Survey Project – Update

Following the last survey trip back in September 1997, the map of the south-eastern section of the cave has now been completed and was recently presented to Brian Clarke, the Manager of the Naracoorte Caves Conservation Park.

Planning for further trips to complete the survey of the whole cave has started, with the next phase of surveying now likely to begin in January 1999. The far north-western section of the cave is the area that requires most attention in terms of surveying. Our efforts will be aimed at fully exploring and surveying this area, as well as surveying the remaining tourist and adventure-tourist parts of the cave, and the Ossuaries (in consultation with Rod Wells, of Flinders University), to produce an up to date final map of consistent grade and style.

TRIP REPORT: New deep cave discovered in the Flinders Ranges

Eddie Rubessa and myself visited the ranges to the north east of Blinman on the October long weekend. Saturday was spent driving through the country to the west, visiting Nuccalena ruins, looking for caves at the springs near Glass Gorge and relaxing at the bore tank of an old homestead.

On the Sunday we headed off on an old track from Wirrealpa spring, trying to reach an interesting area of rugged Wilkawillina limestone geology. Unfortunately the badly degraded track eventually stopped progress and we returned to the ranges to the east to look for caves. Leaving Eddie to move rocks in a tight 1 m deep hole he was excited to find, I wandered further up the ridge we had begun walking. An hour or so later, as the light began to fade, I started to head back to find Eddie.

Trundling across a seemingly featureless, open plateau, I jumped down a gentle ledge on a slab of dolomite and luckily happened to look back behind my legs. I was gripped with a rush of excitement when I realised I was staring into a gaping black shaft that simply disappeared down into the hill. I immediately picked up a small stone, crouched in the 0.8x0.8 m entrance and dropped it down. I was so happy when I heard the rock hit several times as it fell down a vertical tube, finally hitting the bottom a number of seconds later. Looking around for possible rope tie-off points, I knew we had a new significant vertical cave to explore, after several years of finding not much more than small features, but was disappointed that we had no gear to explore it this trip.

I do not know how deep this cave is, but it looks clean and very promising. We did not even climb into the steeply sloping entrance tube. I am very keen to get back to the Flinders as soon as possible to explore it – let's hope there is a good cave at the bottom!

Farewell as Secretary

Since getting a job with Primary Industries at Struan, I have moved down to the South East permanently. Due to my new found isolation from Adelaide, I unfortunately had to relinquish my role as CEGSA Secretary, one that I enjoyed very much.

However, do not forget about me! I am now looking for caving things to immerse myself in down here, so if your thinking of coming down or would like any help with a trip or project, please contact me. My new details are:

Home address: Unit 6 Julian Court, Penola, 5277
Postal address: PO Box 618, Naracoorte, 5271
Phone : 8737 3135 (home) 8764 7419 (work) 0417 852 628 (mobile)
E-mail: binks.bill@pi.sa.gov.au

Bill Binks.

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Balgair Station, Nullarbor Plain

Paul Devine, a resident of Kalgoorlie, has made at least three trips to Balgair so far this year. So where is Balgair?

The homestead was built about 1982 and is about 8km south of the Trans Australia railway about 30km east of Rawlinna siding. The lease borders Rawlinna Station on the west, the railway on the north, Arubiddy Station on the south and Kybo Station on the east. It lies on the NARETHA 250,000 and TRANS 100,000 map sheet. (Note that Arubiddy Station began around 1961).

So far, Paul has added 57 karst features for Balgair and adjacent areas to the Nullarbor data. Most have been tagged and entrance photos taken. Some of these are moderately extensive caves.

The work done by Paul is a significant contribution to our records.

Max G Meth

TECHNICAL and OTHER ARTICLES

THE OTHER SIDE OF CAVING - Part the two

One of the caves in the South East I have not visited is L209, GEORGE VARCOE CAVE. A couple of years ago I was in Millicent documenting a cave that a child was lost in, in about the year 1909. The present owner got talking about caves across the broad South East region and my pen moved rapidly to keep up with the information. One item that took my interest was the comment that George Varcoe was the last listed bush ranger in Australia.

Subsequently I floated this comment to an old Rendelsham identity I was questioning about caves and he challenged it and thought the Varcoe family would not be impressed by that suggestion.

As I know one of the Mount Gambier Varcoe families I posed the story to them. After some searching of their book shelf they produced " From Cornwall to the Outback" written by Rex Hosking (April 1987) and this sorts out his genealogy (p. 208). The descendants still live in the area.

The bush ranger story is an exaggeration but also has a slight basis in fact. Kevin Mott obtained some history in Feb 1991 form Mr Jeff Varcoe and this together with my discussion with Sid and Jean Varcoe and finally the printed account in the Mount Gambier newspaper The Border Watch of 30 December 1926 (reproduced below).

George Benjamin Varcoe, born 11 April 1893, was the third child of Benjamin and Isabel Mary. He married Edith Tuite and they had five children. George was a good horseman and had the reputation of not stopping to open gates - he just jumped them. A family story has it that one day he had a fall at one of these gates, which resulted in some brain damage.

Border Watch - 30 December 1930

JUMPED FROM TRAIN

Tragedy at Custon Millicent man's death

Millicent, Thursday

Rushing from the custody of the constable in charge of him, George Varcoe, who had been committed to a mental home, jumped from the Adelaide bound train near Custon yesterday and was killed.

Mr Varcoe was the eldest surviving son of Mr and Mrs B Varcoe, of mount Graham, and was 34 years of age.

About a year ago he became mentally deranged, and was taken to Adelaide for treatment. He left the institution at which he was a patient on May 3 and came overland to Millicent. He was allowed to remain at his home on six months probation which expired on December 8.

There was no improvement in his mental condition, and at the Millicent Police Court, before Mr J. W. Williams J.P., on Tuesday he was put under the provision of the Mental Defectives Act to be committed to a mental hospital.

He left Millicent for Adelaide in charge of Mounted-Constable P. A. Grow, and gave his guardian no cause for anxiety.

When the train had travelled to near Custon, and was moving at a high rate of speed, Constable Grow accompanied Varcoe to a lavatory in the centre of the carriage, where a door leading into another compartment was open.

Without any warning Varcoe rushed down the carriage and threw himself from the platform.

The train had gone one and a quarter miles before it pulled up, and it shunted back to pile of sleepers where the body of Varcoe was found.

The body was taken to Bordertown, where an inquest was conducted this afternoon. The remains are being brought back to Millicent for internment tomorrow.

The late Mr Varcoe, before he became afflicted, was a man of more than ordinary intelligence and ability, and there was every indication that he would be very successful in his occupation of a farmer and grazier.

He married Miss Tuite, and leaves her a widow with five young children. General expressions of sympathy have been made to the widow and the deceased's family, who have had a trying time during the last twelve months.

F W Aslin

Dynamic vs Static Ropes in Caving

David Trehearne

Abstract: The purpose of this article is multi-faceted:

1. To outline the difference between dynamic and low stretch (static) rope.
2. To provide an explanation of the terms and test methods used with kernmantle ropes.
3. To introduce the new European Standards that will affect the technical information provided with both dynamic and low stretch ropes, this article will attempt to explain the new EN 1891 Low Stretch rope standard.
4. To clarify the use of static ropes in caving in light of their properties.

This article started as result of some discussion between CEGSA club members about whether we should be using dynamic ropes when belaying people in and out of caves. I initially set out to show that when low stretch ropes (static) are used correctly they are more appropriate than dynamic ropes. After wading through an extensive range of books, rope manufacturer brochures and European Standards, a short simple explanation to clarify, what I thought were some misconceptions, soon developed a mind of its own.

It is important to note that I am focussing on low stretch ropes in this article and most importantly that the data obtained from the different testing methods used for dynamic and low stretch ropes are **NOT** directly comparable.

In order to show the different characteristics between low stretch ropes and dynamic ropes it is necessary to explain the basic properties of kernmantle ropes, then relate these to some common use examples.

UIAA / EN

The UIAA (Union Internationale des Association d'Alpinisme) is a European organisation that certifies equipment to European mountaineering standards.

The UIAA tests for dynamic ropes have now been replaced by EN 892–1997 *'Mountaineering equipment—Dynamic mountaineering ropes—Safety requirements and test methods'*, which are essentially the same methods of testing, but as with the requirements of CEN's (Comité Européen de Normalisation), much more information is to be provided to the purchaser.

With the introduction of EN 1891–1997 *'Personal protective equipment for the prevention of falls from a height—Low stretch kernmantle ropes'* all European manufacturers must comply with the standard methods of testing and presentation of results. Prior to this, manufacturers presented their rope data in a range of ways, using a variety of different tests.

In some cases the EN's (European Norms) are based on the old and respected UIAA standards. The important differences are:

- EN's are mandatory in Europe while the UIAA standards are not.
- EN's cover new areas like product instructions that the UIAA standards did not cover.
- EN's cover products like static rope that the UIAA standards did not.

In the absence of any other comprehensive standards the EN's are almost certain to replace UIAA standards as defacto world standards.

Kernmantle ropes

A rope consisting of a core enclosed by a woven nylon sheath (kern = core, mantle = sheath). The core is usually the main load bearing element and typically consists of parallel strands that have been drawn and turned together in single or several layers of braided elements. The sheath is generally braided and protects the core, for example from external abrasion and ultra violet degradation. Typically, the core in a static rope supports about 70% of the load. Refer to Table 3 for some comparisons between dynamic and low stretch ropes.

Maximum Breaking Strength

In the tensile test, the rope is tested for breaking strength. The rope is tensioned by wrapping it around bollards of 100 - 180 mm diameter and secured by a clamp. The large diameter of the bollards and clamping is necessary to achieve a test result without

strength-reduction caused by a too narrow an angle of turn, eg any loss of strength due to a knot or karabiner.
EN 1891 does not place a high importance on this test, as the peak impact force is far more relevant to user safety at high loads. EN 1891 only requires Type A or B ropes to meet a minimum static strength.

Fall Factor

The Fall Factor is a measurement of the severity of a fall, and is calculated by dividing the length of the fall by the amount of rope out from the belay (refer to Figure 1).
Theoretically, the hardest fall possible has a Fall Factor of 2 (FF2), but because of the give in the equipment chain, in practice it is rarely ever achieved.
The UIAA / EN test for dynamic ropes is significant in that it approximates a short severe fall and provides a standard for comparison between ropes.
Testing for both dynamic and low stretch ropes is conducted with new, dry ropes in an ideal laboratory controlled conditioned atmosphere, not in-field conditions.

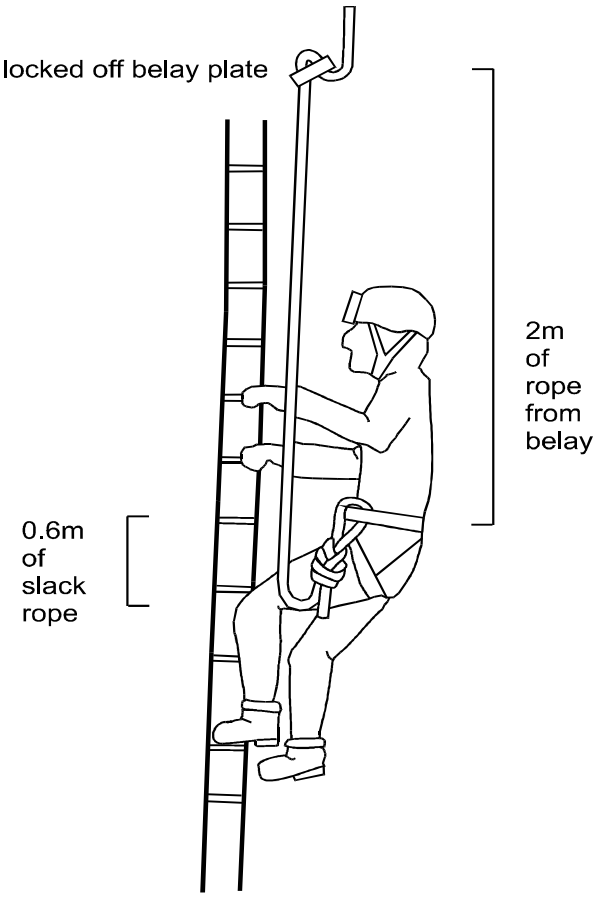


Figure 1: Fall Factor 0.3

Impact Force

The impact force is the measure of a ropes elasticity or ability to absorb energy in a fall. The higher the impact force, the more energy the rope will transmit to the belay system – the belayer, anchors, harness – than would a lower impact force rope. However, a lower impact force is achieved with greater elasticity.
Part of the energy of the fall is absorbed by the stretching capacity of the rope; the remaining force (impact strength) must not exceed 12kN for dynamic ropes. (Mass 80kg FF1.71)
The maximum loading the UIAA has determined the human body can withstand 'without sustaining major injury' is 12 kiloNewtons (approx 1200kg). This figure of 12kN was not determined at random, but based on the experience of parachutists. Under favorable conditions the human rib cage can endure a load 15 times greater than the body weight for a short period. Assuming the cavers body mass to be 80kg produces a value of 80 x 15 = 12kN.
A kiloNewton (kN) is a measure of force. Force (N) = Mass (kg) x Acceleration (m/sec^2) where acceleration is due to gravity ie $9.81 m/sec^2$. This dynamic measurement provides a more realistic guide to real world performance than does static testing.
The data used by rope manufacturers use figures expressed in a number of ways, ie:

- 1000N = 100daN (decaNewtons is a unit commonly used in Europe)
- 1000N = 1kN
- $^{1000}/_{9.81}$ = 101.9kgf (kilograms force).

The introduction of EN 1891, for low stretch ropes, requires a maximum peak impact force not exceeding 6kN for a FF0.3 (100kg mass for Type A ropes, 80kg mass for Type B ropes falling 0.6m on a 2.0m length of rope). By requiring a peak force test it is possible to show that low stretch ropes do have some dynamic properties which in the event of belay failure (rebelay or back up anchor), a well-rigged rope should not exceed.

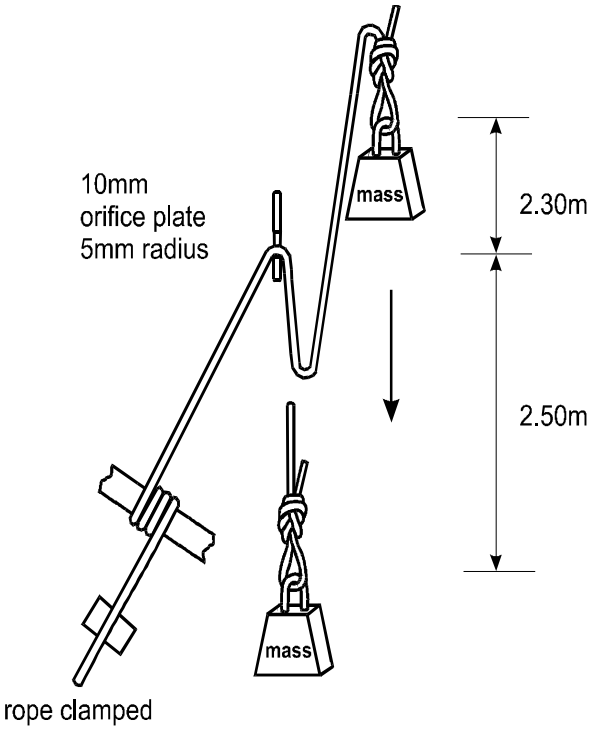
Dynamic Rope Characteristics

Dynamic rope tests are complex and a range of variables must be met to comply with approved international standards eg. UIAA or now the newer EN 892–1997*, 'Mountaineering equipment—Dynamic mountaineering ropes—Safety requirements and test methods'.*

Dynamic ropes fall into three categories :

1. *'single ropes'* (generally 9.8 - 11mm) tested using an 80kg mass. Impact force on a single strand must not exceed 12kN for the first drop only.
2. *'half ropes'* (generally 8.5 - 9mm) tested using a 55kg mass. Impact force on a single strand must not exceed 8kN for the first drop only.
3. *'twin ropes'* (generally 8 - 9mm) tested using a 55kg mass. Impact force on a double strand must not exceed 12kN for the first drop only.

The test for a single rope involves a 2.8 metre length of dynamic rope with an 80 kilogram mass falling 4.8 metres over a 10mm thick orifice plate (to simulate a 5mm radius of a karabiner), this results in a nominal Fall Factor of 1.71 (see Rope Test diagram). For single ropes they must hold a minimum of five falls to get EN 892 approval. Elongation of the rope under a static 80kg mass must not exceed 8% for a single rope or 10% for a half rope. Twin ropes are tested as a double strand and must not exceed 8%.



Simplified diagram of the rope test

Low Stretch Rope (static) Characteristics

EN 1891–1997*, 'Personal protective equipment for the prevention of falls from a height—Low stretch kernmantel ropes'.*

This is the new standard being adopted in Europe that will mean much of the way previous technical rope information was presented has been changed.

Testing standards for dynamic ropes have been established for quite a while, but prior to EN 1891 manufacturers did not have common methods of test that each had to comply with. Before the introduction of EN 1891 manufacturers tested their static ropes using methods, that they developed themselves, loosely based on those used for dynamic ropes and other sources. Generally the only common test method used involved the 80kg mass and a factor one fall. It is interesting to note that using data pre EN 1891's test method, the maximum impact force, for a FF1.0 with an 80kg mass, did not generally exceed 12kN (refer to Table 1).

EN 1891 specifies that low stretch kernmantle ropes fall into one of two categories: Type A or Type B (Type B is generally 9mm diameter).

Type A must have the following characteristics:

- be of kernmantle construction, up to 16mm diameter;
- have a sheath which is a specified percentage of the total mass of the rope;
- have a minimum static strength without terminations of 22kN (15kN with figure 8 on bight knots) or for Type B ropes 18kN (12kN with figure 8 on bight knots);
- impact force must not exceed 6kN (600daN) for a Fall Factor of 0.3 with a 100kg mass (80kg for Type B) for the first drop only. Refer to Figure 1 for an example of a FF0.3;
- must withstand a minimum of 5 factor one falls (2.0m rope) with 100kg mass and figure 8 knots (80kg for Type B);
- the elongation under an increase of load from 50kg to 150kg must not exceed 5%;
- the percentage shrinkage after soaking must be stated;
- markings - ends show rope type (A or B), diameter, manufacturer and EN to which rope conforms. Strip in centre must show rope type (A or B), the model, manufacturer, norm number and year of manufacture.

EN 1891 defines Type A and Type B ropes as the following:

Type A : low stretch kernmantle ropes designed to be used in rope access including all kinds of work positioning and restraint; in rescue and speleology.

Type B : low stretch kernmantle ropes generally of a lighter weight, smaller volume and lower strength than type A ropes.

Intended for use, for example, for descending, or lowering in cases of rescue using descender devices in accordance with EN 341. These are not recommended for use in rope access and work positioning.
The Australian Standard, AS 4142.3–1993 '*Man-made fibre rope for static life rescue lines'*, applies to rope of diameters 11 - 16mm only and uses methods of test based on the UIAA Standard for dynamic ropes.
AS 4142.3 uses the same Fall Factor (FF1.71) as dynamic ropes but does not require the recording of the maximum impact force.
Of interest AS 4142.3 requires the rope to be marked by a 3mm wide waterproof tape with the following information indelibly marked on it and repeated once every metre for the full length of the rope showing :-

a) The name, trade name or trade mark of the manufacturer.
b) The words 'For static life rescue lines'.
c) The rope diameter in millimetres.

EN 1891 also requires internal marking every metre for the full length of the rope eg :-

a) the name or trade mark of the manufacturer, importer or supplier;
b) the number of this European Standard and the type(s) of rope, A and/or B;
c) the year of manufacture;
d) either the name of the material(s) from which the low stretch kernmantle rope is made, or a colour to signify the material from which the low stretch kernmantle rope is made according to EN 701.

Due to the introduction of EN 1891 and the different test methods and ways of interpreting the data, Table 1 is incomplete or the data no longer expressed as was intended for the purpose of this article. The intention was to show that with a FF1.0 using an 80kg mass the impact forces were generally less than 12kN. (It is important to note that Table 1 that uses data from manufacturers brochures before the introduction of EN 1891).

Therefore using data available before the introduction of EN 1891, with an 80kg caver it should be possible to take a factor one fall, in favourable conditions, *'without sustaining major injury'* and where the force in the rope does not exceed 12kN.
To allow for an element of safety it was recommended by some authors of caving and climbing books and even rope manufacturers that where any fall that could result in a Fall Factor greater than 0.25 to 0.75 a static rope should not be used (refer to Table 2). A Fall Factor in excess of these could result in an impact force greater than 12kN.

Common Practice Examples

Three common methods of rope usage will be discussed here:

1. When using SRT to enter and exit a cave the rope is principally statically loaded the whole time so no Fall Factor should result. A Fall Factor may occur if there is a rebelay failure or if a fall occurred when getting on and off the rope at the top of the pitch.
2. When abseiling in and self lining out with an ascender and using a ladder, the rope is principally statically loaded upon entry. Only on exit could a fall happen, but this should be minimal if the rope is running through the ascender correctly.
3. When belaying people in and out of the cave (either laddering or free climbing) the rope is principally statically loaded during entry. Most belayers do not feed the rope through the belay device but tend to let the caver pull it through as they descend. This means there is no slack in the belay system to shock load should the caver fall. When exiting being belayed, the only slack in the system would be caused by poor technique, ie :-
   - The caver is climbing too fast for the belayer to take in (rope around the knees or ankles of caver). Refer to Figure 1
   - The belayer is not paying attention to the caver and is not taking in.
   - A lack of communication between the belayer and the caver, where the caver climbs when not on belay (NO force would result on the rope as caver will just hit the bottom).

Poor communication on a pitch and a resulting ineffective belay can lead to injuries to cavers, to use an example of what happened to a caver in a cave on the Yorke Peninsula in South Australia called Town Well (5Y2). The weather conditions on this day were poor and water was pouring down the shaft. The caver was on belay as he laddered out of the cave. He was not using his own gear and his arms were tiring as he

climbed. Due to the noise of the water the belayer thought he had called for slack. Fifteen metres up the pitch he is suddenly being given slack, when down climbing his arms gave way and he fell ten metres. Despite heavy bruising due to the harness from the fall he did not hit the bottom, which he might have done so if belayed by a dynamic rope.

Assuming this cavers mass was 80kg and they sat statically on a 30m length of dynamic rope in the 33m shaft there would be, with 8% stretch, an elongation of 2.4m, a total now of 32.4m. The dynamic effects of a fall would increase the length of this considerably (the bigger the fall the more the stretch). When just sitting statically he would virtually touch the bottom, but in the event of a fall he would definitely hit the bottom.

Conclusion

Rope characteristics can vary between manufacturers, however with an 80kg mass and assuming a 3% stretch for low stretch ropes and 7% for dynamic ropes the incorrect use of a dynamic rope in a cave environment could result in serious injury to the falling caver, by either hitting the bottom or other obstructions on the way down.

Given the available information we have on ropes used for caving and mountaineering, a static rope can be used under virtually all common caving conditions. However some cave exploration techniques are beyond this use eg lead climbing in a cave to push a vertical aven, which need to be conducted with a dynamic rope or in any situation where you need to climb above your anchors. As Edelrid say in their 1998 catalogue "Ropes (for) climbing ahead (*ie above the anchor point*) in rock and ice, during speleology and rope rescue must adhere to EN892" (the dynamic standard).

Indoor rock climbing gyms know this problem well and have been using low stretch ropes for many years. If an indoor climber falls low down on the wall, the low stretch rope, even going up over the bar at the top of the wall then back down, helps prevent them from hitting the ground.

Many interstate rock climbing instructor associations and prominent outdoor organisations permit the use of low stretch ropes in a top rope situation, ie the climber is always below the anchor point.

Disclaimer

As with all use of technical equipment, a discussion such as this does not replace individualised instruction by a caving or climbing instructor, regular practice and updating of personal knowledge and sound judgement at the time of use. Each circumstance is slightly different, and only the people on the caving trip can make the judgement at the time that the techniques they are using are going to be safe.

Acknowledgments

Many thanks to Peter Kraehenbuehl for the illustrations and the other "techno heads" who helped proof read this article.

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Manufacturer and rope size	Elongation with 80kg	Elongation at break	Breaking load (No knot)	Breaking strength with knot	Number of falls held	Max impact force
Beal 8mm	4%		1500daN		2 FF1	760daN
Beal 9mm	3.1%		1900daN		6 FF1	830daN
Beal 10mm	2.5%		2400daN		12 FF1	880daN
Beal 10.5mm	2.3%		2700daN		20 FF1	900daN
Beal 11.5mm	2.2%		3200daN		> 20 FF1	900daN
Bluewater 9mm	2.5%		1800kgf			
Bluewater 10mm	2.0%		2500kgf			
Bluewater 11mm	1.3%		3000kgf			
Cousin 9mm	1.3%		1610daN			
Cousin 10.5mm	1.5%		2020daN			
Cousin 11mm	1.6%		2420daN			
Edelrid Superstatic 9mm	4.3%	35%	2280daN		4 FF1	1110daN
Edelrid Superstatic 10mm	3.8%	29%	2700daN		7 FF1	1245daN
Edelrid Superstatic 11mm	3.9%	30%	3100daN		18 FF1	1200daN
Kinnears Arapaline 11mm	1.0%	23%	31.8kN	15.9kN overhand	3 FF1.7	
AS 4142.3–1993 11-16mm only	≤ 3%	≥ 20%	≥ 3000kgf	≥ 1500kgf overhand knot	≥ 2 for FF1.7	Not required
EN 1891–1997 Type A generally 9.5mm to 16mm	measured at 50 kg load then load increased to 150 kg where elongation measurement taken. Must not exceed 5%		≥ 22kN (No knot)	≥ 15kN (Figure 8's on bight)	≥ 5 FF1.0 100kg	Peak force not to exceed 6kN FF0.3 (0.6m fall 2.0m rope)
EN 1891–1997 Type B generally 9mm			≥ 18kN (No knot)	≥ 12kN (Figure 8's on bight)	≥ 5 FF1.0 80kg	

Note: Figures in table are taken from manufacturers catalogues and have not been independently verified.

Table 1 : ***Manufacturers data for low stretch (static) ropes prior to EN 1891***

Author or Manufacturer	Fall Factor
Pidgeon Mountain Industries 1995 Catalogue	0.25
Vertical Alan Warild	0.3
Edelrid 1995 Catalogue	0.5
On Rope Padgett and Smith	0.5
High Angle Rescue Techniques Vines & Hudson	0.75
Beal 1996 Catalogue	1.0

Table 2: ***Author and rope manufacturer recommendations that if a Fall Factor is in excess of the figure shown a static rope should NOT be used.***

Low Stretch (static)	Dynamic
2% to 4% elongation under 80kg mass (pre EN 1891). ≤ 5% elongation under an increase of load from 50kg to 150kg (EN 1891)	6% to a max of 8% elongation under 80 kg for 'single' ropes (UIAA / EN 892)
15% to 40% elongation at breakage	60% to 70% elongation at breakage
Sheath has a larger component of rope area; eg Edelrid 11 mm 43%, 10 mm 45%, 9 mm 42%	Sheath generally has a lesser component of rope area
Sheath tightly woven, helps to prevent entry of dirt and grit	Sheath loosely woven (dirt and grit generally not as much a problem in a cliff environment)
Tighter woven sheath harder to strip under load	Looser woven sheath easier to strip under load
Core generally consists of parallel twisted fibres (therefore able to absorb energy)	Fibres of core twisted into bundles which straighten to absorb energy from a fall
Generally loaded going in and out of cave	Generally only loaded when climber falls off
Forces on anchor points, due to principally static loadings, are generally low and more predictable	Forces on anchor points less predictable, ie during a fall when lead climbing

Table 3 : ***Comparison between low stretch (static) and dynamic ropes***

TECHNICAL DATA according to EN 1891

Note: Figures in table are taken from manufacturers catalogues and have not been independently verified.

Diam. (mm)	Year and Manufacturer	Type	Weight/ metre (g/m)	Breaking Strength (No knot) (daN)	Elongation at increase in load from 50kg to150kg (%)	Peak Force & Test Mass (Fall Factor 0.3) (daN)	Number of Falls ≥ 5 FF1.0 (FF1)	Sheath Slippage (mm)	Proportion of Sheath (%)	Shrinkage in H_2O (%)	Strength with Figure 8 Loops
9.5	1997 Bluewater II+ Plus (made in USA)	B	54.1	1800	2.5			0		5	1200daN
10.6	1997 Bluewater II+ Plus (made in USA)	A	67.2	2200	2.6			7		5	1500daN
11.6	1997 Bluewater II+ Plus (made in USA)	A	79.4	2500	2.5			40		1	1540daN
9	1997 Beal	B	51	1900kg	3.6	400daN (80kg)	5 (80kg)				
10	1997 Beal	A	60	2400kg	3.0	480daN (100kg)	5 (100kg)				
10.5	1997 Beal	A	65	2700kg	3.0	510daN (100kg)	10 (100kg)				
11	1997 Beal	A	73	3000kg	2.8	510daN (100kg)	13 (100kg)				
9	1998 Cassin		51	1900	3.6	400daN					
10	1998 Cassin		62	2400	4.4	430daN					
9	1997 Cousin	B	58	2275	3.8	434daN (80kg)	7 (80kg)	5	44	2.0	
10.5	1997 Cousin	A	71.3	2740	2.8	472daN (100kg)	10 (100kg)	0	42	2.0	
11	1997 Cousin	A	75.4	3090	1.8	555daN (100kg)	8 (100kg)	1	45	2.2	
9	1997 Edelrid SUPERSTATIC, white	B	51	2280	4.2			0	42	3.0	
10	1997 Edelrid SUPERSTATIC, white	A	65	2700	4.0			0	44	3.0	
10.5	1997 Edelrid SOFTSTATIC, white	A	68	2900	4.8			0	41	2.0	
11	1997 Edelrid SUPERSTATIC, white	A	74	3100	3.7			0	43	2.0	
11	1997 Edelrid EXTRASTATIC, white	A	78	3200	3.7			4	39	-1.0	
11	1997 Edelrid PROSTATIC, white	A	74	3100	3.7			-3	43	2.0	
9	1997-98 Edelweiss, white	B	56	2000	2.5						
10	1997-98 Edelweiss, white	A	61	2500	2.5						
11	1997-98 Edelweiss, white	A	76	3000	2.5						
10	Summer 1996 Mammut	B	66	2500	< 1.5%						1600daN
11	Summer 1996 Mammut	A	79	3300	< 2.0%						1600daN
10	1997 Marlow		64	2900		470	14				2210daN
10.5	1997 Marlow		69	3000		520	17				2230daN
11	1997 Marlow		77	3100		540	49				2240daN
EN 1891–1997 Type A generally 10mm up to 16mm		A		≥ 22kN (No knot)	at 50kg measured, then load increased to 150kg	≤ 6kN FF0.3 (80kg) 0.6m fall 2.0m rope	≥ 5 FF1.0 80kg	≤ 20mm	23 ≤ x ≤ 50 (10 - 16mm)		≥ 12kN (Fig 8)
EN 1891–1997 Type B generally 9mm		B		≥ 18kN (No knot)	where elongation must be ≤ 5%	≤ 6kN FF0.3 (100kg) 0.6m fall 2.0m rope	≥ 5 FF1.0 100kg	≤ 15mm	30 ≤ x ≤ 50 (9mm)		≥ 15kN (Fig 8)

HEAVY RAIN in the Lower Southeast.

This year, 1998, should have been a quiet one for Kevin and I, but in fact it has been incredibly busy. Our newspaper listing project has grown at an extraordinary pace and this has put both of us under a lot of pressure - albeit self imposed.

It is a perfect example of teamwork. My research ladies pass on references to me, I scan them and enter them onto our formal input sheets, Kevin does the computing and then changes hat to research the significant ones for me.

Kevin is to be commended for sorting out the location of a 150ft (plus?) long cave that reopened in 1917,and consoled that thus far he has not precisely located the one described as 30ft in width and about 90ft deep (1871).

If you think I was pushing his memory a little on that one, I gave him another more recent one yesterday, where eight different locations fell in on 12 January 1874. Several were well collapses but "50 openings covering a quarter of an acre and up to 8ft deep" and "one and a half acres in Mr Geoghegan's pdk near the town fell in in a large number of places, many of the holes so formed being of a remarkable size" are notable. You too could be thankful you were not Mr Klowss for he had "a quantity of wheat in bags lying outside when the rain commenced, and on Mon morning it was surrounded by water. Having received the assistance of some neighbours he removed it, and just in time, for shortly afterwards a large piece of ground comprising the spot where the bags had been standing disappeared".

This rain was described in the 14 January 1874 Border Watch article as "the heaviest rainfall that has occurred in the district since its occupation by civilised man".

Watch this space as we play detectives.

FW Aslin 3-11-1998

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Fossil research at Naracoorte

With the opening date for the new interpretation centre at the caves rapidly approaching, everything has kicked into high gear at Naracoorte and here at Flinders Uni. Staff and students from Flinders have been heavily involved in the creation of the interpretive displays in the new centre, with Information Science and Technology, Ecotourism and Biology being involved. The Vertebrate Palaeontology lab has been involved from the beginning with the planning for the palaeontology displays and the construction of the megafauna display. We are all very excited about the new centre, as with this world-class interpretive facility at Naracoorte, the universal value of this important World Heritage site will be further realised.

There has been a lot happening on the Naracoorte research front at the Flinders Palaeo lab. Honours student Steve Brown has just finished his thesis on the fossil deposits of Cathedral Cave. Matt McDowell is continuing his post-graduate research on the small mammal deposits of Wet Cave and Robertsons Cave, noting changes in faunal composition over the terminal Pleistocene and Holocene periods. Lyndlee Turner has just started Honours this year and is working on the kangaroo (*Macropus* sp) fossils from the Victoria Fossil Cave deposits. Raelene Sherwin, another Honours student is studying the cranial material of *Thylacoleo carnifex* from Victoria Fossil Cave to look the allometry and ontogeny of this species.

My PhD research focuses on the large mammal deposits of Victoria Fossil Cave, with my specific area of study being taphonomy ie. the study of the processes responsible for the accumulation and preservation of fossil deposits. This research has two parts, firstly a detailed examination of the fossil material from the cave looking at features such as bone preservation, breakage, surface features, species abundances, bone orientations etc in order to find traces of the processes responsible for accumulation. The second part involves looking at some of these processes as they occur today, and using them as analogues for the past. I have thus been visiting a large number of caves both on and off park in order to gain an understanding of the mechanics of these processes and the degree of variability that they display. As you all know, one of these sites is Wombat Cave, which has been temporarily closed due to experiments set up in the cave and also a fossil dig. I am sorry that this has been an inconvenience to some, but the information from my studies in this cave will provide vital insights into the accumulation and dispersal of bones within caves, and aid interpretation of the significant fossil deposits of the Naracoorte Caves.

I would like to thank Steve Bourne for his on-going help with my work and the work of other researchers from Flinders. I won't go into great details of my most recent field trip, as I'm sure Steve has covered this in his report in this newsletter. One last thing, as someone relatively new to this caving caper I've been lucky to learn a lot from more experienced cavers. One particular pearl of wisdom acquired during my August trip was that when visiting a new cave it's always a good idea to check ALL the numbers on the CEGSA tag at the entrance, otherwise you might waste a lot of time scrounging around in an absolute s*#%-hole thinking you're in another cave….. just ask Steve for tips on this particular technique !! Oh, and don't forget to take the map either (my fault)!

That's all for now,

Liz Reed

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ERRATA (for items in previous newsletter Volume 43 #3)

1) p69 It was stated in relation to cave Harrys Cave 5N223 that "it is not recorded specifically if Harry Wheeler visited this."
In fact Harry visited the cave on 7 Nov 1970. His description of the cave is quite good, he wrote: "Along the Guinewarra to Cook road then 0.4 miles westward on Harrys Road. Small cave oblong opening 14 by 5 feet east-west. Sloping irregular descent to west for 60 feet depth, much tumbled broken stalactitic material, much dry calcite dust."

2) p80 The caption for the photo is incorrect. It states, "Kestrel nesting in Nullarbor blowhole. Photo: Ken Boland, Aug 1997."
The photo was taken on 28 Aug 1987 (not 1997) in blowhole 6N383 located about 44km north of Thampanna Cave. Actually the photo was taken by Gary White using Ken's camera.

Max G Meth.

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Nullarbor Field Note Books 1965 to 1968 (David Lowry)

In examination of the Nullarbor Plain prior to preparation of Geological maps, David made extensive visits to the Nullarbor. His original Field Note Books now reside in the library of the WA Dept of Minerals and Energy in Perth.

On completion of the field examinations, Lowry wrote the book, GEOLOGY OF THE WESTERN AUSTRALIAN PART OF THE EUCLA BASIN published in 1970 as Bulletin 122 of the Geological Survey of Western Australia. And the series of Geological maps was also produced.

I have recently copied the entire note book collection. The books detail points where Lowry described the geology. The books are:

1965/1	456 points	1965/2	363 points
1966/1	382 points	1966/2	336 points
1966/3	27 points	1967/1	22 points
1968/2	11 points		

and together they detail a total of 1597 points. Of these only about 250 are karst features. The remainder are non karst features such as wells, bores, the scarp and random locations.

Together with the note books I copied the original air photos that Lowry used in the field. These show the location of each point. At $0.35 per photocopy you do not need to Einstein to work out what the approximately 400 copies would cost. This cost has been borne by me.

It will take some time to complete an analysis of the note books. This will then enable me to say which karst features Lowry visited.

Max G Meth.

MEMBERSHIP

NEW MEMBERS - WELCOME TO

FULL MEMBERSHIP

Paul A Hosie	9806	16 Cypress Mews, Warnbrowa, WA 6169	(H)08 9593-4156

ASSOCIATE MEMBERSHIP

Elizabeth H Reed	9807	64 Regency Rd., Happy Valley . SA 5159	(H)8381-3768
Diana L Michaels	9808	U1/23 South Terrace, SEMAPHORE SA 5019	(H)8242-3627

CHANGE OF ADDRESS

ALAN JEVONS	8602	Unit 2/39 Francis Ridley Circuit BROMPTON. 5007	(H)8241-7756
DAVE LOWE	9413	Unit 57/111 Bloomfield St Alice Springs, NT 0870	(H)08-8952-1446

MEMBERSHIP FEES

Please remember, Membership fees are due on 1st January 1999. It would be appreciated if members paid on time, we need your support and your money to keep going. **PLEASE PAY ON TIME** AND AVOID THE INCREASE**.**

CEGSA MEMBERSHIP FEES

- FULL MEMBER $35
- COUNTRY MEMBER $30
- ASSOCIATE MEMBER $28
- COUNTRY ASSOCIATE MEMBER $23
- LONG TERM ASSOCIATE MEMBER $35

VARIATIION FOR FAMILY MEMBERS

- 1ST FULL MEMBER $35 + 2ND FULL MEMBER $35 LESS $20 FOR ONLY ONE NEWSLETTER = $50
- 1ST FULL MEMBER $35 + 2ND ASSOC MEMBER $28 LESS $20 FOR ONLY ONE NEWSLETTER = $43

Please Note: If the motion to increase fees is passed all CEGSA fees will increase by the appropriate amount, but if paid before you will avoid the increase this year.

CEGSA MEMBERSHIP DOES NOT INCLUDE ASF FEES, YOU MUST PAY THE APPROPRIATE AMOUNT LISTED BELOW AS WELL AS CEGSA MEMBERSHIP FEES.

AUSTRALIAN SPELEOLOGICAL FEDERATION (ASF) FEES FOR 1999 (INCLUDES INSURANCE)

- FULL/ASSOC/LIFE MEMBERSHIP $24.50
- FAMILY MEMBERSHIP $42.00
- STUDENT MEMBERSHIP $17.50
- FIRST YEAR MEMBER (with *Australian Caver*) $24.50
- (without *Aust. Caver*) $5.00

JUNE MACLUCAS, MEMBERSHIP OFFICER.

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LIBRARY AND RECORDS UPDATE

In the last few months the library and records have kept me and my usual helpers busy and productive. The Periodicals now totalling 160 different titled magazines from around Australia and overseas finally looks presentable and accessible. Thanks to the many helpers over the last few years, especially Graham Pilkington, Ray Gibbons and Mark Thiselton. The **CEGSA Room** is

constantly busy and we have a new keen recruit in Chris Gibbons, Ray's other half. The working bees are now every 2 weeks which has enabled us to finally complete several areas, leaving us clear to open up new huge areas waiting to be tackled and sorted. So it continues.

In August a donation to the library was handed in by Simon Kendrick, ***Mines in Burnside- their Historical Significance*** with recommendations for their preservation and Paul Harper has donated 40 box files. Many thanks Simon and Paul.

CEGSA purchased a few new interesting books. ***Caves & Caving*** by D Jacobson, a handbook and guide to American caves that takes you through professional spelunking to simple enjoyment of caves. ***Caving*** by Steven Boga, offers a look at the historical aspects of caves, including a guide for the beginner to advanced techniques of caving. An excellent book from the Rock Climbing Series ***Knots for Climbers*** by C Luebben includes knots commonly used and needed by climbers and cavers. ***Canyons Near Sydney,*** 3rd Edition by R Jamieson, takes you into the Blue Mountains and gives a detailed guide to some of Sydney's best canyons. ***Self Rescue*** by D Fasulo fully describes a variety of techniques for safety and self reliance, whether you need to assist your partner past a difficult section of a climb, be it abseil or a multiple pitch with an injured climber. **A must for all to read**. ***Under Bungonia***, a 2 volume edition by Julie and Peter Bauer, offers the latest in scientific theories and information from bats to rocks, and all in between. Both volumes include the latest sub surface maps of 190 known caves in the area. Vol. 2 has loose copies of 11 maps seen in vol. 1. ***Cave Minerals of the World*** by Carol Hill and Paello Forti, a 450 page, full colour publication. This book points out the important minerals, carbonates (calcite and aragonites,) sulphates (gypsum.) found in caves. Also describes minerals in caves as a secondary deposit, e.g. a stalactite can be a compound of a number of minerals besides calcite. **A must to view for all speleologists and spelunker's alike**.

Two monographs have been handed in, one by Ray Gibbons on ***Subterranean Link in the Jenolan's River System.*** The other article was handed in by Jules Gheude on ***Stockyard Gully Cave Area, WA*** .

Bart Jansen made a full size copy for records of Nurina Cave N46 from original trace drawing CEGSA 1225 drawn by P Henley, surveyed by W Robinson 1966.

Kevin Mott and Fred Aslin continue to collect newspaper articles of interest, predominantly of the South East, from Government Library Records for our files. Kevin Mott has been hard at it again and handed in 30 (yet to be filed) reports on karst features and locations visited that include depressions, collapses, dolines, scarps, tubes and rockfills of the South East area.

Working bees will continue on the weekend following the General Meeting with the exception of December, most people have too much happening then. We have a mid month working bee for those keen workers that cant get enough of CEGSA'S file dust and grime. Just ring George or June on 8261 4180 and you will be welcome to come and join us along with Ray and Chris Gibbons. Last meet for this year November 28th 1998. The mid month meets will continue next year for the keen ones.

GEORGE MACLUCAS (library & records officer**)**

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NOSTALGIA CORNER

NEWS FROM PAST NEWSLETTERS

10 YEARS AGO [34#1 Apr 1989]

- Dec 1988, A severe rain storm at Pannikin Plain Cave on the Nullarbor temporarily trapped members of a dive team and film crew.

20 YEARS AGO [23#4 Dec 1978]

- Neville Pledge gave a description of fossils likely to be found in S Aust caves.

30 YEARS AGO [NOV-OCT 1969]

- The ASF conference is due to be held in Goolwa in Dec 1968.

40 YEARS AGO [22 Dec 1958]

- A pair of possums that had chewed holes in the hut at Naracoorte are soon to be viewed in the SA Museum in Adelaide.

Max G Meth.

CEGSA CHRISTMAS PICNIC

Saturday December 19th

AT

WOODHOUSE

BYO EVERYTHING. A large B.B.Q will be available for use. DAYS COST: $4 per PERSON. This site fee includes the use of all the facilities including: Challenge Hill Obstacle Course, Toilets and Showers, B.B.Q and Abseiling Tower. So bring your SRT Gear.

Fun on the Hill starts at 2pm

To save Drinking and Driving you can camp at Woodhouse COST : $5 per person per night. Contact Woodhouse on 8339 3333 to book a site.

CONTACT MARIE ON 8326 1777 or 019 696 299 for more info

C E G S A

A G M

AND

D I N N E R

Will be held in

THE TORRENS ROOM

In The

HACKNEY HOTEL

on 27th Feb. 1999

DINNER FROM 6:30 PM

A La Carte Menu

The AGM will commence at 8:30 PM for the presentation of the Annual Report and the election of the Committee for 1999. Remember – you must be financial to be eligible to vote or stand for positions on the Committee.

A $2:00 Room Hire Fee is payable by all attendees of the Dinner and AGM.

CALENDAR OF EVENTS

For information on any trip contact the person listed in the right hand column.
For future information on trips contact Steve Milner or view the calendar on the CEGSA website at http://www.users.on.net/smilner/index.html.

Dates	Type of Event	Description	Contact
25/11/98	General Meeting	Metropoliton Hotel, Grote St., 7:00pm	Steve Milner
26-29/11/98	Caving	Mid Flinders Ranges	Bill Binks
28/11/98	Working Bee	Library and Records	George MacLucas
26-29/11/98	Caving	Mid Flinders Ranges	Tom Szabo
December 98	General Meeting	No Meeting in December!	Steve Milner
3/12/98	Caving	Sellicks Hill	Grant Gartrell
4/12/98	Opening!	Naracoorte Caves *Wonambi* Centre	Brian Clark
After the Rain	Draining	Adelaide	via Steve Milner
17/12/98	Caving	Sellicks Hill	Grant Gartrell
19/12/98	Social Activities & Camp	Woodhouse	Marie Choi
January 1999	Caving	The Well	Marie Choi
1/1/99	CEGSA Subs Due!	Please pay your subs.	June MacLucas
4-8/1/99	Cave Queensland	ASF Conference & Caving	Debbie Roberts
7/1/99	Caving	Sellicks Hill	Grant Gartrell
13/1/98	Committee Meeting	Graham's Place	Steve Milner
21/1/99	Caving	Sellicks Hill	Grant Gartrell
23-26/1/99	Caving: Joint CEGSA/CCV Meet	Naracoorte	Marie Choi
27/1/99	General Meeting	Royal Society Rooms	Steve Milner
30/1/99	Working Bee	Library and Records	George MacLucas
4/2/99	Caving	Sellicks Hill	Grant Gartrell
10/2/99	Committee Meeting	Mark's Place	Steve Milner
18/2/99	Caving	Sellicks Hill	Grant Gartrell
24/2/99	General Meeting	Royal Society Rooms	Steve Milner
27/2/99	CEGSA AGM & Dinner	Hackney Hotel	Mark Sefton

"For all you insomniac internet cavers. Link up to ICQ (I seek you), a neat way of finding out who is online and communicating with others. Download ICQ from http://www.mirabilis.com and once it is installed you will be able to find other CEGSA members easily and communicate with them. My ICQ number is 23730608 - look for me online."

Steve Milner.