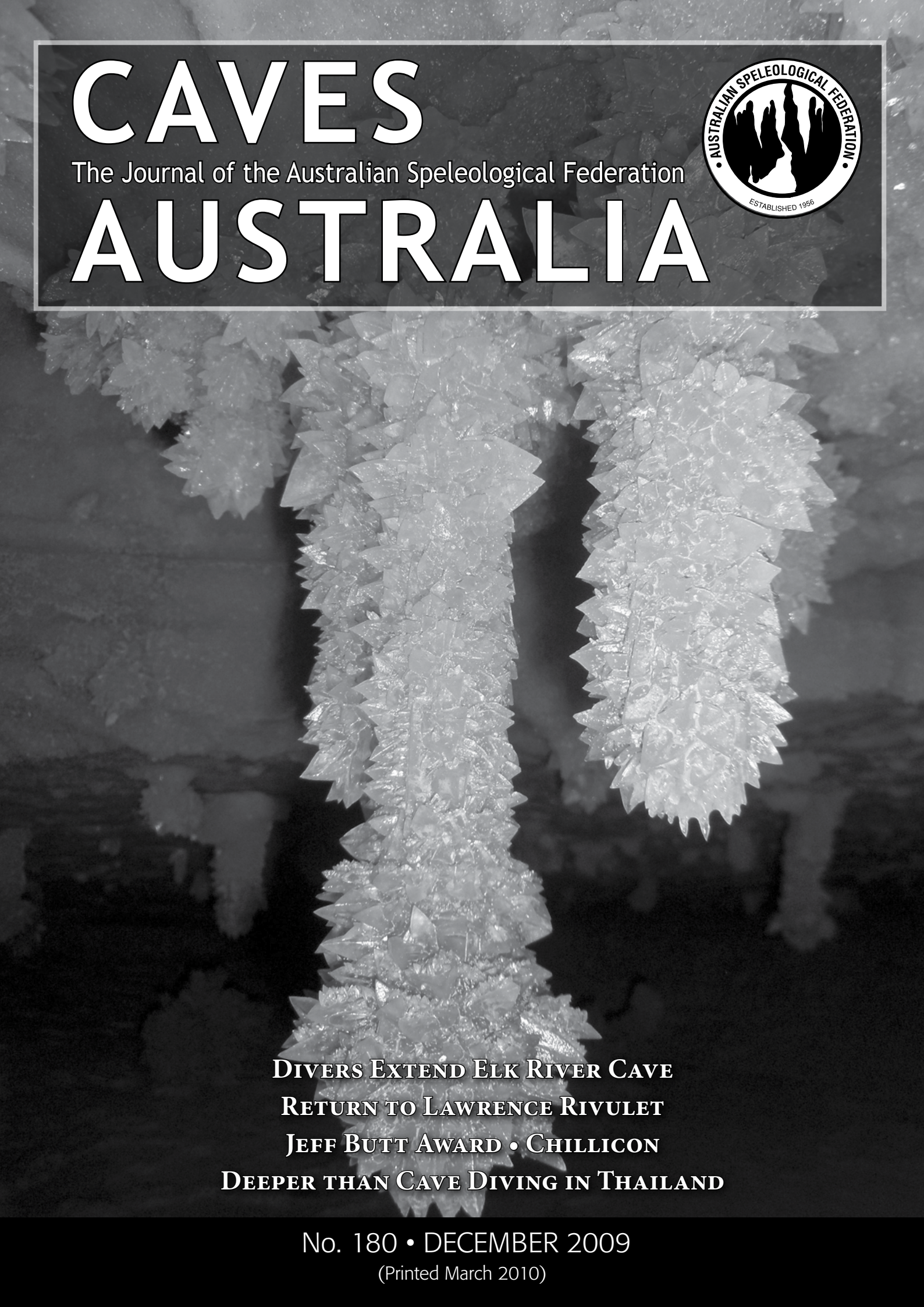
CAVES AUSTRALIA

The Journal of the Australian Speleological Federation



Divers Extend Elk River Cave
Return to Lawrence Rivulet
Jeff Butt Award • Chillicon
Deeper than Cave Diving in Thailand

No. 180 • DECEMBER 2009
(Printed March 2010)

COMING EVENTS

In particular, this list will cover events of special interest to cavers and others seriously interested in caves and karst. This list is just that: if you are interested in any listed events, Elery Hamilton-Smith: elery@alphalink.com.au or Nicholas White, (Chair of the International Commission) nicholaswhite@netspace.net.au may have further information. The relevant websites also are useful. Details of other regional/local overseas events can be found on the UIS/IUS website http://www.uis-speleo.org/. Although several things are planned for 2010 the detailed dates are not available.

2010

12—16 April

4th UNESCO International Conference on Geoparks, Langkawi, Malaysia.

16—19 April

2nd Global Geotourism conference, Kuching, Sarawak.

21—29 April

ACKMA Annual General Meeting 'Week', Mulu Caves, Sarawak, Malaysia. This event is booked out now.

2—7 May

General Assembly of the European Geosciences Union (EGU)
Vienna, Austria, NH8.2/GM8.8
Geomorphology and Hazards in Karst Areas
Co-sponsored by: International Union of Speleology, and the IGU Karst Commission and Commission of Karst Hydrogeology and Speleogenesis
http://meetings.copernicus.org/egu2010/
Convener: Mario Parise, CNR-IRPI, Via Amendola 122-I, 70125, Bari, Italy
Email: m.parise@ba.irpi.cnr.it
Co-Conveners: Jo De Waele, Francisco Gutierrez, Lukas Plan

7—16 May

Speleohungary 100 — the centenary of organised Hungarian speleology (including field trips)
For more details contact the Hungarian Speleological Society:
Pusztaszeri út 36, H-1025 Budapest, Hungary
Email: mkbt@t-online.hu
Web: http://speleohungary100.speleology.hu/
After the success of the archaeological exploration in the Bükk Mountains in 1906 the Speleological Committee was set up by the Hungarian Geological Society on 28 January 1910. The Hungarian Speleological Society, the Committee's successor, wishes to commemorate the occasion and important persons and exploration successes with an international conference.

4—8 July

Australian Earth Sciences Convention: Earth Systems: change, sustainability, vulnerability. Canberra Convention Centre, ACT.
Details at http://www.aesc2010.gsa.org.au

12—14 July

14th Australasian Bat Society Conference, Charles Darwin University, Darwin, Northern Territory.
Details at http://conference.ausbats.org.au/

7—17 August

14th International Symposium on Vulcanospeleology, Undara, North Queensland. Pre-conference excursion to the Western District volcanic province of Victoria 7—11 August 2010 (meet in Melbourne 6 August). The excursion will visit lava caves and volcanic features between Melbourne and the SA border. 11 August (Friday) Excursion participants return to Melbourne Airport to fly to Cairns, overnight Cairns. A group booking is being organised for this. Participants will travel Cairns-Undara by bus. The symposium is from Saturday 12 to Monday 16 August (5 days). On Tuesday 17 August participants return by bus to Cairns.
Details of costs, booking and regisatration forms are available at:
http://ackma.org/14VSC/
Enquiries: Greg Middleton ozspeleo@bigpond.net.au

4—8 August

Congreso 70 Aniversario de la SEC | VI Congreso de la FEALC [I] [ID:352], Matanzas, Cuba.
Organisation: Cuban Speleological Society.
Contact: speleomat@atenas.inf.cu *or* admtordpjmt@dpjmt.minjus.cu
Deadlines: Abstracts 2009-12.

20—24 October

ISCA (International Show Cave Association) Congress, Slovakia. Liptovský Mikuláš, Demänovská Dolina.
Congress theme: "Complex approach in show caves management and protection".
Information via www.ackma.org.au or directly to http://tinyurl.com/yeuzcs3

31 October—4 November

National Groundwater Conference 2010 – the Challenge of Sustainable Management. National Convention Centre, Canberra.
Email: groundwater@con-sol.com

16—20 November

International Scientific and Practical Conference: Speleology and Spelestology: development and interaction of sciences.
Naberezhnye Chelny, Russia
Three sections are planned:
1. Speleology:
Modern methods of researches using GIS; problems of speleogenesis; results of regional speleological researches; biospeleology; caves in mine working; historical, archeological and paleozoological research; mineralogy; and ice caves
2. Spelestology (artificial caves)
Methods of research and registration of the caves; regional spelestological research results; secondary mineral formation; geoecologic research; and natural and man-made formation of underground landscapes
3. Protection and use of caves:
Cave ecology; juristic questions and the practice of cave protection; and recreational activities and safety.
After scientific discussions a two-day excursion will visit the capital, Kazan, and speleological and spelestological objects of Tatarstan: Sarmanovsky and Aktashsky copper mines (18th century); gypsum caves; and the Kamsko-Ustyinsky gypsum mine, one of the largest in Europe.
Registration:
You should fill in the registration form on the official page:
http://pro-speleo.ru/index/english/0-26 before May 1st 2010.
Secretariat
Gunko Alexey (executive secretary): gunko.a@mail.ru, prospeleo@mail.ru
Dolotov Yurii: dolotov@yandex.ru

2011

Easter 2011

Chillicon ASF Biennial Conference, Chillagoe, North Queensland.
28th Biennial Conference organised by Chillagoe Caving Club. CCC aims to make the Conference fun and interesting with lots of caving, speleosports etc. Some speakers are already organised, including a couple of internationally eminent ones.

May 2011

19th ACKMA Conference, Ulverstone, Tasmania
Planning is under way for the next ACKMA conference. Details: contact Cathie Plowman or Rolan Eberhard.

27-30 June

6th International Conference: Climate Change — The Karst Record, University of Birmingham, UK.
Three days of oral and poster presentations will be held on the University of Birmingham campus, with accommodation provided on the University Conference Park and in local hotels. Either side of the main meeting, one-day optional field trips will be run to regional karst and tourist attractions.
An announcement calling for poster and oral presentations will be made in late 2010, but if you are interested in attending, please keep these dates free.

CAVES AUSTRALIA

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VACANT

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Change of address
Notify us immediately of any address changes to ensure delivery of your *Caves Australia.*

As no issues of Caves Australia *were able to be published in 2007, the publication dates will include the actual dates the issue is produced.*

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ASF

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WANTED
ARTICLES FOR *CAVES AUSTRALIA!*

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

It is only with YOUR contribution that we can produce a quality magazine for all to enjoy.

For writing and style guidelines, contact the Editor or Production Manager for further information.

Cover: Dogtooth spars in the Bohemia Room, Mystery Creek Cave. Photo by Alan Jackson.

ASF Executive

From the Editor

THANKS to Brooke Grant for filling the shoes of Editor of *Caves Australia* for the last few years.

This role is being temporarily filled by me — Alan Jackson.

Contact Susan White if you think you can help out in this role for future issues.

Caves Australia is still an issue behind but should catch up soon with an expected double issue in June 2010.

All the recent double issues have been demanding on material and I'm sick of begging our more regular contributors for ever more material.

Please put pen to paper (finger to keyboard?) and submit something.

Susan White came up with a good idea in *CA*175 with the 'Caving Areas of Australia' concept but unfortunately few people have taken up the challenge — the only ones we've seen have been submitted by Tasmanians.

This has simply reinforced my opinion that the mainland has nothing to offer the caving fraternity.

Care to prove me wrong?

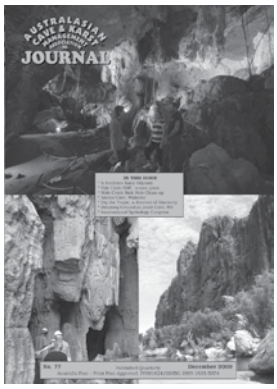
I hope you like cave diving.

Cheers

Ed.

ACKMA Journal

December 2009



- A Northern Karst Odyssey
- Vale Clyde Stiff - a cave great
- Mole Creek Sink Hole Clean-up
- Aranui Cave, Waitomo
- Dig the Tropic, a Journey of Discovery
- Breaking Ground at Jewel Cave, WA
- International Speleology Congress

More information about ACKMA at:

www.ackma.org

Senior Vice-President's Report

Nicholas White

STAN has tied himself up starting a PhD, hence I have drafted this in a hurry. It is therefore very short.

The January Council meeting voted unanimously to accept a new corporate Member of ASF Inc.

This is the newly formed Cave Exploration Group of Western Australia, (CEGWA).

The club was profiled in an article in *Caves Australia* 179 and has Paul Hosie as its inaugural President. We welcome them as members.

The ASF Gift Fund (still called this formally until such time as the Federal Minister accepts our changed name to Karst Conservation Fund) initiated the Timor Appeal.

This raised over $10,000 towards the objection by NHVSS to the approval of a mining permit for limestone on the Isis River, Timor in the Upper Hunter Region.

The NSW Land and Environment Court heard the appeal in December 2009 but at the time of going to press, there has been no decision on this appeal.

At this stage only some of the out of pocket expenses have been paid out.

We may have to pay considerable professional expenses once the decision is handed down.

This was the Fund's first formal appeal for a specific project.

The Executive and Gift Fund Directors are very encouraged by the support received.

Last year the ASF Gift Fund contributed to two small but important projects.

The first was the CSS instigated successful construction and installation of a gate in the sand passage of Dog Leg Cave, Wee Jasper.

The second was the remediation work in Bouverie Cave, Wombeyan, which was mainly cleaning after the Geoff McDonnell rescue.

There are several projects under negotiation at the moment.

One is a gating project in the Nambung Jurien Bay (WA) area, and the other is assisting a private property landowner with karst planning advice.

These are just some of the projects being supported and funded from the Gift Fund. However provided projects fulfil useful karst and cave management, protection or conservation objectives, then you should be asking for ASF Gift Fund support.

The Gift Fund Management Committee wants to hear about your projects.

—Nicholas

Positive press for *CA*

JOHN DUNKLEY recently received a Christmas card from a long-time CEGSA member addressed to:

John Dunkley, Editor & Manager & Staff, *CAVES AUSTRALIA*

It's not often we in the publications sector get positive press, so the opportunity to flaunt it must not be missed.

Dear All

Last year I moved to Glengowrie and one of the neighbours, a bearded, dingy looking chap in sleeveless shirt open in front, shorter than short pants, bare feet, a self rolled cigarette in the corner of his mouth, not shifting, talking, eating or drinking, glass in one hand bottle of alcohol in other, was anxious to get to know me. At my postbox he saw my ASF magazine sticking out and said:

"Aw, caijves, aye, I've seen them all round the country."

"Oh, you have visited our tourist caves, but these are not for tourists", I replied.

"Aw, I've seen them as well".

"Also the UNEXPLORED ONES?"

"Aye, all of those as well."

"Can you tell us where they are? We would like to see those too."

"Forgotten, too long ago."

Being a NON-smoker or alcohol drinker, I give preference to reading my ASF magazine and find it far more interesting and informative!

Keep up the good work!

Season's greetings

and Happy New Year.

Joyce Bakker

Ningaloo Reef and Cape Range World Heritage Nomination

Nicholas White

IN EARLY January 2010 the Federal and WA Environment Ministers announced their intention to proceed with nominating Ningaloo Reef and Cape Range for World Heritage listing.

This is the culmination of a long running campaign backed by ASF, WASG and SRGWA to have karst values of Cape Range properly protected.

Studies on the Cape Range karst and in particular of the troglodític fauna and the stygofauna of the Cape Range caves go back many years. Dr Bill Humphreys of the WA Museum has been one of the primary researchers and advocates for the proper protection of the invertebrate cave fauna. Collecting the cave invertebrates and exploration of the caves was undertaken by cavers over many years. In particular, Darren Brookes was recognised with a Certificate of Merit by ASF for his part in the cave discoveries on Cape Range.

The boundaries of the Cape Range National Park were never satisfactory and this resulted in a range of problems from interests who wished to mine the limestone as well as from a developing tourist industry in and around Exmouth.

The mining issue took many years to put to rest. This finally occurred when the WA Mining Warden recommended the Minister to disallow the mining leases applied for by Finesky Holdings. This recommendation was released in 2001. The objection to the mining application was instigated and coordinated by Rauleigh Webb, to whom we are indebted, as it took several years from lodging the first objections to when the case was finally heard and objectors each had to reiterate their objections. The speleological objectors all had ASF Inc bring the action and were represented by the Environmental Defenders Office WA. The expert witnesses heard on our behalf included Andrew Spate, Elery Hamilton-Smith, Stefan Eberhard, Bill Humphreys, Catherine Morse and Rauleigh Webb. These witnesses all attested to the karst values, the World Heritage values and the biological values. Dr Morse provided context to the archaeological heritage and the likelihood of finding material in the mining lease areas. The mining warden accepted the arguments put by ASF's witnesses and suggested that species might be lost if mining were to proceed and that mining would jeopardise the universal World Heritage values inherent in the area.

SUSAN WHITE

Cape Range karst: incised canyon with overhanging entrances

There has been a lot of politics since then. Most of this related to local development interests which perceive that World Heritage listing would be negative for the Exmouth area and also for the southern coast of Cape Range. The caving fraternity has promoted the karst values of Cape Range but it was not until the Cape Range was combined with the Ningaloo Reef that a that the proposal became successful politically. The boundaries chosen show that much of the Cape Range which was previously not in the Cape Range National Park is included in the nomination which, if successful, should result in better management of the karst values as a whole.

ASF and the Western Australian caving clubs, supported by the EDO WA and other conservation groups, can rightly be proud that this nomination for Ningaloo Reef and Cape Range is now to proceed.

We look forward to participating in management to protect and enhance the values of the area.

Elk River Cave Extended by Diving

The Discovery and Exploration of the Murrindal Potholes Eastern Master Cave

Peter Freeman and James Arundale

ELK RIVER CAVE in Buchan, Victoria, as originally explored by the Victorian Limestone Caving Team (VLCT), had 100 m of accessible stream passage, terminated at each end by a sump.

A probe into the downstream sump had been made by diver Stuart Germon during a VLCT trip in September 2006, resulting in the observation that it ended after a few metres in a constriction.

Later Laurie Brown used a makeshift hookah to inspect the upstream sump and Peter Freeman probed it for reachable airspace using rigid blowpipes.

Later still, the blowpipe probing was performed at the downstream sump. No useful knowledge was gained from all this except that any airspaces must be more than 2.5 m away.

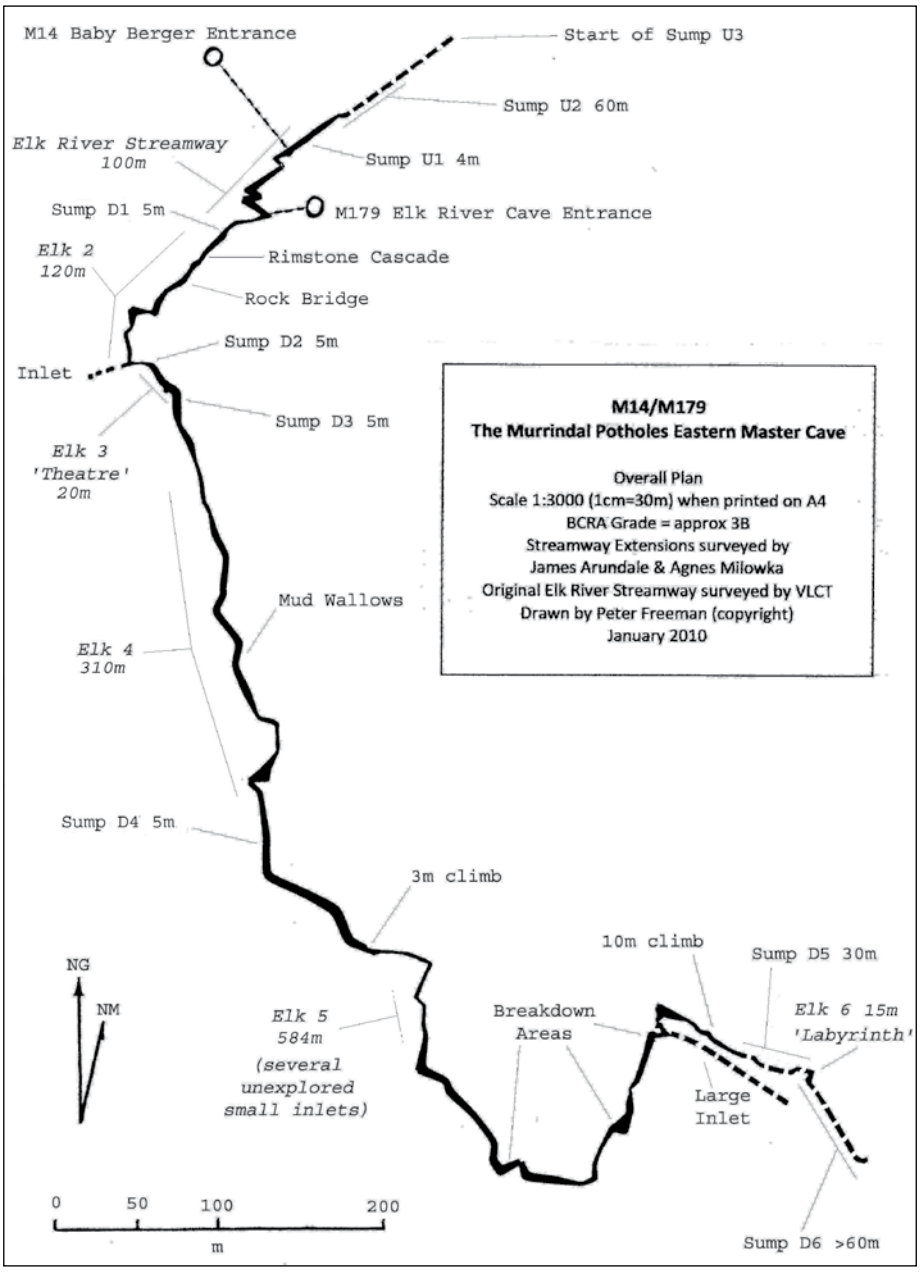
After several visits to the downstream sump, and close observation of the stream passage and its two near-sumps or 'roof-sniffs', Peter concluded that the underwater sections at each end should be relatively short.

This conclusion was based on the fact that the streamway in this section of the cave runs at a low gradient (much of it seemingly on a band of insoluble chert), and that the roof sniffs themselves are perched by barriers of secondary calcite.

The roof sniffs are probably in the process of building up to become sumps, so the two actual sumps would likely be similar in form.

It was time to try an alternative approach. During a VSA trip in January 2008 Jim Arundale inserted himself into the downstream sump in dry gear and came to the same conclusion as Peter.

A photograph of Stuart's diving attempt



J ARUNDALE

Rimstone Cascade in Elk 2

showed the diver using standard back-mounted tanks. Jim, having grown up caving and cave diving in the UK, reckoned that a "proper" side-mounted system could be a little more productive.

March 2008

Diver – J Arundale
Support – P Freeman, B Nuske, M Effendy

This trip, as with all the others, was made using the M14 Baby Berger entrance: although it is the longer route, 'local politics' dictated that this was the only option open to us. Jim had decided that for the initial examination, a single side mounted 40 cuft tank and wetsuit would be sufficient to gain an understanding of the sumps while not burdening the team with too much equipment.

Peter and Jim went down the cave on the Friday afternoon to rig the pitches and carry the majority of the gear as far as possible. This five hour trip resulted in the cave being completely rigged and all the dive gear on the ledge above the streamway.

On the Saturday morning we were joined by Brett and Meilly who had kindly volunteered their time to assist with the gear on the trip out. Progress through the M14 route to the Elk River Streamway was uneventful. We stored our SRT kits near the Balcony as usual to ease our passage through the Balcony Crawl. The only remaining pitch further down the cave is descended by ladder.

Once at the downstream sump, Jim passed the end of the reel to Peter and dropped into the water with a view to moving quickly to stay ahead of the silt. After around 3 m in a pleasant 75 cm high passage, the floor began to rise and a low bedding constriction was reached. Squirming into this, a point was reached where the passage height reduced to around 30 cm. Tantalisingly, the shimmering of an air surface was glimpsed just beyond the restriction before clouds of silt enveloped the diver and visibility was reduced to zero. The reel was locked off and a return to base made to report progress and discuss options. Three more dives were made, each one pushing slightly further than before. On the fourth dive the helmet and lights were removed as being not required and their bulk restricted progress. At the far point, with his head on one side, the gravel/mud floor slumping in behind him and the single regulator complaining about the quantity of stones in the water, Jim decided that slightly more equipment was going to be needed to get a reasonable safety margin, so a retreat was made.

Once back at base, we decided that enough gas and testosterone remained for an examination of the other sump and we made our way back upstream. Dropping into this sump, it was obvious to Jim that it was going to be short and relatively roomy. After only 4 m Jim surfaced into a reasonable sized passage. Giving two tugs on the line to indicate to Peter that airspace had been reached, Jim made a brief examination of the passage that revealed another sump around ten metres further upstream.

Having plenty of air, Jim dived back through to explain the situation before the second upstream sump was tackled. This one proved to be quite small at the start and required some excavation before entry could be made. Once in, Jim found that it quickly opened up to be nearly 2 m diameter in crystal clear water. The shimmering air surface proved unusable, but showed that the sump had no depth. After around 15 m the end of the line was reached but the sump could be seen to be continuing. Mindful of the single kit and the awkward entry into the sump, a return was made and some more digging was done to ease the start for the next trip.

And so our trip was over, except for the long haul out. The difficult part of the M14 return from Elk River is, always, getting packs up the Balcony Crawl. We surfaced around 19:00 after eight hours underground and made our way wearily but triumphantly to Homeleigh.

We regarded this visit as highly successful. The original first upstream sump was passed and the second upstream sump was going, so more than 30 m had been added to the cave's length; and the downstream sump was confirmed as a possibility to pass, with air space visible! We began to plan a return to Elk River with more resources for tackling those new end-points.

November 2008

Diver – J Arundale
Support – P Freeman, B Bulled

The follow-up visit had two major objectives: firstly to see if, with the benefit of two tanks, the downstream sump could be dug through, and secondly to continue exploration of the second upstream sump.

Peter and Jim arrived in Buchan on Friday evening and immediately began their preparatory entry to Baby Berger M14. Four tackle bags and two dive tanks were moved through the cave's upper reaches to the pitch head, and the pitch was rigged. Rigging was improved over previous visits, with a nice Y-hang over a clear drop to Photographers Ledge. We exited the cave into a misty drizzle and fading light at 21:00 after only two hours underground.

The following day, with the assistance of Bruce Bulled as far as the pitch head, we headed down again. It didn't seem to take long before we were donning wet suits at the streamway.

Once in the sump, it was obvious that the way through was to follow the right hand wall and, in the rapidly diminishing visibility, the air surface didn't look that far. Comfortable with two tanks, progress was made by scooping the floor out with hands and pushing it up to one side. In this way, the reel could be moved forward in stages, despite the disconcerting feeling of gravel slumping in behind the legs. After several minutes an outstretched hand could just

J ARUNDALE

Jim at the Elk 2 Bridge

feel a vertical rise in the roof. Encouraged by this, digging continued until one eye could see a large airspace continuing out of sight. More frantic digging and the rest of the head emerged, followed shortly afterwards by the rest of the body.

Two tugs on the line were given to Peter to indicate that airspace had been found, then the gear was jettisoned and Jim skipped off down what was a noticeably larger streamway. After several chambers and a couple of very nice calcite waterfalls, a large circular room with a big pool was reached, with one obvious inlet and in all probability another sump. Conscious of leaving Peter alone for some time, and the prospect of a nasty dive out, Jim decided not to linger and paced out the distance back to the gear.

The dive out was not one of the nicest, taking two attempts and some serious digging and squeezing. We were not really sure who was the most relieved: Peter, to have the nerve racking solo wait over, or Jim to finally get back to airspace on the right side of the sump.

The second objective, that of the upstream sumps, was also tackled, but with the only line reel now left in place through the downstream sump, not much progress could be made apart from installing a permanent line through Upstream Sump 1 and successfully testing a UHF radio system.

The exit from the cave was laborious, even though we left some gear inside for next time. The Balcony Crawl, being body sized and at an angle of around 30 degrees, is horrendous to carry through in the upwards direction, and pack hauling around the corner to Photographers Ledge was again a damn nuisance. Bruce was waiting at the top of the main pitch—he'd had the day outside (a walk around town, a cafe latte or two ...), but he timed his return perfectly. He admitted to us that he had got lost exiting the cave alone, as do all newcomers in that part of M14. Bruce's help with transporting packs was again most welcome.

So ended our second Elk River diving trip. Again, it was more successful than we had dared to hope. We now had over 150 m of extensions. It left us with many new plans in our heads, and itching to get back.

December 2008

Diver – J Arundale
Support – P Freeman

The idea for this trip was to dive on two consecutive days, thus making more efficient use of the inevitable onerous haulage of gear. The objectives were to try and enlarge the downstream sump in order to make it easier and hence safer to pass, to start the survey of the new passage, to take some photographs, and to check out the obvious leads.

With this in mind, Jim and Peter entered the cave on the Thursday afternoon. They had a quick trip down, as the Baby Berger main pitch had been fitted out with bolts and left rigged by Chalky Thomas and Peter during the previous weekend. A little over two hours therefore saw Jim through the downstream sump and UHF radio contact established. This dive again required much "interesting" squeezing, as the previously cleared channel had filled in and levelled out.

Some time was now spent in modifying the far side of the sump, with the idea that if the water flow could be concentrated through a specific smaller section then the normal flow would carve out a natural channel. This completed, an attempt was made to communicate using the UHF radio. Silence from Peter was interpreted as simply a failure in technology and Jim set off downstream checking out various leads, re-pacing the distance and taking photographs.

Back at the dive base, Jim discovered that a burst-disk was leaking on one of the tanks and an HP hose was torn. A tense dive out ensued and it was decided that due to a lack of spares the following day's diving would also be cancelled. A leisurely trip out saw Peter and Jim back on the surface after seven hours underground.

A major advance had not been made on this visit but much had been learned. The nature of the sump-pool perching had been fully assessed, fairly good photographs had been secured, the second downstream sump had been revisited and side passages had been noted.

August 2009

Divers – J Arundale, A Milowka
Support – P Freeman, N Wilson

Although we were desperate to continue the exploration, we were, for various reasons, unable to return for over eight months. However, the team had now expanded by gaining Neil Wilson and Agnes Milowka (Ag). Neil had recently joined the VSA and had expressed an interest in helping, while Ag had returned from the USA, having made some major discoveries and being keen to do the same in Australia.

Neil and Peter had rigged the cave and transported some gear down on the Friday, so Saturday morning's transit was quite quick, compensating for the rather late (11:30) start. Neil improved the efficiency of our travel through Baby Berger by installing a redirect bolt near the Precarious Ledge. The previous trip's modifications to Sump 1 proved to be very successful, so it was with ease that Jim and Ag now passed it and left the non-divers to exit the cave.

Once through, Ag discovered that the waterproof housing on her camera actually wasn't, so the photography was postponed. A full survey was started, but it quickly became apparent that the clinometer had also suffered water ingress and the electronic distometer didn't like the damp, so the survey accuracy was now reduced to compass bearings and estimated distances. At the far end of Elk 2 the inlet on the right was followed for around forty metres past some nice calcite to an ascending rift that could go further with determination.

Back at the pool the way on was discov-

ered, with the pool leading into a sump. Two tanks were therefore retrieved from Sump 1 and Jim dived with a spool of VB cord. As the visibility had been destroyed during the fumbling around, nothing was seen until emerging from the sump after around five metres into a beautiful balcony pool perched above a two metre rock waterfall. A large passage continued on around a corner. The line was tied off and Jim dived back to split the gear with Ag.

Once both divers were through, the waterfall was down-climbed and the large passage followed for around thirty metres to another very attractive turquoise crystal-clear sump with an obvious roomy passage underwater. Ag strapped on the twin gear and disappeared into the sump. Jim had only a few minutes to ponder the fact that he was now beyond a sump with no dive gear, before Ag returned after another short dive to airspace. The gear was split again and both dived through Sump 3.

K SMITH

Agnes at Sump 3

Elk 4 started off as a lowish bedding, with a couple of ducks, but quickly developed into a lovely passage, the stream here being noticeably bigger. As the route was followed downstream, a rift passage was encountered with deep mud overlaid by water that made walking strenuous (an area later dubbed 'The Wallows'). Breakdown areas and what may be a fault led to another sump after around 300 m and steps were retraced to collect the gear.

This time Jim dived with just single kit as everything suggested that Sump 4 would be another short dive. This proved true and once both were through, the gear was ditched and the pair headed off into Elk 5. At this point the cave has a much bigger feel again. After several climbs and some large chambers we came across a drop of around 3 m. Initially no easy route down was seen, and so finishing the day's exploration was discussed before Ag free-climbed down. After an absence of only a couple of minutes she returned with the words, "You'd better come and see this," and having proved that it was possible to re-climb the drop, they again set off. This time the passage had changed again, into a tall narrow rift. After passing more climbs and a large dry inlet that could be seen to continue, they finally came to a slanting rift pitch around 10m deep, which dictated the end of exploration for that trip.

Rough pacing out on the return journey gave an estimate between 550 m and 600 m for Elk 5, around 300 m for Elk 4 and 30 m for Elk 3. This coupled with the already known 120 m for Elk 2 gave a total extension of around one kilometre.

The long slog of hauling gear back to the start of the balcony crawl resulted in an overall trip time of nearly thirteen hours and it was two very tired people who wandered into Homeleigh after midnight, although this didn't prevent a bottle or two of wine being opened while the story was retold to Peter, Neil and Lynne until 4:30 am.

The following day was our 'de-rig and retrieval' descent. All four of us participated, and we had the gear out in four hours. As always, dragging each item up the Balcony Crawl was tedious, to put it mildly. When we drove away from Buchan to head home the whole team was elated: it had been an historic weekend, since we now knew for certain that we had found the Master Cave.

Early September 2009

Divers – J Arundale, A Milowka
Support – P Freeman, M Pierce

As usual, the non-diving support crew, this time Peter accompanied by Miles Pierce, had the thankless task of rigging the cave on the Friday night, allowing Jim and Ag a nice quick run through the cave on Saturday morning. The now familiar route to Elk 2 passed without incident. The survey was continued from the line belay at Sump 2. More photos were taken in Elk 3, where an advanced base/gear dump was set up and slightly mashed but dry and tasty sandwiches were eaten.

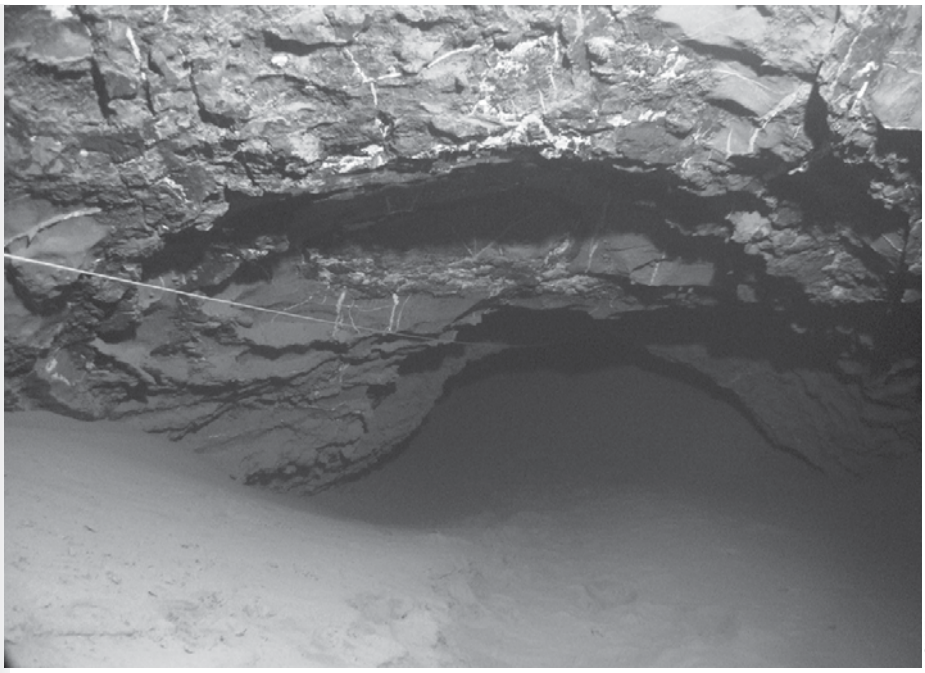
The survey continued in Elk 4, with Jim learning how to survey on the job. The on-camera flash was proving problematic with water vapour but Ag developed the technique of photographing while moving to stay ahead of the steam and, although not perfect, it did result in some good shots.

As planned, once in Elk 5 the survey quality was dropped to distance and bearing only. The idea of rigging a rope on the 3 m climb was thwarted by the lack of natural belays in decent rock, the floor being of clean washed hard limestone with boulders of flaky mudstone. In the end a tape sling was looped optimistically over a slight ridge and Ag and Jim pressed on.

Shortly after the climb, at the start of the 'pretty section', the batteries in the disto gave up the ghost, and with time pressing on we abandoned surveying in preference for photography. Alas, soon after this the second camera battery also died and we took this as a sign to press on to the known end. Reaching the top of the 10 m rift pitch, we had more trouble finding suitable belays, the two obvious well jammed chockstones at the top proving somewhat mobile. With these repositioned halfway down the pitch, the rope was abandoned and Jim free climbed down. Ten metres horizontally from the base of that pitch the passage became out-of-depth in water, but through a roof-lowering to near water level it could be seen to continue.

Ag climbed down the pitch and the duck was passed to a smallish chamber with out-of-depth water and no obvious way on. As Jim had insisted that they would pop out of a hole in the roof of Scrubby Creek Cave, all the diving gear had been left at the previous sump around 600 m away. It was therefore not possible to locate the underwater continuation of the cave passage.

Determined to try to find a Sump 5 bypass, Jim re-climbed the pitch and traversed over the top following where Ag had examined the previous trip. The connection



K SMITH

The dive line through clear water in Sump 3

between the upper and lower sections was proved, with Jim dropping rocks on Ag as she also made her way out. This marked the far point for exploration on this trip.

It was decided to re-examine the large dry inlet on the way out. They had been stopped on the previous trip by some lovely mud formations that they thought they could bypass by cutting steps around the edge. This they tried, and it proved marginally successful, with Ag performing some interesting acrobatic manoeuvres on a loose climb. The passage continued to rise gently with a very slippery muddy floor, finally ending after about 70 m in a muddy crawl that could yield more with some excavation. Interestingly, evidence of burnt charcoal was seen below a tight ascending rift, indicating a connection to the surface. There is also a lower level to this area, which was not examined at this time as the way down is steep and is coated in frictionless mud.

Once again, at Homeleigh, the support crew and surface helpers waited many anxious hours for news, and again deposited sustenance up at the Potholes car park for a pair of tired divers (jam sandwiches and hot tea—becoming rather a tradition already). Jim and Ag finally let them breathe again by parking outside Homeleigh at 02:15. That made fifteen hours in the cave, ten of which were spent beyond the sumps.

That the divers had gained little new length was of no importance. They had returned with photographs, survey data and an improved understanding of the nature and layout of the cave. Once again, naturally, we stayed up late. Despite their tiredness, Jim and Agnes needed the wind-down time, and we spent two hours discussing the trip and making notes while all the experiences were fresh. And we may have drunk a little wine.

The following day, the divers woke to find that the support team had already gone back down the cave and retrieved the gear that had been left in there the previous night.

A MILOWKA

A Duck in Elk 4

Later September 2009

Divers – J Arundale, A Milowka
Support – P Freeman, N Wilson, D Pierce

The principal objective on this trip was to examine the sump at the end of Elk 5. To avoid carrying too much gear, Ag and Jim had decided to take a tank each to the start of the sump, where Ag would dive on twin three-litre tanks. In addition, Jim would position a spare tank at the exit of Sump 4, in order to secure his escape just in case Ag got too enthusiastic.

After the support team bade the divers farewell and good luck at the first downstream sump, an efficient carry was made through to the end of Elk 5, pausing only briefly to place a bolt at the top of the 3 m climb: a fall resulting in any injury here is something to be avoided.

At the start of Sump 5 Ag kitted up with the three litre tanks and she dropped quickly out of sight, the sump obviously going much deeper than the previous ones. She was only gone around ten minutes before returning to report an easy 30 m sump followed by around 15 m of passage and another sump. The gear was split and both dived to Elk 6 in zero visibility.

In an attempt to stay ahead of the silt, Jim took the remaining line and on single kit floated into Sump 6. The way directly ahead seemed to continue in an awkward looking tight rift, so the obvious deeper route to under the right hand wall was followed. This dropped for around 3 m before seeming to turn back to the original passage direction and continue on roomy. At around 30 m from base, it became obvious that the passage was continuing at a similar depth, and a large convenient block in the middle of the passage suggested that this was far enough on single kit with one light, no fins and only 3 mm cord as dive line.

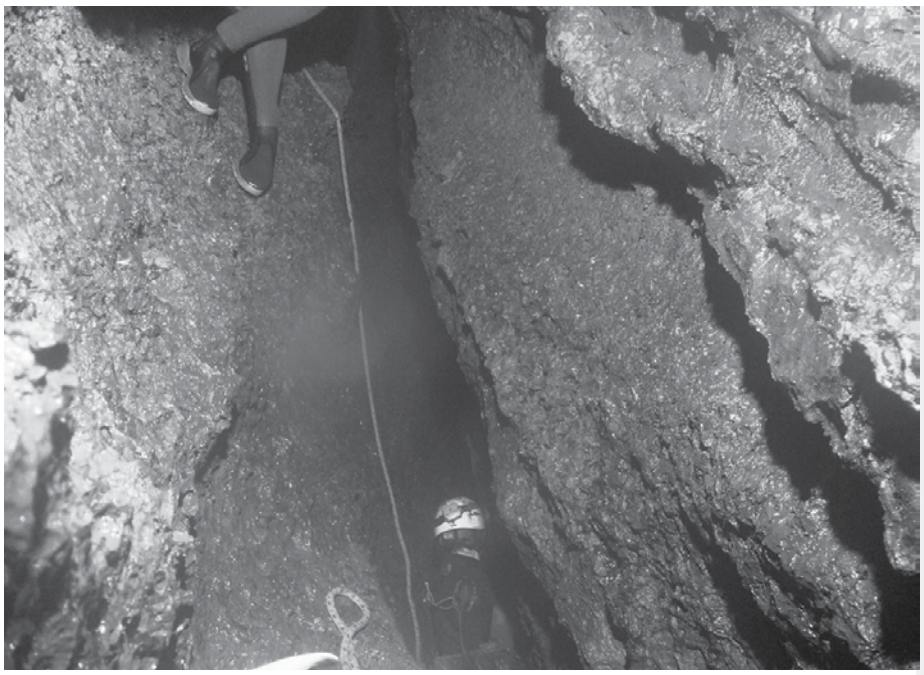
Back at the start of the sump Ag decided to have a look. Being undeterred by Jim's caution, another twenty metres of line was laid before the way could be seen dropping off to greater depth, and a return was made.

The various high level passages visible in Elk 6 were explored, but they all seemed to connect back.

Once back in Elk 5 they surveyed out and investigated various inlets, all of which quickly narrowed down but may lead to more passage with some gardening. The resultant survey length was 580 m, which showed that the estimation was damned good as it had been paced out at between 550 and 600 m.

Back in the comfort of Homeleigh, Neil, Darryl, Lynne and Peter had to sit up only until 00:30 this time before the divers returned after a mere twelve hours underground. Again, a long debrief session ensued and they drank a glass or two of wine before they retired.

The next day saw a very rapid de-rig trip, with most of the hard work being done by Darryl and Neil.



K SMITH

10 m rift rlimb leading down to Sump 5

November 2009

Divers - J Arundale, A Milowka, M Collins, K Smith
Support – P Freeman, T Matthews

This trip saw an expanded dive team with the addition of SUSS member Michael Collins and CEGSA member Ken Smith. Both Mike and Ken are experienced sump divers and were more than keen to help with the exploration. The non-diving team was supplemented with Ted Matthews (who is, like Mike, a guide at the Jenolan show caves).

The plan for this trip was for Michael and Ken to help haul gear to Sump 5, and then to have a thorough look around and take more photographs in that area whilst Jim and Ag were diving Sump 6.

As was now normal practice, the cave was rigged on the Friday night (by Peter, Ken and Ted) in preparation for the divers' descent next day. The logistics of packing all the gear for four divers delayed the start until lunchtime and the huge amount of gear took quite a while to get to the first sump. At this point the support crew turned back and exited from the cave, as usual. The dive team's slow pace continued through the new sections as they wanted to get underwater shots as the first diver entered the sumps.

Once at the end of Elk 5, Jim dived first, with Ag planning to follow twenty minutes later. On reaching the end of the line in Sump 6, Jim tied on a new reel and swam through a slight dogleg with the depth dropping to a new record for this cave system of 6.9 metres.

Turning to the left, a rising bedding plane was entered, with the roof lowering more quickly than the floor. The left wall now seemed to offer a better route, but progress was slowed as some larger boulders required relocating. Since the snoopy loops had been mislaid, Jim optimistically looped the line around several very rounded boulders, hoping this would secure the line.

By this stage the visibility was zero and it was only on breaking out of the bedding plane that an air surface was seen. Thinking this was the end of the sump, Jim rocketed to the surface with visions of more railway-sized tunnels roaring off into the distance. Unfortunately, on surfacing he found himself in a large blind solution pocket with thick dense mud coating everything. Re-submerging in very poor visibility a vague impression of a way on to the left was spotted. Conscious of having been breathing like a steam train and knowing that Ag would soon be arriving with bigger tanks, Jim locked off the reel and jammed it in the wall.

The return out of the sump was made in pretty poor visibility and the divers re-united. After listening to the description, Ag set off, leaving Jim to examine the various high level passages in Elk 6. She returned after around 30 minutes having seen nothing for the entire dive and not really having made much progress due to the poor visibility and issues with the line. A marked dive-slate was left with the reel at the farthest point.

The return journey was much easier with the assistance of Mike and Ken, and so on reaching Uncles Aven it was decided to have a peek upstream. Jim and Ag passed the first upstream sump and Ag continued into Upstream Sump 2. This went for nearly 60 m before surfacing in a low, narrow canal, which ended after fifty metres in a third upstream sump.

Deciding enough was enough and conscious of the time, a retreat was made, and the reunited dive team of four began the long slow haul out. It was only on reaching the bottom of the entrance shaft, when daylight was seen, that they realised how long the trip had taken—nearly 18 hours in all. It was 05:30 am!

Since none of the divers was in shape for more work, and indeed three of them had to get back to Melbourne later that day, the de-rigging and gear retrieval task was postponed from Sunday to Monday and was performed by Peter, Ken and Ted. This allowed a grateful dive team some sleep.

Conclusion

The exploration of what is now perceived to be the Murrindal Potholes Eastern Master Cave continues. The survey published here shows a streamway length of about 1400 m (this does not include the access routes via M14 or M179, or any branches). Under rather trying circumstances our surveys have been of variable standards: they are steadily being refined. Most of the cave has been seen only a limited number of times, so details are sketchy and leads may have been missed.

Much remains to be done, including the relating of the underground environment to surface features, and geological and other scientific aspects of the exploration.

However, there can be no doubt that this is the most important cave find in Eastern Victoria since the major caves were uncovered in the 1900-1910 era. The system's total length of around 1800 m and depth of around 100 m places it high in Victoria's rankings.

Junee-Florentine Karst, Tasmania
Part II: January-April 2009

Richard Harris, Liz Rogers, Dean Chamberlain and Grant Pearce

THIS ARTICLE outlines the exploratory diving conducted in Lawrence Rivulet, Junee-Florentine, Tasmania. The initial trips were conducted immediately after exploration dives in the Junee Resurgence (see *Caves Australia* 177).

Participants: James Arundale (CDG), Dean Chamberlain (CDAA), John Dalla-Zuanna (CDAA), Richard (Harry) Harris (CEGSA), Grant Pearce (CDAA), Liz Rogers (CDAA).

January 9th: Dive Day 5

Time for a good look at the Lawrence. Our research of previous dive reports from Hume and Eberhard *et al.* gave some conflicting information.

Everyone seemed to agree on a couple of things: the entrance is tight and difficult to negotiate, the flow can be strong and hence gas is consumed very rapidly, but finally if you can get into the system plenty of virgin passage awaits exploration. We needed no further encouragement.

Lawrence Rivulet lies only a very short walk through the rainforest from a forestry track about 30 km from Maydena. The leeches and mosquitoes were still there in abundance and made us feel very welcome. John Dalla-Zuanna had to leave today and Harry was feeling unwell, so everyone elected Liz to be the test diver and sent her in to check the water.

With the occasional shriek as a leech sampled her plasma, she crawled beneath the massive log which guards the entrance and disappeared for a 26-minute dive, maximum depth 23 m. She reported high flow, 4 m visibility but an excellent dive.

Two restrictions were evident, the first at the entrance between two smaller logs. Further down the cave at 18 m depth, a second restriction must be passed.

Wearing sidemounts, you must keyhole this restriction by lifting your right tank (turning your body to 45 degrees) to pass through. Once practiced this doesn't present any great difficulty but one would find it near impossible with backmounts.

RICHARD HARRIS

Dean Chamberlain, wearing side mounted tanks, prepares to enter the Lawrence Rivulet

Liz reported the line in tatters beyond the point Dave Apperley had got to (just beyond the restriction) and started laying a new line. Dean followed Liz and added a bit more to the line, but they had yet to reach the previous limit of exploration.

That night while the group enjoyed Jim's special curry, Harry made a visit to Hobart hospital emergency department with a kidney infection… ouch!

January 10th: Dive Day 6

A day off for Harry, not surprisingly. Grant also not feeling well. Jim had to go to Hobart so that left only Dean and Liz to continue their diving in Lawrence Rivulet. They made one dive each with which they reached a steeply ascending slope up to 12 m depth, at which point they could not find a way on. This slope had been previously reported and was probably the previous limit of exploration.

January 11th: Dive Day 7

Connection of Lawrence Rivulet to new sinkholes: "The Soggy Sink" and "The Tigers Eye Cenote".

Harry was back on deck and Jim was diving too.

Harry dived and reached the end of Dean's line, seeing the pinch that had stopped him. Pulling the line back down the slope, he headed to the left and found a new way on up a silt mound. Unfortunately this closed down too and he retreated in zero visibility.

While Harry was diving Grant had a look at a small surface sink (called "Soggy Sink") across the track that Dave Apperley had mentioned to the group. The sink has a clay floor and contains several very small pools of clear water. As Harry was diving the Lawrence Rivulet, Grant noticed his bubbles erupting from the mud and water—it seemed the choke they have reached was under this sinkhole.

Jim dived next and Liz and Harry wandered around the sinkhole at the same time.

As with Harry's dive, Jim's bubbles appeared near the sinkhole and then disappeared, but this time they reappeared nearly 10 minutes later. He had found a way on. Jim had retrieved Harry's line and looked further to the left again. A tight passage led further on and steadily ascended again.

Still on the surface, Harry decided to walk further into the bush in the direction the cave was heading. Just over the next rise he discovered a beautiful pool of flowing water filled with wonderful aquatic plants and looking like a Mexican cenote in the sunlight. Water was rising from the far side of the pool and then disappeared in a whirlpool between the many logs on the near side. Great excitement. The feature was named Tigers Eye.

Harry returned to the Lawrence Rivulet for a second dive and picked up where Jim left off. He continued another 10 m or so until suddenly he was met with an impenetrable wall of silt coming towards him at a depth of 7 m. He beat a hasty retreat and found out on surfacing that Grant had been wading in the new cenote and a large blob of clay had fallen in and been washed down to meet him, thus at least proving the connection between the new cenote and Lawrence Rivulet! Grant and Jim decided to have a look in the resurgence side of the new hole and laid 30 m of line down to a tight, hard rock restriction, which looked as if it will halt progress. Beyond lay a large and beckoning space.

January 12th: Rest Day

Home time for Jim and Harry. Dean, Grant and Liz remained to explore the new site.

January 13-16th: Dive Days 8-11

by Liz Rogers.

January 13th

Liz dived Lawrence Rivulet to the final restriction, couldn't find a way through, and surveyed her way home. Grant went in next and cleaned up all the old scraps of line. Dean then dived and moved a log and a rock to get through the restriction into the daylight zone. He then did a second dive to move the original yellow line before the 18 m restriction away from the sharp rock wall that Dave's patch of line was grazing. Grant then dived Tiger's Eye and did some more digging.

January 14th

Dean and Liz headed back to FYEO to take photos, and Grant did a day trip to Strahan looking for timber for a table!

January 15th

Grant dived first and continued digging the restriction in Tiger's Eye Cenote. Dean dived second and ran the line around the restriction and through a sandy flattener and rock restriction, taking it to a depth of 28 m, and the start of the "pillar room". With no wing he had buoyancy issues, rapidly followed by silt issues. Liz then dived, taking the line to 36 m before skedaddling. A 21-minute dive and she was absolutely freezing.

LIZ ROGERS

In the "Soggy Sink" found by Dave Apperley, Richard Harris enjoys a mud bath while checking potential leads

Grant dived again next and tidied up the line down to the start of the pillar room. It was getting late at this point, so Dean and Liz jumped in together with the measuring tape and slate and surveyed their way out. That night it started to rain.

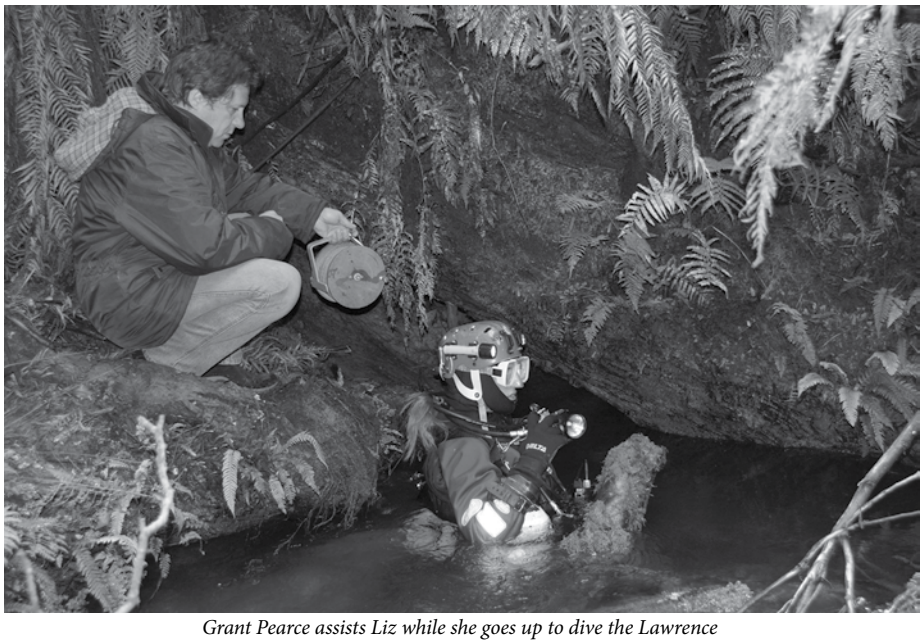
January 16th

With rain still pouring down, Dean geared up and did two quick dives in Tiger's Eye—the first down through the logs to retrieve Jim's reel from Lawrence Rivulet, tie it off, survey and cut the reel off. The second was to the original restriction in the upstream section to retrieve the pry bar and other tools. He was in for about 30 minutes in total and during that time the water level rose about 10 cm.

Note: A third sink has been noted on the other side of Tiger's Eye. Likely connects into new passage.

By Dean Chamberlain

On the first dive through the restriction in Lawrence Rivulet, after two false starts and silt-outs, followed by retreats, I managed to get the line up to be able to see through into Tiger's Eye, obscured by logs.



RICHARD HARRIS

Grant Pearce assists Liz while she goes up to dive the Lawrence

RICHARD HARRIS

Liz, a great fan of leeches, enters the Lawrence…

On the 15th, after the dive into the second sump, I pulled the logs out of the way and went in through what turned out to be another tight flattener, retrieved Jim's reel and pulled it through. I'm not sure whether it's worth noting that the line isn't ideal at the moment. On the 13th I tied off in a spot that was good for a final (potential) tie off, not a good avenue, so currently the line comes down from the surface, turns abruptly left, follows the roof, then goes down the wall. In future it probably should be relaid, but I didn't have the opportunity given time constraints.

Return to the Lawrence Rivulet

by Grant Pearce, April 2009

Although the conditions looked great before we arrived, the weather and mechanical gods conspired against me.

Day 1

Travelled to Westaway from Devonport and stayed the night at the Platypus Cottage on the river, catching up from a lack of sleep during the night sail.

Day 2

Travelled to Maydena Alpaca Farm; the weather was deteriorating—light rain. Travelled to the Tigers Eye ready to dive. The water level was low and the log was exposed. I started to set up the gear, then noticed that we had a flat tyre; I changed the flat in mud and rain and noticed that the spare tyre was going down. I packed up in a hurry and drove quickly to Maydena, but 1 km outside of Maydena the tyre was completely flat and shredded and I couldn't drive any further. There was no phone reception so I sent Lynne for a long walk to call the RACT (RAA). Two hours later the tow-truck arrived and took me to New Norfolk, where I managed to get one tyre repaired by 5.30 pm. A big storm hit Maydena and dumped heaps of rain and snow in the mountains nearby. I had a pretty good idea what this would mean in terms of the Tigers Eye—I assumed an increase in flow.

RICHARD HARRIS

…and then exits in the silty waters.

Day 3

I had to travel to Hobart to buy a spare tyre and ended up replacing the whole set. The entire day was lost.

Day 4

On early arrival at Tigers Eye, I was greeted by an increase in water level of at least 1 m, very noticeable turbulence coming from the efflux and low water clarity. Nonetheless I was determined to add line. I kitted up the sidemount KISS with a trimix 18/42 for bail out (12 L and 5 L).

I descended the line, which was still intact, and noted that at only 2 m the line was vibrating from the significant flow; visibility was mostly 0.5 to 1 m, if that. The flow was very strong for the first part of the passage and I had to pull myself along using the jagged edges on the walls, making a note to myself to be careful when exiting with the flow.

The first restriction was negotiated—it seemed tighter this time and I had to push every inch—in near-zero visibility; I could just see the orange line on the left-hand side. I dropped down the second restriction in 0.5 m visibility. The line was still in place, the flow strong and the going hard. I followed the line in the larger passage, breathing heavily on KISS in strong flow conditions and being careful of a CO_2 hit.

Visibility was still 0.5 m; I followed the line to tie off at about 38 m and noted Dave Apperley's line to 40 m (Dave visited here last month). I couldn't see what else was happening in these conditions, decided I wasn't having fun and that it was time to get my arse out.

Visibility on exit was near zero all the way. After squeezing through the last restriction I stopped to check and add O_2 and was turned around by the strong flow and spat out backwards, dodging projections as they suddenly appeared. This was the worst part of the dive—I couldn't hold on to anything to stop from being shot out. What a relief to surface. Dive time total 30 minutes, maximum depth 40 m—a very entertaining experience. Given the poor conditions, I decided to leave and return later in the year.

Day 5

Departed for Devonport.

Action Jackson

A profile of the second recipient of the Jeff Butt Award for Exploration

Stephen Bunton
STC

IT'S RATHER ironic that the latest recipient of the Jeff Butt Award for Exploration, ASF's tribute to the legacy of Jeff's endeavours, is currently involved in completing another couple of Jeff's legacies.

At the moment Alan Jackson is drawing up the maps of a number of caves that Jeff managed to survey before his untimely death, most notably Splash Pot (JF-10) and Mystery Creek Cave (IB-10). Threefortyone (JF-341) and Khazad-Dum (JF-4/5) are two more yet to be started. He is also gradually tagging the scores of JF-X numbers from the Junee-Florentine discovered by Jeff. It is a worthy task and certainly befitting of one of Australia's most enthusiastic contemporary cave explorers.

It is no fluke that Alan Jackson has discovered more virgin caves in Tasmania than anyone else in the last decade. He would be the first to concede it takes time, dedication and a very methodical approach. It is not just a matter of good luck.

Alan has been caving energetically with STC for around ten years. In that time he has become the club's driving force. Much of this impetus was something he learned from itinerant Pommy caver, Madphil Rowsell.

Madphil is a fanatic, almost obsessive, the sort of oddball personality that caving somehow seems to attract, but he is just the man you would want to get things done.

When Madphil arrived, he set his sights on the Ida Bay area and unbelievably located almost all the recorded caves, surveyed most of them and fixed them into a survey grid covering the whole karst area. In the process he found quite a number of new caves and burned out most of the local cavers during his three whirlwind Tassie tours—except Alan Jackson.

STEPHEN BUNTON

Alan GPSing karst features in the Junee-Florentine

Madphil's motto was "You have to kiss a lot of frogs to find your princess," and they certainly did.

Before long Alan Jackson had his name on a huge number of surveys and was involved in exploration of quite a few decent caves.

The main achievements were the systematic surveying of the extensions to Little Grunt (IB-23) and the discovery of Rocket Rods Pot (IB-171).

When the cave prospects of Ida Bay diminished and Madphil returned to the motherland, Alan turned his attention and enthusiasm to the Junee-Florentine. Armed with the latest technology; a GPS (now with the selective availability turned off), a portable electric drill for cave numbering, bolting or the odd cap, Alan was able to make significant contributions to the documentation of Australia's premier deep caving area.

Most significantly, it was not just the hours spent flogging around the scrub that enabled Alan to find new caves but hours spent "doing his homework" as I call it, researching where to go to find the most likely prospects, helped by the STC electronic archive, which Alan works hard at keeping up-to-date.

The Junee-Florentine has endured a number of waves of attention over the last half a century. Initial exploration yielded a number of spectacular caves where significant streams sink, caves such as Growling Swallet (JF-36) and Khazad-dum (JF-4/5), became Australia's deepest.

Subsequent exploration travelled further afield to reveal a few others, including

Serendipity (JF-344) and Ice Tube (JF-345), which snatched the record for Australia's deepest. When Niggly Cave (JF-237) overtook the Ice Tube-Growling Swallet system at 375 m deep you could be excused for thinking all the deep caves had been discovered. Certainly all the low-hanging fruit had been picked. Alternatively, you could consider that there must be plenty more if you were to look hard enough. This was the Alan Jackson strategy.

Jeff Butt was keen to find more deep caves and despite his incredible enthusiasm he was rather less methodical; it was as if he knew he was in a race against time as his body succumbed to cancer. Many of the caves that Jeff discovered were not tagged and therefore only given JF-X numbers. Complicating this was another series of numbers. Rolan Eberhard, who was working for Forestry Tasmania at the time to determine areas of karst sensitivity, assigned JF-Z numbers to nearly two hundred features in the Junee-Florentine. These weren't included in the ASF Karst Index system because the information was considered the property of Forestry Tasmania. Identifying all these caves, tagging and surveying them would be a monumental but ultimately rewarding undertaking.

Alan's first big breakthrough was in a cave known as Wherretts Cave (formerly JF-X53 and JF-Z56, it also had another reference from a biospeleological investigation). It was around 70 metres deep and ended in a tight drafting squeeze. A little cosmetic squeeze enlargement and the latest wave of STC explorers had pushed the cave to -375 m, renamed it Tachycardia (JF-270) and placed it at the top of the deepest caves list (see *Caves Australia* 171). Not satisfied with this effort, Alan turned his attention to another drafting hole, with an easily enlarged squeeze and opened up Dissidence (JF-382). The name indicates the split in opinions about the ethics of this practice. Nevertheless a 284 m deep, fine, sporting cave was uncovered. (see *Caves Australia* 176).

STEPHEN BUNTON

In drawing up the maps of Splash Pot and Mystery Creek Cave, Alan was determined that this should also be done properly. This involved numerous trips into these caves to ground-truth the survey sketches. As expected this resulted in the discovery of a few minor passages and a major extension upwards in Mystery Creek Cave (see *Caves Australia* 177). These were added bonuses. Again new technology was required; a power drill makes aid climbing so much easier!

There may be critics of his approach but Alan isn't the sort of person who is going to be put off his game just because a few people don't agree with him. He also knew that it was just as important to record his efforts and publish them as trip reports, especially since he relied so heavily on reports from the past.

The lifeblood of a caving club has to be its newsletter and Alan took over editing *Speleo Spiel.* Under his editorship it has continued to be a regular high quality publication, with that quirky sense of humour that only people who explore the dark parts of our planet can appreciate.

As one of the most active cavers in the club, Alan writes half of the articles for each *Spiel* and as editor he gets to interject his caustic wit into the rest. His mum always taught him to do what he was good at and he jokes that this is being rude to people. Forthright would be a suitable euphemism, but he certainly doesn't suffer fools gladly. Taking over the *Spiel* was not done because he is a control freak, not totally anyway, it is more that he can't stand to see things not done properly. As we all know, "If a job's worth doing well, it's worth doing yourself" and Alan volunteered his tenacity in getting the job done, to ASF, in order fix the *Caves Australia* publication-delay-dilemma by becoming its production and advertising manager and eventually stand-in editor. In the last few years this has seen not just the maintenance of quality in ASF's quarterly magazine but a return to regular publication dates. Again, it is the magazine that is the life-blood of any organisation and hopefully Alan Jackson has revived ours. Being a more serious publication, unfortunately he has to be nice to people and not interject in their articles. Not that there are any fools in ASF!

This summer he turned his attention to Niggly Cave because it is a must-see cave. In his enthusiasm he managed to descend the 191 m Black Supergiant pitch three times on successive weekends as he systematically investigated the lower reaches of the cave and finally bottomed it, taking a couple of other STC bods along for the fun of it.

So with a few messy cave-numbering systems in the Junee-Florentine to sort out, many more caves to map, a lot of frogs to kiss, a few surveys to turn into high quality cave maps and two magazines to edit, Alan Jackson is a busy boy, not to mention the steady stream of little caves that turn up each trip and need to be recorded for posterity. As such it seems fitting that he was awarded the Jeff Butt Award for Exploration in 2009. If any of his optimism is rewarded and a few more of those frogs do turn into princely deep caves, he could well win it again in two years' time. As a personal friend, I hope so, because I enjoy being towed along for the ride.

CREDIT?

June McLucas
Caver and artist

Elery Hamilton-Smith

JUNE MACLUCAS is both a caver and an artist. She commenced her artistic career in the 1980s and staged her first exhibitions of cave works in the early 1990s. These comprised paintings from the Nullarbor Caves, but were followed by works from many other Australian cave areas.

She has presented exhibitions at Adelaide, Riddoch, Mt Gambier , Melbourne, Sydney, Abercrombie, Broken Hill, Bathurst. Fremantle, Bunbury and Burnie

Then she also developed an international program, staging a collection of eleven artists from around the world at the ASF Conference at Yeppoon in 1999. She also contributed to exhibitions in the United Kingdom, France, Switzerland, Austria and the United States. She has been one of those who played a key role in developing international networking amongst contemporary cave artists.

Her work has made a very considerable contribution to the understanding of the cave environment among cavers and the broader public. It captures both the sublime character of the big underground views and the beauty inherent in the close-up views of crystals, surface textures and other natural decorations.

June is an Honorary Life Member of CEGSA and CEGSA's official Artist in Residence.

The Raumer Handy

A useful braking krab

Alan Jackson

THE PETZL STOP is the descender of choice for Tasmanian Cavers—the NZers think we're strange but we feel the same way about their love affair with the rack descender (heavy, bulky, cumbersome bloody things!) The amount of friction provided by the Stop varies due to several factors:

- The amount of wear on the bobbins.
- Diameter and age of the rope (old rope tends to be stiffer and brand new rope can be pretty slick).
- Wet versus dry rope and clean versus muddy rope.
- Pitch length – there's lots of rope weight on a long pitch which means a slow start but a fast finish!

A small diameter, brand new rope on a wet pitch can lead to some exciting abseiling conditions for the uninitiated.

To overcome this one usually employs a 'braking krab'—an extra karabiner that sits beside the descender on the harness through which you run the tail of the rope to generate extra friction. At times I've found that even this isn't enough—a frightening experience I had on the 65 m pitch in Dwarrowdelf, Junee-Florentine on wet, brand new 9 mm rope springs to mind. I had the rope wrapped around my legs that day to generate sufficient friction for a controlled descent! The answer to all my problems revealed itself while I was flicking through the pages of *Alpine Caving Techniques: A Complete Guide to Safe and Efficient Caving* by Georges Marbach and Bernard Tourte—the French SRT bible.

The Handy is a dedicated braking krab—not much good for any other use. It is stainless steel, compact, robust and reasonably light (106 g); using an aluminium alloy would be lighter but it would wear out too quickly. One end of the device is round while the other end is V-shaped—by pulling the rope up into the V the rope bites and you slow down significantly! Initially it can be

difficult to control (the rope can really grab, bringing you to an abrupt halt) but after a few descents you learn how to gently adjust the rope angle to make it run smoothly. The device is quite small (overall length and internal radius) so it doesn't mount nicely onto your central maillon. To overcome this Raumer provide a small welded loop with a kink in it so that it sits further out but still oriented correctly. I guess this is cheaper (and lighter) than simply making the whole thing bigger.

Another virtue of the Handy (versus a standard braking karabiner) detailed in *Alpine Caving Techniques* (ACT) is prevention of potentially dangerous problems if an abrupt loading of the lower rope occurs. ACT goes into this in detail, but essentially if you have two people descending a single rope separated by an intermediate rebelay and that rebelay fails then the descender of the higher caver experiences a sudden shock load—this can pull the top end of the Stop down and jam it inside the braking krab. Even after the load is removed the Stop can remain jammed in the braking krab which effectively reduces the braking effect of the krab to nil – if the caver is caught unawares and looses hold of the rope he can experience an uncontrolled descent. Because the Handy is shorter and narrower than a standard krab this (admittedly rare) scenario can't happen. Again, ACT goes into significant detail on this scenario (pages 44-45). ACT is a very good reference book.

On 10.5 mm diameter rope (or greater) I haven't had any need to use the Handy in 'aggressive' mode but I have regularly used it on 9 and 9.5 mm rope. I imagine it would be indispensable on 8 mm rope (but the mere mention of that diameter will no doubt send the ASF safety brigade into apoplexy). Often on long pitches (e.g. 112 m Harrow the Marrow pitch in JF-10 Splash Pot and the 190 m Black Supergiant in JF-237 Niggly) I have done the first section using the rounded end and then spun the device around to engage the more aggressive V-shaped end for the latter part of the descent once the rope weight is gone and or you're being lashed with rope-lubricating waterfall spray.

Sourcing the Handy in Australia is difficult—I'd never even heard of Raumer before I read *Alpine Caving Techniques*. I contacted Raumer directly (via their website) and they responded promptly, informing me that they don't know of any Australian suppliers. In the end I got mine posted out from an online UK caving gear supplier (I think some US online sites also stock them). I don't know what I paid for it back then but the going rate looks to be around the £15 mark. You've then got postage on top of that. Google should be able to answer any questions.

My conclusion: if you're regularly abseiling on small diameter ropes, often in wet or muddy situations, then the Handy is a handy and versatile piece of kit; I love mine. If you're scared of anything less than 11 mm then you're better off wearing through all your old retired snap-gates and saving yourself a few dollars.

CHILLICON

2011 ASF Conference

FROM April 17 to 22 this year, the Chillagoe Caving Club will host the 28th biennial ASF Conference at Chillagoe.

During the week-long conference there will be international, national and local guest speakers covering a broad range of topics. Workshops are also planned for each day as well as cave tours and lots of caving opportunities.

The Chillicon Conference promises to be a week of informative fun, with a fresh approach being taken by our adventurous co-ordinator. So bring your caving equipment and be prepared for anything.

This will be a week filled with endless new information, fun, caving and new experiences.

More details will be revealed in the coming year.

Getting There

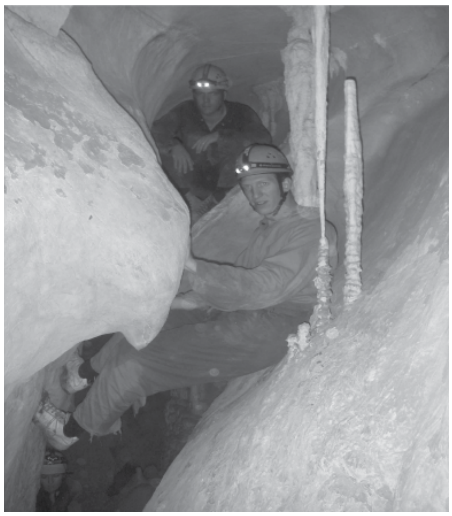
The township of Chillagoe is located in the western foothills of the Great Dividing Range towards the base of Cape York Peninsula approximately 200km by road from Cairns on a mainly sealed road. Allow around 2.5hrs driving time from Cairns. It is also possible to fly to Chillagoe, approximately 40 minutes direct flight from Cairns.

Accommodation

There is a great range of accommodation available, with camping, caravan park, bed and breakfast, hotel units, cabins, or a room at the local pub. The Chillagoe Caving Club has camping and dormitory style accommodation available also.

Eating Out

There is a limited array of dining venues,with bookings definitely recommended. Most accommodation will provide meals and there is also the local take away. Some meals will be provided as part of the conference.



Services

The general store can supply almost anything. There is also a very well stocked hardware store, a BP Service Station, Chillagoe Caravan Park and Café and Tom Prior supply fuel.

The hospital has a resident matron and the Royal Fying Doctor Service is available for emergencies.

There is a public telephone.

Things to do

Cave, cave and more caving!

Swim at the Boggie Hole

Explore the remains of mining activities in and around the township—plus a visit to the smelters is a must.

Wander through the Historic Museum.

For those not keen on "wild" caving, take a guided tour with National Parks through well-lit and easily accessible caves.

The Limestone Karst of Chillagoe

Chillagoe is remarkable for its spectacular landscape of limestone towers and its extensive cave systems. These jagged towers extend in a belt 5km wide and 45km long from south of Chillagoe to the Walsh River with further extensive belts occurring as far north as the Palmer River. They are at their grandest in and around Chillagoe, in places reaching a height of 70 metres above the surrounding plain. There have been major earth movements in the Chillagoe area resulting in the limestone being folded and tilted to an almost vertical position. This makes for some unique caving amongst the folded limestone.

Caving at Chillagoe

The caving in Chillagoe is both varied and interesting and with a constant temperature of approximately 20°C, cotton overalls are all that is required. Caving trips can be tailored to suit all levels of experience, from walk-through to extremely challenging.

The National Parks also offer a range of guided tours each day.

History of Chillagoe

The name is said to have been taken from an old sea shanty, "Ikey, Pikey, Psyche, Cricky, Chillagoe, Wallabadourie".

The town was founded in the late 1880s, mining copper, silver and gold for over 60 years. At its peak in 1917 there were 10,000 people with 12 hotels, two soft drink factories and three newspapers. Today there are approximately 300 people living in the district, with mining once again active at the Mungana site.

Tourism is now a big part of Chillagoe, with large numbers of tourists visiting each year.

The Chillagoe Caving Club

The Chillagoe Caving Club was founded in April 1973 with a group of 18 keen cavers. In 1984 the club became incorporated and now has more than 70 members. The clubhouse is set on 2 hectares in the Chillagoe township.

Camping and dormitory style sleeping are available with toilets and showers, a BBQ area plus a fully equipped kitchen.

A Numbering Conundrum

A small lava cave in the inner suburbs of Melbourne

Susan White

I HAD A REPORT through my geological sites of a small lava cave along Merri Creek. This is not the WW2 tunnel reported at various times, but a specific cave report. I had also seen, whilst doing some geological heritage field-work this summer in the area, other small cavities in the flows exposed along Merri Creek; too small to be called caves but definitely cavities (see picture of ML 346). So one rather warm December afternoon we set off to find this feature.

The GSA has a database of sites of geological significance and a numbering system not dissimilar to ASF's numbering code and KID. It is based on the 1:250000 geological map sheets and the code for the Melbourne sheet is ML and the site we were looking was ML 345. This is described as a very clear exposure of at least two lava flows or flow units that form a vertical cliff face along the Merri Path in the Creek Parade area. The lower ropy flow has large aligned vesicles (bubble holes) and probably represents a thin cooling flow unit (or units) with rapid gas escape forming aligned and elongated gas bubble holes. The lower flow is a massive non-ropy lava flow with complex jointing and weathering features. The bottom 3 m has persistent vertical joints spaced at 40-50 cm in a distinct columnar form. Closely spaced but irregular horizontal joints divide the columns into angular sub-blocks. Overlying the columnar section with a disjunct boundary, the flow has disorganised jointing giving an irregular fractured surface. Unusual irregular spheroidal weathering patterns on the lower, columnar flow include corestones where the "onion skin" layers are surrounded by basalt that is apparently little weathered. A small cave (lava tube) in vesicular and ropy basalt is a primary feature of the lava flow and not a weathering or erosion hollow.

Basalt is a rock that is very hard when fresh but weathers rather rapidly due to the high feldspar content (these weather to clays) and so features like lava caves often do not survive in older and weathered basaltic lava flows. The lava flows in the Clifton Hill/Northcote area are older than 800,000 years and normally cavities have not survived. The flows are generally quite weathered, although small areas are less so.

We found the cave after walking carefully along the cliff line. It is some metres above the present creek level but may flood at times of creek flooding and a small amount of rubbish and natural debris was present. The cave is small but has a small and easily accessed entrance. It is about 3.5 m long, 4.5 m wide and up to 1.5 m high inside. A small sketch and basic survey was done and a few photos taken.

This is regarded geologically as an outstanding site with very high regional geological significance for the variety of lava structures that are shown in close proximity and with safe access. The weathering patterns and the lava cave are also unusual features in the Melbourne area. Indeed the only other cave known in the Melbourne suburbs is the very highly significant Taylor's Creek silcrete cave in Keilor (NW 2/ ML190).

However there is a small problem? How do we number it? On one hand it could be NE. It can't be GL as it is north of the Yarra and one cannot designate sites north of the Yarra as Gippsland. It is too far east to be NW like Taylor's Creek (NW 2). It could be NE but if caves in the various Plio/Pleistocene basalts are all numbered H perhaps it should have an H number. The basalt caves on the Mornington Peninsula tend to be in an older Tertiary (Oligocene) basalt rather than the Plio/Pleistocene flows. An interesting question?

It is a little basalt cave that would not be of great interest somewhere like Mt Eccles, but its location gives it a more exotic aspect.

SUSAN WHITE

ML 345

SUSAN WHITE

ML 346

Deeper than Cave Diving – Tham Praduk Puek

Paul Hosie
CEGWA

AN OPPORTUNITY to join in the exploration of a reputedly deep cave on Thailand's northern border was gratefully taken up by the author and fellow Aussie, local Thai caving expert John Spies, in April 2009.

It turned out to be a caving experience of a lifetime with several hundred metres of spectacular virgin stream passage explored. When we added it up, we realised we had plumbed the depths of Thailand's (new!) second deepest cave, after Tham Pha Phueng (see ***CA***178:12)

Call of the Wild!

Caves Lodge was established by John to accommodate 'farang' travellers so they could appreciate the spectacular mountainous karst landscape and features of the Northern Thai border in peace and comfort (http://www.cavelodge.com/). It is highly recommended to all cavers as the place to go in Northern Thailand to see incredible caves and karst. It's out of the way, but getting there is half the fun and the rewards are phenomenal.

The story of our travels and adventures from Caves Lodge with John and some fellow farang caving nuts will be the subject of future *CA* articles.

As we were preparing to leave the Lodge after ten days of intense caving and kayaking adventures in the nearby Thai mountain wilderness, John received a call from his friend Josh in Chiang Mai.

Did he want to help a team of rock climbers explore a large, deep cave they had explored last year near the Burmese border north of Chiang Mai?

John asked me if I was interested and my response was "How deep is deep?" Josh advised that the cave had a series of entrance pitches culminating in a 65 m single pitch drop to the cave's floor which was the start of a large streamway passage. About 2 km downstream they had been turned back by a waterfall pitch of undetermined depth. Josh wanted experienced cave explorers on his team of rock climbers so John and I readily accepted this unique offer.

PAUL HOSIE

The exploration team and host family

A Punning Clan

After some discussion and several phone calls with Josh, we agreed it would be appropriate and safer to camp in the cave overnight. This would give us the time we needed to push ours or the cave's limits, whichever came first. Josh was providing all the vertical equipment and would precede us to the area and rig the entrance pitches. On the road trip down to Chiang Mai and then back up to the area where the cave is located, John and I discussed our approach and refined the trip plan. We had shopped till we dropped at Tesco's in Chiang Mai and were fully prepared for the best the cave had to offer.

One of the contingencies uppermost in John's mind was what we would say to the Burmese troops we met when we exited the cave after traveling under the Thai-Burma border! We had studied the area in Google Earth and John had spotted what he believed were military barracks not far from where the cave conceivably exited the limestone mountains some 450 m below and 4.3 km from the cave's entrance. The border is a mere 960 m away as the crow flies. Fortunately, this was a contingency we did not have to deal with.

Karst Mountains

As we left the river and flood plains of northern Chiang Mai province at about 5-600 m elevation, the creeks and rivers disappeared, limestone cliffs started appearing and the road began winding up through small villages towards the border. At about 800-1000 m elevation, the road began twisting and winding around huge dolines on either side of the road – small soil collapses in the centre of 1-200 m wide and 20-30 m deep steeply sloping pits. We passed through valleys with picturesque little villages before arriving at our accommodation early in the evening of April 10th.

Josh and his team were still down in the cave rigging up and weren't expected back for several hours. The owner of the lodge

recognised John from TV shows he had appeared in relating to the conservation of Thailand's magnificent caves and they engaged in animated conversation. John's persistent efforts over many years has done much to encourage the conservation of numerous magnificent caves and huge areas of karst wilderness in Thailand — top stuff.

Still recovering from a fever, I took the opportunity for a good night's rest and missed the guys when they got back later that night.

PAUL HOSIE

The entrance to Tham Praduk Puek

Enter the Cave

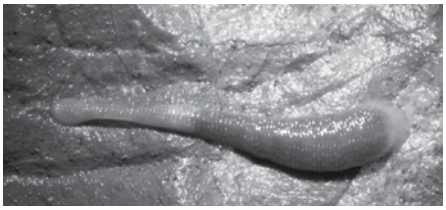
Not so early the next morning, Saturday 11th April 2009, I got to meet the guys from the Chiang Mai Rock Climbing Center – Josh, Cat, Ted, Ben, Pee and Dtor. Late last night they had finished rigging the entrance pitches of the cave ready for our descent this morning. All the gear was laid out for the trip, including a brand new set of vertical Petzl caving kit for John and myself. The gear was distributed into roughly equal loads and we checked off the essentials such as first aid kits, water, spares, lights and food. A short drive down the valley, park the car and trek across to the foot of a 600 m high sheer limestone face on the side of a mountain that had Burma on its other face! The ground fell away sharply as we trekked down into a huge doline and the yawning cave entrance.

A handline was used to assist the entry/exit trek down into the mouth of the cave. As we walked across the floor of the cave, the mid morning sun emerged from between clouds and illuminated the entrance chamber in spectacular fashion. The ceiling was at least 80 m above us as we left the daylight zone and there were thousands of bats up there. The boulders on the cave's floor were covered in slippery guano. We moved very slowly and carefully with our packs on.

After walking down approx 100 m from the edge of the doline into the cave and to the top of the first pitch, we found ourselves following the course the water had carved through the hard grey limestone. Josh and the gang had found the way through the maze to the head of the first pitch which is a simple 10 m abseil. Climbing on down to the next pitch we dropped 20 m, another 40 m and finally the long anticipated 65 m drop to the bottom of the entrance series and the start of the horizontal passageways. The cave is well proportioned at approx 25 m x 10 m wide at the base. Everyone made it to the bottom by 1pm and we were ready to explore. We had enough food and supplies with us for two days in the cave. Noting the time now and our expected endurance, a turnaround time of 10pm was agreed at which point we would camp wherever we got to and then make our way back out following a suitable rest period.

Journey to the End of the Earth

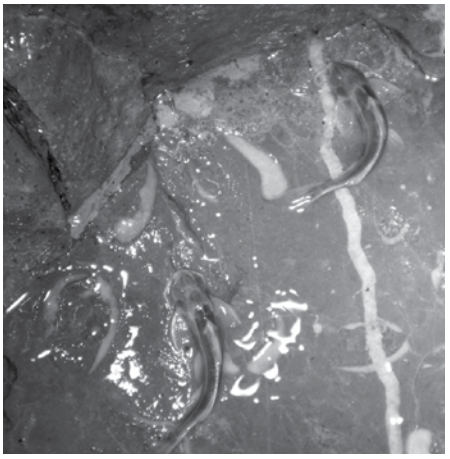
The cave passage heads downstream to the north through huge river passage for about 100 m before narrowing into a slot canyon. The limestone is dark grey and beautifully marbled with white bivalve shells captured within clearly defined horizontal bands. We saw crabs and frogs in the pools and streamway. Further along we climbed 5 m down to a small pool full of catfish.



PAUL HOSIE

Unpigmented leeches reached out in friendship to us from the walls of the canyon! After 1500 m of canyoning, we reached the previous year's limit of exploration – the head of a smooth walled 15 m high waterfall pitch to a pebble based chamber. A large chockstone served as an unlikely anchor point in the absence of any suitable alternative and we descended into the unknown.

Amazement — John spotted several small catfish climbing the base of the waterfall for several metres above the small base pool! They clung to the rock beneath the small rivulet of water flowing down the rock. A few hundred metres past this point, two small chambers full of bats were found and as the time was approaching sunset, they were on the move heading out of the cave in long flights. The cave soon shut down by blockage at stream level and this is where having experienced cavers on the team was a great benefit. Noting the way



PAUL HOSIE

Waterfall climbing catfish

the stream level was choked by sediments, John & I knew we had to head back and up to seek an upper level bypass to continue our exploration of the cave. We were now approximately 1.8 km from the cave's entrance and the bypass we needed was soon found by climbing up a 20 m high orange flowstone, at the top of which were several rooms full of massive mud bricks.

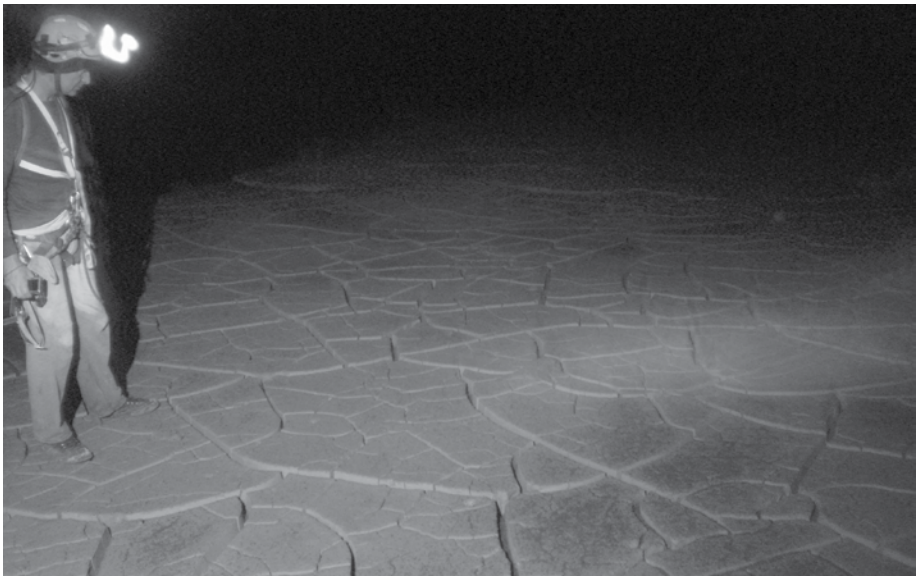
John and I decided enough was enough and bedded down for the night while the rest of the guys continued on by rigging a muddy 20 m pitch. They descended to stream level again to seek the cave's continuation, which turned out to be another blockage at stream level a couple hundred metres further on. The way on from here was an extremely muddy upper level bypass which they considered to be insurmountable, certainly on this trip at least. They returned and bedded down with us for a really uncomfortable night's rest from about 11 pm until 6 am.

Back to the Starlight Express

On the way out we explored several side passages — a vast flat chamber literally as big as a football field with a roof 5-10 m high was particularly impressive. Around its rim were suspended calcite pools with

PAUL HOSIE

John descends the 40 m pitch



PAUL HOSIE

John admires the mud brickwork platform

sparkling dogtooth spar crystals, a 5 m high, 15 m diameter guano mountain and giant mud bricks (7 m long x 3 m wide!) As we were illuminating the chamber a stream of thousands of bats appeared to drop from a hole in the ceiling and redistribute around the chamber, though there was no hole at all on closer inspection.

At the base of the 65 m pitch we explored a series of chimney-like chambers that were magnificently decorated in sparkling yellow and white calcite. The trip out was arduous — slow but uneventful. We derigged as we travelled and hauled our extra loads up out of the cave with great care. By the time we were all out and back at the vehicle, the sun was setting and cold Chang beer never tasted so bloody good!!

Thailand's Second Deepest Cave

The locals declared that this cave is un-named, because they say there are so many in the area and they are all referred to collectively and generically. Given the most unique feature in the cave were the waterfall climbing catfish, we decided to name the cave White Catfish Cave (Tham Praduk Puek).

Adding up all the pitches and vertical travelling from the doline lip to the end of the cave, we conservatively estimate the cave to be at least 270 m deep.

Knowing that Sra Keow is at least 240 m (all underwater!) and Tham Pha Phueng is 306 m, this cave is certainly amongst Thailand's deepest.

A visit to accurately survey the cave would be an excellent reason to return, not to mention all the other unexplored karst and caves in this magnificent land: Thailand.

The author would like to extend his sincere appreciation to John Spies and Josh Morris for their brilliant support and enthusiasm which made this expedition so memorable.

When you go to Thailand, make sure you look them up.

Lights, Helmets, Ascenders, Descenders.

Exploring the lagar of Mount Soublette, Madre de Dios Island, Cuiaun Patagonia. Photo © Maria Candela Centre Terre

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