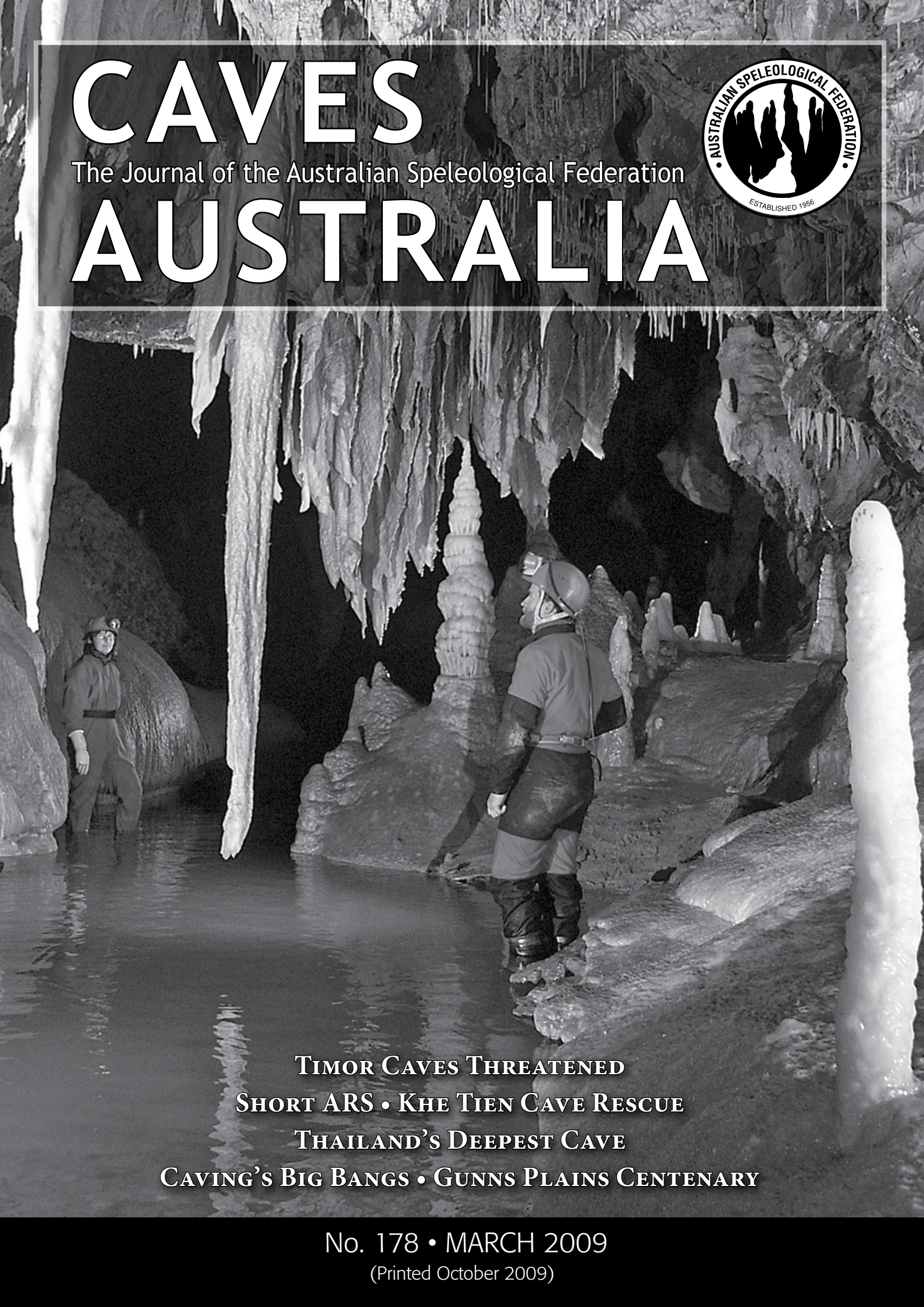
CAVES AUSTRALIA

The Journal of the Australian Speleological Federation



Timor Caves Threatened
Short ARS • Khe Tien Cave Rescue
Thailand's Deepest Cave
Caving's Big Bangs • Gunns Plains Centenary

No. 178 • MARCH 2009
(Printed October 2009)

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.

2009

23—26 September 2009

Sustainability of the Karst Environment—Dinaric Karst and other Karst Regions, Plitvice Lakes, Croatia. Organised by the Centre for Karst, Croatia. The basic objective of the conference is to apply an interdisciplinary approach to scientifically assess the issues of sustainable development of all forms of karst. Emphasis will be on Dinaric karst, though other karst areas worldwide will not be neglected. About ten of the world's top experts will be invited to give plenary talks.
Details from Ognjen Bonacci Email: obonacci@gradst.hr
or Jadranka Pejnović Email: centar.za.krs@gs.t-com.hr
For the latest details see http://www.cek.hr/

October 2009

NSW Speleo Council Meeting. Details to be advised, contact denis.marsh@hotmail.com

17-20 November 2009

Anchialine Ecosystems: Reflection and Prospects. A symposium sponsored by the the Karst Waters Institute (United States) and the Mediterranean Institute for Advanced Studies (Spain), Mallorca, Balearic Islands, Spain. This will examine what we know and what we can infer about the environment, ecology, biodiversity and evolutionary history of anchialine ecosystems in order to provide a focus for the development of interdisciplinary research. The presentations will be grouped around six themes, which have a strong interdisciplinary character. Details on the KWI website http://www.karstwaters.org/kwicalendar.htm

Further ahead

2 January 2010

ASF Council meeting. Bankstown Grammar School Bankstown. Details will be sent to member clubs soon.

August 2010

Exact dates to be advised. 15th International Symposium on Vulcanospeleology, Undara (Qld) and western Victoria. Contact Greg Middleton at ozspeleo@bigpond.net.au

Easter 2011

April—exact dates to be advised. 28th Biennial ASF Conference, Chillagoe, north Queensland.

4-8 July 2010

Australian Earth Sciences Convention 2010. Organised by Geological Society of Australia, Canberra, ACT. Earth Systems: change, sustainability, vulnerability. To register interest, contact: info@gsa.org.au

CAVES AUSTRALIA

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ASF

Contents

Cover: Jodie Rutledge and Reto Zollinger in Croesus Cave, Mole Creek, Tasmania. Photo by Garry K Smith

ASF Executive

CompuTrog Says:

If you find a new cave,
Survey what you explore.
Draw up what you survey.
Publish the Map you produce.
Tag the caves you find.
GPS their location and
Survey them into the **surface grid**.
Record the entrances photographically.
Write and publish a **Trip Report**.
Archive your trip reports, articles.
survey data and maps electronically,
Back-up your files.
Give copies to some-one on another premises.
Enter it into the **Karst Index Database**.

Caves are too precious to lose!

From the Editor

Hi all. Well, this is our penultimate issue for the year. A single (normal sized) issue with first-hand accounts of overseas caving, including Thailand's deepest cave and a cave rescue in Vietnam. Caving tips for the 'shorties', and changes in caving over time—Caving Big Bangs should have most of you reminiscing about your own adventures. *CA*179 will be another double issue to finish out the year—a little room is left for contributions.

Oh, and for those of you busy planning caving trips and organising people, check out a new feature from Google. They have teamed up with Scribble Maps, to allow you to make or notate quick maps; which you can share with friends for free: http://scribblemaps.com/#id=lK7wEEv0r9

Regards,
Ed.

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.

President's Report

Stan Flavel

IT WAS nice to wake up and see the sunshine again, with the reminder that every winter is followed by spring. After working with micro-bats for so many years and being nipped by many different ones, I think I have acquired some of their traits, namely "nocturnality" and the need for winter hibernation or to migrate north to a warm climate (does this remind you of other cavers too?)

But now back to the business of being a caver and responsible person. I ask that we sit up and take a look at where we are and where we are going as individuals, groups and as a Federation. To be effective the ASF needs to be available and functional to serve individuals, as well as nationally and internationally.

We, as individuals, have a drive to be speleological in our actions and thinking and yet some of our kind still assume that we have the right to go wherever we want without the knowledge of land managers and guardians. Unfortunately, there is no gain in doing so, if the rest of us are being barred at a later date from access to these regions of interest. Negotiate your access first, as we have no special privileges to go where we want, and be aware of any changes in access that may have occurred.

It is good to see clubs continuing to do what they do best—fostering caving by involving members in a working and responsive group, that has fun going out finding, exploring and documenting caves. People change and so do club dynamics. It is good to see people moving away from the retarding effects of bureaucracy and politics and re-creating growth and vitality in their areas.

ASF will have chances to showcase Australian Speleology in the near and far future. We should be proud of what we have and how we manage our caving resources. We have internationally recognised speleologists among us but many of us, who are known only at local club level are doing important stuff out of the limelight. Could we as a nation of dedicated cavers ever pull-off an international event, of the order of the IUS Congress in our backyard (and a big one it is too!) Should we as a Federation think ahead to 2017 and treat the world and ourselves to a fantastic cross-fertilisation of the current and up-coming speleologists?

We as cavers must be tough and resolute and put on our thinking caps, hard hats and gloves and go into battle against those who would seek to disturb and destroy the karst areas and features that we hold in high regard. The rock we crawl through is home to us and other unique organisms. There is a very real threat to karst in the Timor region of NSW. Rock miners are seeking it for industry, and we are saying "NO! It is too significant to lose—move away to other rock." A battle requires commitment and finance to sustain it. Are we ready to back our mates in NHVSS?

We in the Federation are working to make our policies and Codes of Practices relevant and timely.

I urge you all as passionate enthusiasts to continue caving with the knowledge that we have a rich underground resource and heritage that needs us to be with it and care for it, to explore and understand it.

E-SPELEO BULLETIN

A publication of the Australian Speleological Federation

SHARING CAVING NEWS AND EVENTS

■ In a hurry and need a quick update on topical ASF issues?
■ Got a club event or milestone you wish to share?
■ Want others to know about your interests in national and international events or conferences?
■ Know where to get a good deal on equipment?

Then get online and tell us!

***E-Speleo* is circulated bi-monthly by email only, so make sure your details are up to date with ASF via your club.**
ASF *E-Speleo Bulletin* Editor: Ross Anderson espeleo@caves.org.au
Article cut-off 25th every other month

STOP PRESS:

Timor Caves Quarry Threat

Your support is needed!

Jodie Rutledge and Nicholas White

UPPER HUNTER Shire Council has approved a vast quarry on the same block of limestone as and close to Timor Caves along the Isis River in the Upper Hunter Valley of NSW. The mine will be licensed to operate over a 30-year period, 6 days a week, extracting up to 100,000 tonnes per year, removing approximately 2.4 million tonnes of limestone. This huge development is a major threat to the karst and biota of the area.

Newcastle & Hunter Valley Speleological Society (NHVSS) has challenged this by lodging a Class 1 appeal to the Land & Environment Court of NSW against the Council's approval of the development proposed by the applicant, Stoneco Pty Ltd.

GARRY K. SMITH

Timor karst with grass trees and protected woodland

What is the basis of the appeal?

- The karst assessment and impact requirement in the Environmental Impact Statement (EIS) is grossly inadequate.
- Damage to groundwater ecosystems and vegetation communities were either ignored or not properly considered either in the EIS or by the Shire Council.
- The vegetation communities are protected by both NSW and Federal legislation and the White Box—Yellow Box—Blakely's Red Gum Grassy Woodland is a Federally listed Endangered Ecological Community. There was inadequate consideration given to the loss of the very slow growing grass trees, *Xanthorrhoea glauca* subsp. *augustifolia*.
- No attention has been paid to threats to invertebrate fauna.

What financial assistance has been obtained?

- The Environmental Defenders Office has accepted the case.
- A very experienced environmental lawyer (and ASF Fellow), Patrick Larkin with colleague and ASF Member Chris Norton are providing their professional services without charge.
- ASF and its Gift Fund (the Karst Conservation Fund) have provided further financial assistance.

When will the appeal be heard and what happens in the meantime?

- It commences in the Land & Environment Court in Sydney on 30 November, 2009.
- Meanwhile, we must obtain court orders to enter the development site, as well as engage expert witnesses to visit the site, write their reports, and be available to appear in court.

Why do we need to raise further funds, then?

- The EDO, Patrick Larkin and Chris Norton provide only professional legal counsel. We have to fund expenses such as court costs and obtaining expert witnesses to refute the Company's case.
- ASF has depleted its accumulated funds set aside for conservation and has "gone out on a limb" to some extent to support this important case. This will not require any call on annual subscription fees but will prevent us undertaking other worthwhile cave conservation projects in future, unless we replenish with donations, which through the Gift Fund are tax-deductible.

The EDO has accepted the case on the basis that it is important public interest litigation.

We must be resolved to see this case through to its conclusion so as to set a precedent and dissuade similar development applications in future.

Further information on the karst and caves at Timor is available in the superb book *Timor Caves, Hunter Valley, New South Wales,* published by NHVSS. See *Caves Australia* No 176 pp. 39-40 for a review and an order form. Up to date information on the threat to Timor Caves is on the NHVSS website: www.NHVSS.org.au, and on ASF's website www.caves.org.au.

Please use the form inserted in this issue to make your donation, or go to the websites above. Donations through the ASF gift fund are tax-deductible.

Tips for the Height Challenged

Janine McKinnon
STC

Over the last decade or two, I've been noticing an ever-increasing number of females taking up caving. In my club, at times they out-number males as active members. With the odd exception, they are at quite a disadvantage to their male companions underground, due to stature issues.

Females are genetically predisposed to suffer from a condition called "Altitude Restricted Syndrome" or in short ARS.

I have been plagued by this malady all my caving life, and for many years was usually the member of any trip with the worst case of the condition; frequently the only person with it at all. Unless one of our members, Chris Davies, was on the trip; at 195 cm, he instantly ensured everyone else developed the condition temporarily, but my case became acute, if not critical.

R TUNNEY COLLECTION

Spot the author

Anyway, through trial and error (lots of the error bit) I have developed techniques and learnt lessons to help cope with the difficulties this malady presents on caving trips. I'd like to pass on these lessons in the hope that they may save some of our newer, more diminutive ASF members, embarrassing and frustrating times underground:

1. When a 180 cm tall caver tells your 160 cm short self the climb is really easy, if you use the bombproof hand-holds he used (pointing authoritatively to them), don't even try to reach them. This wastes precious time you could be using attempting to work out how you are going to get up (or down) the climb in a way that is actually going to work. Trust me on this; no amount of stretching, even on tippy toes, is going to bridge that 20 cm gap.

2. When said 180 cm caver thinks that, by yelling louder and more aggressively, you will be able to make that 20 cm stretch, don't pay any attention. Keep working on your own method.

3. If you fail to enact points 1 & 2, as advised, you will now be berated (or worse, ridiculed) for taking too long to get up (or down) the climb. Just remember, I told you so!

4. Artificial rigging points (bolts and P-hangers) have invariably been placed by 180 cm cavers and are thus not within easy and safe reach for you. Practice skills like "How to Jump in the Air and Clip a Karabiner Through a P-hanger at the Same Time".

5. The same rule applies to most natural anchors. God is obviously 6 ft plus tall, or he at least designed caves assuming cavers would be. So much for Omniscience; or, maybe he (must be "he" to be so inconsiderate) just doesn't want short people to cave.

6. Bridging and Chimneying

If a gap is too wide for the aforementioned 180 cm caver to straddle easily, they will invariably throw a rope down. Thus the only techniques generally taught for such manoeuvres are:

(a) Feet on either wall with a 40 degree angle between legs, or

(b) Feet flat against one wall and length of back against the other.

For the height-challenged, these techniques frequently don't work, but the good news is these situations offer a real opportunity for self-expression.

A couple of tricks I have found work well are:

(a) Learn to balance, whilst doing the splits so you can get that leg/crotch angle to 140 or even 150 degrees. You'll be surprised how big a gap you can straddle when you dislocate your hips.

(b) Strengthen your shoulder, and particularly neck muscles as you will be using them frequently when you bridge gaps whilst bracing on them. I haven't yet quite reached the level of expertise to use the top of my head as one point of contact with a wall but I'm working on it.

These skills also apply to point 4. Only you will have to add doing it whilst holding some tapes, karabiners and a rope to rig from the P-hanger/eye-bolt that is over the drop and out of reach. You have really reached a high level of skill when you can apply the technique to also put the hanger and nuts onto a bolt before rigging the pitch.

If your caving philosophy includes wimpy ideas like following "safety conscious" guidelines, I suppose some sort of safety line could be used as you bridge out over the pitch to rig.

Note: Hands on one wall, feet on the other is a technique I have seen used, and whilst it CAN be effective, used in the right circumstances, it lacks grace and style and can often leave the user hanging about at a bit of a loss as to how to finish. If, however, the user is attempting to impress another member of the group, the benefits of this technique come into their own. Just make sure the person who has to grab you, in various sensitive body parts, to haul you to safety, is the one whose attention you are attempting to gain.

7. Strengthen your knees and ankles. You will be doing a lot of jumping down things. How to get back up is a whole other article.

8. When all else fails and the handhold or other side of the gap is still out of reach just launch yourself at it and make a wild, desperate grab. That usually works for me, although I do carry the scars from the odd failure.

Good luck.

Khe Tien
East of Ban Ban, Vietnam 1997

Trevor Wailes
STC

THE SOUND OF rushing water, running over cobbles, subsided as the upstream and downstream sumps became one. The water level continued to rise in silence. Air movement slowed around the chamber as we were sealed off. Now the only sounds were of air being squeezed out of the ceiling spaces in the sump under pressure. We knew we were in trouble.

THE TREK IN

Our day had started innocently. It seemed a long time ago. Cal and I had left Howard and Deb Limbert and the main group of our expedition at Hang Khe Ry Cave (Grass Cave) at 9.30 that morning. The trek over the two hill-ranges and Khe Thy Valley had been quite eventful. Our two guides who were of a minority ethnic group, our interpreter Hieu (or Hughie), Simon Davies, Cal and I had set out to recce the Khe Tien River valley sink, a day's walk away from our cave entrance camp at Khe Ry. Simon, whose feet were suffering from too many days caving and walking, had turned back and Cal and I had shared his load.

Our route took us back up the Khe Ry Valley river to a bend where we turned off into the jungle on a west-facing slope and started to climb the first hill-range. One of the guides and I had travelled this route some two weeks earlier with a group that had checked the stream sink in Khe Thy, the next river valley over.

At that time our group had despaired of large packs, obscure track marking and patches of bamboo and rattan where our guide Mr On had cut a path for his small self, which meant that we taller sherpas had on occasion to crawl, dragging packs after us through horrendous scrub. The plants that didn't sting, stab or scratch with razor-like thorns tripped you up like skipping ropes or a bad wiring job.

We were in for a big day; Mr Cuoi was wearing his plastic jungle sandals as we climbed straight up the slope to the cliffs that I knew were obscured by forest.

Simon had asked if the track got worse and I admitted that this was perhaps the best

1997 EXPEDITION ARCHIVE

Typical Qang Bin karst cave passage

stretch before the jungle crawl on the east-facing slope. He decided not to hold us back but to return to camp to rest his blistered, damaged feet—what amazing forethought¡ We continued and scaled the twenty-metre cliffs, rounded the hill and descended the eastern slope with its denser vegetation and already half-cut tunnels.

Because I knew what to expect, this section was quite bearable—I'd been here when it was virgin jungle. The hill, only a 300 m climb, dropped steeply into the Khe Thy Valley. It had taken two hours to cross the first obstacle.

We hit the river at a point I recognised, Cal and I left the guides and hurried downstream to the cave entrance to get a GPS reading. Fifteen minutes and only one satellite! We gave up, rejoined the guides and followed them upstream. I had traversed upstream on our last visit here and had not enjoyed the cobble-hopping and wading on slippery siltstone bedrock. Our other guide (Mr On, who had a dog, Nick, and a pet AK-47, heavily pitted with rust but very serviceable) had doffed his plastic sandals and was now skipping happily over granite river cobbles that were frustrating us poor 'large village' greenhorns—at times I swear it was nearly impossible to make ground. I knew an even greasier gorge was approaching with the bedrock siltstone dipping at 45°, no cobbles but deep pools to slide into.

The guides called a halt just before this approaching horror at a river bank of sand and red grit. As we caught them up, Mr On had a 50 cm reptile in his hand, expired, and Mr Cuoi was grovelling in holes in the grit; he

was excavating the lizard's eggs. These people are hunter-gatherers and very successful at it. They had their rice and whatever they could catch. We had our two-minute noodles, tins of spam, tuna and spice for seasoning.

We turned into the western slope of the next hill-range at this point and disappointed our guides by not crawling up a walkable river bed. They delighted in our discomfort—they knew there was more to come.

The weather had been comfortable, warm and clear with blue skies but as we climbed it was clouding over. The track was vague even for these men of the jungle; it began to weave, first uphill then down the same slope, up again and across to a dry stream bed. Again we were climbing over logs, stabbed with thorns, sliding over siltstone creek bed. Occasionally, a sheer wall or dry waterfall forced us into the thick western slope forest only to regain slippery rocks further uphill in the stream bed.

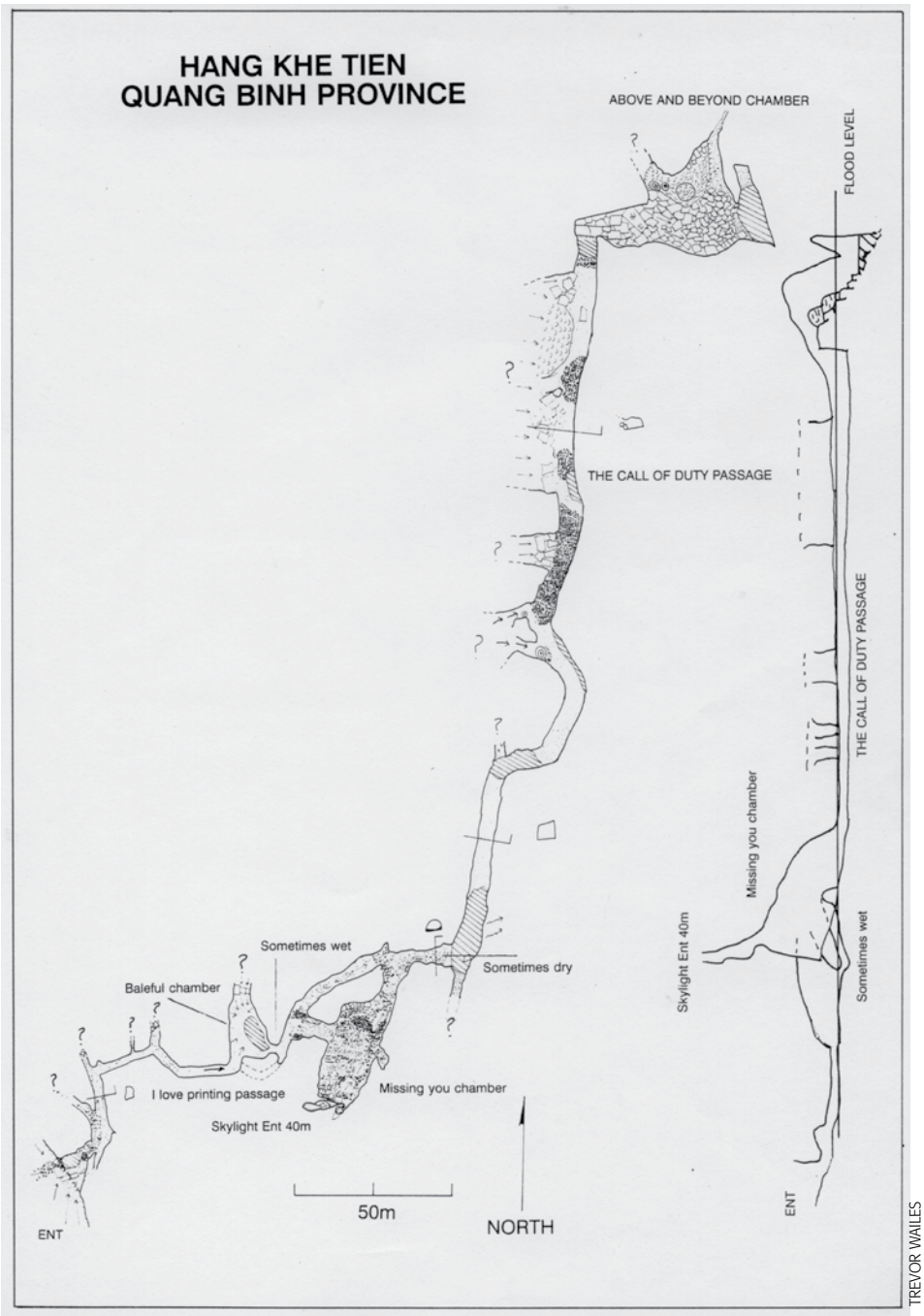
At length we reached a ridge top; all tracks in this part of the world go over the tops of hills because a certain perfume tree, fabled to be worth billions of dong, grows there and its location is kept very secret. They are pruned and the limbs sold in Cambodia or Laos for making incense sticks.

The track did go to the top of every hill we had traversed since leaving Ban Ban— no saddles, no passes, just over the highest point of each of the six hill ranges to Khe Tien Valley where we were headed.

From the top of this hill, we started to descend—on the same side as we went up. The sky darkened; a distant roll of thunder. We went down the same hill, skirted a blind doline, then what looked like an open shaft with a dry creek bed running into it (note that one for later) then started to climb again up the creek bed.

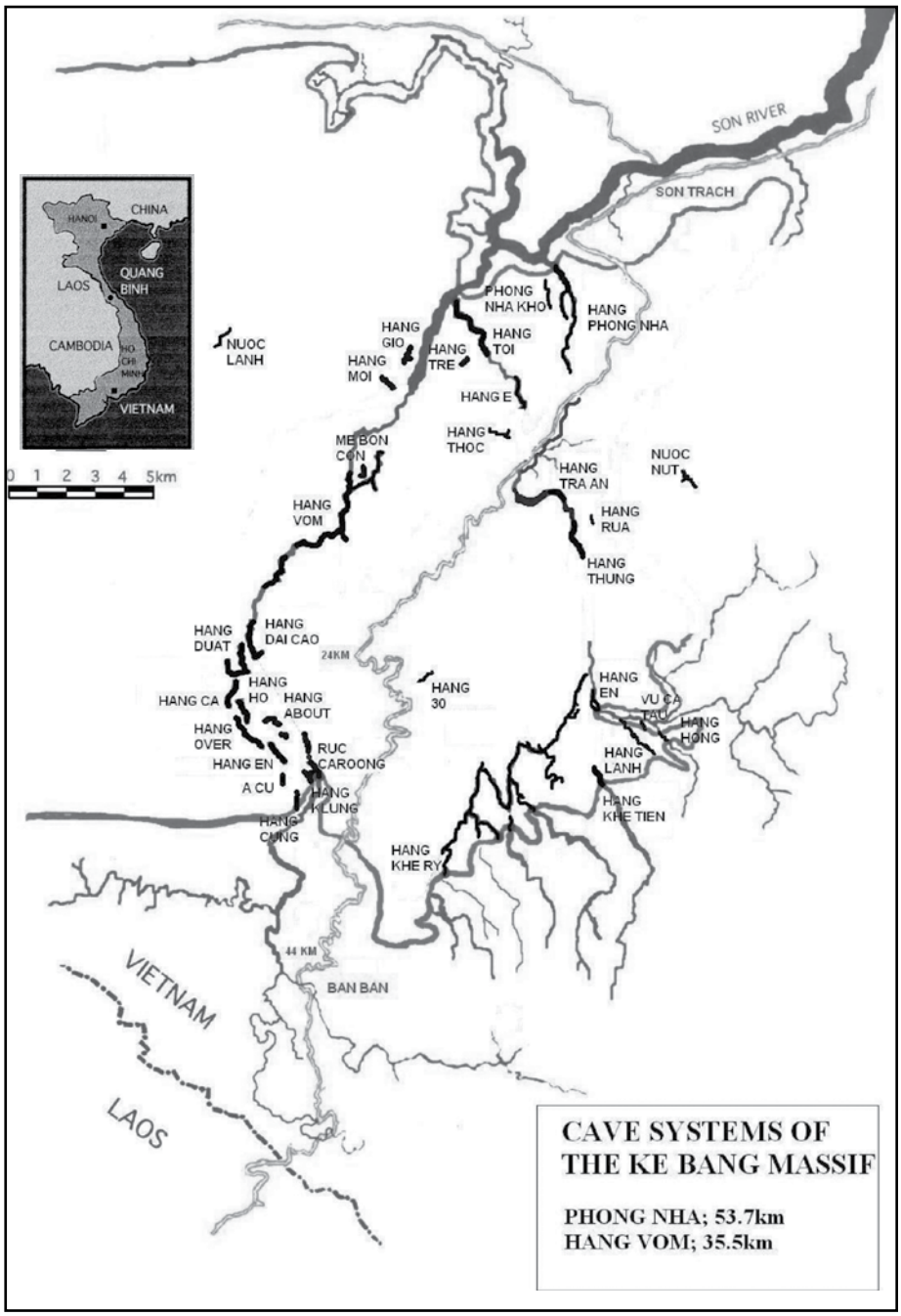
By now I was convinced these guys were lost—we were climbing the same hill again. We stopped briefly and Hughie told us if we did not move quicker we would not make the cave entrance and camp by nightfall. I wanted to say a lot of things at this stage but I just bit down hard on my pack strap.

We continued to the top of this ridge again—I had seen no signs of a track for over two hours now. It was raining quite hard, darker and considerably cooler. From the crest of this ridge we had our first glimpse of Khe Tien Valley through cloud. We felt somewhat nearer but we still had to descend over 400 m. We started by cutting a four-foot-high tunnel through bamboo and anything else that got in the way. Again we crawled and dragged, and although leeches had been a scourge they now threatened to carry our packs. At one clearing we removed half a dozen only to watch in horror as 20 more climbed on to our boots. Our bushman friends weren't too happy. It was getting late.



TREVOR WAILES

As if by chance, we stumbled on to a dry creek bed; this seemed to cheer our guides and after jungle tunnels of green we descended large slick blocks of siltstone, then limestone. This creek bed developed rapidly into a gorge, then a canyon. We climbed down blocks, passing packs down and smiling as Nick the dog plummets four-metre drops with the agility of a wombat. This canyon developed cave features and we got into dark zones until a brief halt was called. The sound of machetes cutting trees down ahead prompts us to de-leech with cigarette lighter, salt or iodine before another four-metre climb. Cal and I passed packs down and then saw a black hole—a real cave pitch; couldn't see the bottom and no time to admire it, just note it for later and cross the five-inch pole freshly cut two metres across the void to safety on the other side. After this last obstacle, nothing could have surprised us, even a heated discussion between our two guides which ended in them simultaneously heading in different directions. Hughie looked at us and sighed "They're lost". "I know they're fucking lost," I said. "They've been lost for four hours!!" Mr On had the gun, so Nick won the direction argument and we set off for easier ground, some of it with quite pleasant understory. Nick the dog got excited—there were monkeys high in the trees—and took off, followed by Mr AK-47. We waited, scraping leeches off. Then a shot, the dog barking, crashing of undergrowth, silence. The drizzle stopped and Mr On appeared with a beautiful wild animal draped



1997 EXPEDITION ARCHIVE

over one shoulder and the AK-47 over the other. One shot, one dead monkey; AK-47s make hunter-gathering somewhat easier. Mr Cuoi's bag of rice, lizard eggs and their late parent was swollen now by the monkey.

Soon we found a track through open forest to the river, and after a short distance downstream to a cave entrance, Khe Tien.

KHE TIEN

The word "tien" in Vietnamese can mean beautiful; it has other meanings too. Beautiful is not a word I would have used to describe the cave entrance and surrounds. Daylight was fading with a 20 m cliff adding to the shade around the entrance. A small stream flowed over cobbles into a small pool directly under the drip line. The entrance, perhaps 1.3 m high and 4 m wide, was a grovel over boulders to a larger chamber beyond. We felt cheated—of all the rivers and huge caves this area should create, we had discovered the most squalid.

I de-leeched standing on a rock in the stream so that I didn't get reinfected as I removed leech-socks, socks and boots. As the boots came off, we found nests of leeches. Cal was in the same state and it took quite a while to free ourselves of them.

Mr On, Cuoi and Hughie were making themselves at home. Lizard eggs were being boiled and the monkey was in the pot. We stuck to noodles, spam and spices. By the time we finished our meal and had tried the eggs (very nice) and monkey (very tough and unpalatable), it was dark and cool with the draught from the cave.

Cal and I did not want to go caving but it would see the day out and get us away from the leeches. After all, we had come from opposite ends of the earth, to find and survey new caves and try to find a short cut into the Khe Ry Cave system. Much as we abhorred the thought of gearing up and surveying this squalid little cave, it was our duty.

We slowly changed into wetsuits, fired carbides up, packed a few essentials, thinking "We'll only be gone an hour—is all this necessary?" Habits formed over the years are hard to break. We were just about to take the first sightings and begin our inward plotting when the guides suggested we go to the big cave some 60 m away. This was a shock—we thought this was it. The guides described the other entrance as a waterfall.

We decided to stick with what we had and slowly plotted our way into the new cave. Mr Cuoi accompanied us with a flashlight. We felt foolish; we were dressed for a megatrip and here was this barefoot native bushman in shorts and T-shirt with a two-bob torch.

Inside the first chamber the stream ran away to the left. Cal, leading with the tape, chose the larger dry passage straight on which carried a faint draught. We soon settled into a rhythm of plotting our way, Cal finding the best onward station and me reading compass and clino and drawing the passage detail.

Once we got moving properly, the cave seemed friendlier and away from the dismal entrance we started to warm to our task. Mr Cuoi left us with a nod at an archway duckunder. We continued plotting our way through joint controlled strata to a large chamber that looked on first sight as though we had found a trunk passage. Our zigzag passage, first one direction and then 90° away, typical of the hydrology trying to gain a base level to flow on, took us deeper to what looked like the real thing— long sights in a passage five to six metres wide and high, running north in the direction we wanted it to, heading into the limestone massif hopefully to link up with the Khe Ry trunk passage.

It was quiet, no water flowing and the going was easy. I thought 30 stations would be enough to give us the general trend of the cave and two hours should be enough to satisfy our consciences that we had made a supreme effort after a hard day in the jungle. On we surveyed to a climb up into a large chamber with some large formations and a talus slope 40 m down to water which turned out to be the terminal sump. Cal proved this by swimming around the walls; our last survey leg was to the furthest accessible point.

We thought we had done well: found cave, surveyed cave, finished cave. Some question marks remained but we had done all we could. Let's get out of here, back to the leeches. We had surveyed about 500 m in 28

Khe Tien, East of Ban Ban, Vietnam 1997

1997 EXPEDITION ARCHIVE

Gowers in Khe Ry

legs in about two hours, maybe a little more. We didn't have a watch with us—we didn't really need one.

We started back. Cal looked at some side passages off the final chamber, then we climbed down into the long straight passage we had such hope for, until, nearing the end where we climb into another chamber, we heard running water. Were we in the right passage? Had we missed a turn? Why was all this water pouring into our previously dry passage?

Gulp. Oh, shit. Our dry fossil overflow section is now active. The short rise over cobbles into the large chamber was now knee-deep in rushing red floodwater, a stoop under an arch brought the water up to the waist into the chamber once still and quiet which was now noisy and windy with rushing water. We hurried through the chamber to the inlet arch where Mr Cuoi had left us to find it totally submerged. Cal and I searched the blank flooding wall for the low arch. Cal found the gap and tried to free dive out but the flow and the depth needed to attain the tunnel was too much, his wetsuit was too buoyant and visibility in the water was nil.

Thinks: "Lower the water level!" I pulled rocks out of the stream and the water started to lower a little but soon backed up the slope and soon the inlet and outlet sumps equalised. The water continued to rise in silence. We were apprehensive. The chamber was quite big, wide and high; it sloped down to the outlet sump and the lower half of the chamber was floored with large cobbles.

The closing of the sump passages reduced the air flow. Our exertions in the sump up to our necks left us cool and we knew that we would cool off even more as our wetsuits dried out. We put sticks at the water level to see how quickly the sump was rising and took stock of our situation.

The worst scenario was that a flood pulse had hit our valley and the camp and all in it had perished. The same flood may have hit the Khe Ry Valley and the other expedition members would be flooded in that cave. If the water continued to rise and flood our chamber, it would rise slowly and we would be able to climb the walls and tie ourselves on to rock projections. Not a very entertaining thought, but looking at formations around our chamber we could see that the lower sections had been under water and eroded. I felt our chamber was higher than the entrance, which would mean that for us to perish, a lake would have to form in the valley. But the water was still rising.

It wasn't the monsoon season, so we knew we wouldn't get the 10, 20 or 50 year flood, just the average water level, which would be at the driftwood line we were sitting on. Dark thoughts.

The water was still rising and it was getting colder. We had a quick look around the chamber for another exit but there was nothing that would go, so we took stock of what we had. Carbide for light and heat: a full bottle, so one lamp should last for days. Food: three cho-cho bars (Indonesian chocolate, cheap and nasty, tastes a bit like soap), maximum 100 g, two small Mars bars and one caramel wafer biscuit; not much considering that when you're bored you eat! Water: plenty of that, still rising but very turbid. Shelter: wetsuits and one cave pack.

We shared a Mars bar and settled down for the night, letting our carbides burn out, giving a little light and plenty of heat from the generators. We removed our helmets so the lamps will burn but we got cold from heat loss through our heads. The wetsuits were quite efficient at holding heat in but the gravel acted as a heat sink and it wasn't very comfortable.

We slept fitfully and I woke feeling a nudge. How can a rock nudge you? But this small rock is a tortoise come to share my heat. He was a forlorn-looking creature as big as my palm but heavily gravelled in his carapace. Other creatures abounded on our gravel bank—cockroaches, amphipods, snails, millipedes and other creatures living off the rotting debris we lay on.

Hours seemed to pass. We dozed off and on and after about twelve hours we noticed a dim light. Cal brought it to our attention—our chamber had a skylight. This was good fortune indeed; at least we knew whether it was day or night.

The tiny opening to the outer world was up a shaft 40 m high directly over the highest point of our cobbled slope. A climb out would be suicide but Cal's whistle might have attracted attention.

We spent the day watching the water slowly stop rising. A lake covered the lower section of our chamber; our exit arch was about a metre and a half under water. Cal blew on the whistle regularly and we lay and listened to air being squeezed out of air pockets in the sump and drops of water from the ceiling splashing on to cobbles or the surface of the sump

We moved camp to higher, flatter ground and unstitched the cave pack to use as a blanket. Every nook and cranny in the chamber was checked to find an escape route; none existed.

We looked at the climb again but it was too high and too steep. We shared a cho-cho bar. We were very conscious that we could be there for up to six days; we felt we could survive that long with some comfort but after that it would be desperate.

The water stopped rising but it was very slow to subside. It receded an inch every two hours.

It was a very long day and we amused ourselves with our own thoughts. We chatted now and then and learned quite a bit about each other.

Night came to our now flat gravel bank. I detached my carbide burner from my helmet so that we could wear our helmets to retain body heat. The flame projected long shadows onto the distant wall. A cockroach was continually drawn to the light and its image was projected on to the far wall like some nightmarish alien puppet theatre.

Again the night was spent checking the water level and just doing that seemed to

warm us up, but we could already feel the lack of food and energy was harder to find. The following 30 hours passed in the same manner. Noises from the sump came and went; we stopped checking it so regularly as its slow decline became depressing. Once, I was roused from sleep to see a flash and bright light emerge from the lake—in the utter darkness it resembled a caving lamp, but on full awakening it turned out to be a firefly which flitted about the chamber for hours afterwards.

We had thought about free diving the sump but from the survey we saw that the submerged distance was between three and ten metres, depending on how the roof rose on the far side. The wetsuits would cause a problem with buoyancy and our boots would not act like flippers.

We couln't have more than one attempt at this—failure would destroy our morale. At that moment we were OK and our underlying rule had been no heroics, stay safe.

We were not in danger yet, but we could make it worse. We didn't know what was happening outside or if indeed anyone was outside. So we sat. Day two saw the sump a little lower but still far too deep.

We were cheered when we heard faint knocking. Someone was out there! By the time we replied the knocking became even fainter, but now we had some hope. We moved camp into an alcove later that day hoping the nearer rock wall confines may keep the heat in, our "pack blanket" and "spoon" sleeping arrangements helped, but we both had fits of shivering. We continued whistling and banging on walls, hoping for a response, hoping they had heard us and so knew we were OK.

THE RESCUE

The third night seemed to last forever. We had thought by the following morning we might try to make a break for it; we were down to one Mars bar and one cho-cho and these we should eat on a make-or-break effort to escape.

After 58 hours in the cave we were rudely awakened by Simon Davies and Snablet, who had forced the sump. A 2 cm airspace had opened for a distance of about three metres—we were free to go

We grabbed all our belongings and plunged into the cold deep waters of our imprisoning sump. We were taken aback by everyone's elation. It was still dark outside but the jungle smell was like a rebirth after being deprived of this sense for so long. The entrance area looked as if a flood pulse had hit it.

Stories of a wall of water washing our camping gear into the cave were relayed, as were tales of desperate marches through the night to come to our aid.

The whole expedition was there to meet us; the work that had been done was amazing. The river had been dammed—a huge undertaking—and channelled down to the other entrance which I still have not seen. Deb was stung by a plant like a nettle in the process and was suffering from pain and also a foot infection.

The leeches didn't seem so bad in their camp site, a cleared area away from the cave entrance. Our rescuers told of bailing the sump, which on their side covered a huge area. I suspect this possibly had little effect as the water table sump section was so extensive that any attempt at this action would only redirect the bailed water into another section of the same sump.

After a greedily eaten breakfast of noodles with spam, we were told we had to move quickly. Dawn broke at 5 am and our truck was waiting in Ban Ban (two days' walk away) at 4.30 pm the same day. After our two-day rest, we had to move. Both Cal and I were fairly weak from the cold and little food. My feet had been showing signs of the same fungal infection as Deb's. Still feeling pretty high, we packed and started walking. Our rescuers had come by another track which was well marked in places, but after following the river upstream and then a dry stream bed up the hillside we lost our way. Deb and I suffered with our feet and slowed the rest of the party.

Again our path took us over the highest point of the hill range. After four painful hours we reached the Khe Thy River where Deb and I dressed our feet; hers were red raw and mine were similar. My leech socks had creased and created hot spots. I put on clean (!) socks and taped my feet up, hoping that this would alleviate some of the pain.

We met porters carrying in emergency supplies and they showed much joy at our rescue. Deb offloaded her pack and I swapped mine for a lighter one. We continued uphill very slowly, over the highest point again and down to the Khe Ry Valley. The main group stopped for lunch but I felt that if I stopped I wouldn't start again so I pressed on downstream to the crossing. The tracks get easier but the steep hills slowed Deb and me.

Going uphill became easier and less painful than descending but any stops meant excruciating pain when it was time to move again. Deb and I plodded on, often in front as the main group kept stopping for rests and would then overtake us. I hassled group members for water on the way, explaining that I couldn't stop.

At one point along the trail my endorphins kicked in and suddenly I could look around at the jungle instead of plodding eyes down and enjoy the view and the sight of butterflies and birds, a far cry from the day before. Someone passed and asked how I was going. I replied that I knew how far it was and I'd get there on sheer will power. It was mind over matter but if I stopped I wouldn't start again.

"What happens if you stop?"

I didn't know, but I knew it wouldn't be pleasant. The last hill down to Ban Ban at five o'clock in the evening was sheer hell—like hobbling on red-hot broken glass. Ban Ban loomed ahead but my progress had slowed dramatically. Deb was behind me somewhere; porters kept passing me. I didn't want to talk to anyone as it broke my concentration. Martin passed me going in the opposite direction—Deb had passed out and needed carrying.

I was helped aboard the truck and driven the last 500 m to Ban Ban. It was 5.30 pm—we'd made it. At Ban Ban, where everyone thought Cal and I were dead, I had a small nervous breakdown, a consequence of three days of anguish and pain.

This last day's walk was the hardest of all. All that remained to put us back on schedule was a night ride back to our permanent base camp at Son Trach. This last adventure by six-wheel-drive rattan trader down the Ho Chi Minh Trail was as uncomfortable as ever, and though the distance was only 44 km the trip took seven and a half hours.

We finally crawled into sleeping bags at 4 am, 24 hours after emerging from our entombment.

Background notes and recognitions

This article covers the last four days of the fieldwork section of the Vietnam Expedition 1997.

The expedition was the third organised by Howard and Deborah Limbert of the UK in conjunction with the University of Hanoi Geological Department. Members of the expedition were: Howard and Deborah Limbert, Paul Callister, Martin Holroyd, Simon Davies, Andrew Mackie, Peter MacNab and Trevor Wailes.

The expedition could not have survived without the help of interpreters, cooks and general dogsbodies Mr Phai and Hieu (Hughie) from Hanoi University Geological Department. This, the first part of the expedition to Quang Binh province, was a success with over 20 km of cave discovered and surveyed.

Many thanks must go to the cast of thousands which includes guides, party members, porters, army personnel and staff of the University of Hanoi.

Tham Pha Phueng
Thailand's Deepest Cave

Terry Bolger and Martin Ellis
terry_bolger@yahoo.com

IN MARCH 2005 Neil Anderson and Terry Bolger (Canberra Speleological Society) teamed up with Martin Ellis (Shepton Mallet Caving Club, UK) and Dean Smart (Thailand National Parks, Wildlife and Plant Conservation Department) for a cave reconnaissance trip around the borderlands of northern Thailand.

We reconnoitred and explored caves and karst in Lampang, Chiang Mai, Chiang Rai and Nan provinces. One of the areas we investigated was the mountainous Doi Phuka National Park in Nan province, which is the focal area for this article.

Although various park brochures, websites and tourist guidebooks mention caves in Doi Phuka National Park, ours was the first known visit to the area by cavers.

After a meeting with rangers at park headquarters, we decided to reconnoitre the area around Ban Mani Phruk, an ethnic Hmong vill 0age at an altitude of 1400 metres, in the northern part of Doi Phuka NP.

A quarter-century ago this was a remote and wild region of highland opium production and communist insurgency. The area has since been tamed and developed.

To our surprise, the turnoff to Tham Pha Phueng (Bee Cliff Cave) was signposted on the main highway heading north.

A 40 km long sealed road wound up into the mountains and led us to the headquarters of the Ban Mani Phruk Security Development Project, which has assisted the Hmong villagers in the transition from opium cultivation to cabbage and maize farming.

We stopped at the headquarters and visited their interpretation centre where there were maps, photos and information on nearby caves, including Tham Pha Phueng.

MIKE CALLAGHAN

Location of Doi Phuka National Park and Tham Pha Phueng

TERRY BOLGER

Sign on the main road indicating turnoff to Tham Pha Phueng

INITIAL EXPLORATION 2005

We drove to the bottom of the doline next to the headquarters and followed a small stream a few hundred metres to the impressively large entrance of Tham Pha Phueng, which is at the base of a 50 m high cliff. The cave descended steeply with a boulder-floored passage 30 m wide and 20 m high. The passage remained large for about 300 m until it levelled out and narrowed into a rift. Another 25 m further on we reached the top of a 7 m pitch, which stopped us for the day.

We returned to the cave the next day with survey and vertical gear. We rigged the 7 m pitch with a ladder and lifeline and dropped into a large streamway with leads going two directions. We headed downstream (north), skirting around the edge of a large pool. We followed a fine stream passage, descending at 12° to 20° along a mainly clean-washed bedrock floor, occasionally broken with short cascades and boulders. At the bottom of a steep section we skirted around a second pool, where a canyon inlet enters on the left. We continued to descend the main passage another 200 m until the stream flowed over several small plunge pools and disappeared down a pitch.

Several of us leaned over the pitch, shining our lights down to see what was below. We could only see the water spray from the stream disappear into darkness. Because of the clean-washed bedrock and flowstone floor, it took a few minutes to locate some rocks to throw down the pitch. With all of us perched at the top, the first rock was tossed down.

We waited for a sound ... and just as we looked at each other quizzically a resounding BOOM reverberated up the shaft from the depths below! We instinctively leapt back from the precipice, calling out various exclamations of amazement. More rocks were tossed and timed with a watch as taking 5 to 6 seconds to hit the bottom.

Descending the pitch would have to wait for a return trip, as we didn't have enough rope with us to reach the bottom. After eating lunch, we began the task of surveying back out of the cave. We explored and surveyed the narrow canyon inlet up a 2 m cascade and then were stopped at a 3 m upclimb.

We continued surveying back up the main streamway passage. Up slope of the 7 m pitch we only explored and surveyed a short distance to a 3 m downclimb, as it was getting late and we still had to survey out to the entrance. Our initial survey resulted in an explored length of 757 m, with the top of the big pitch being 163 m vertically below the entrance, making Tham Pha Phueng the fifth deepest cave in Thailand at that time. From timing the tossed rocks we estimated the undescended pitch to be about 150 m deep, which would make the cave, at about -310 m, easily the deepest cave in Thailand. This brief visit established the potential of the cave and the area more generally. We began planning to return with a larger team for a full expedition.

JO CAMPBELL

Tham Pha Phueng entrance

THE SECOND EXPEDITION 2009

For various reasons, nearly four years passed before we returned with a full expedition team in February 2009. Martin recruited six caving colleagues from SMCC, most of whom had been on previous expeditions to Thailand, to give us an eight person caving team. We were supported by a three person Thai camp team. The Ban Mani Phruk Security Development Project headquarters was our expedition base, where we were kindly permitted to use their guest lodge and kitchen/dining area.

On the first day everyone was keen on a trip to Tham Pha Phueng, the main target of the expedition. A 200 m rope had been purchased by the SMCC to allow us to tackle the big pitch and one group packed the spits, hammers and rigging kit, while the other team carried the survey kit .

At the foot of the 7 m pitch, Team A (Andy, Ivan, Paul, Terry) set off down the main passage to the big pitch.

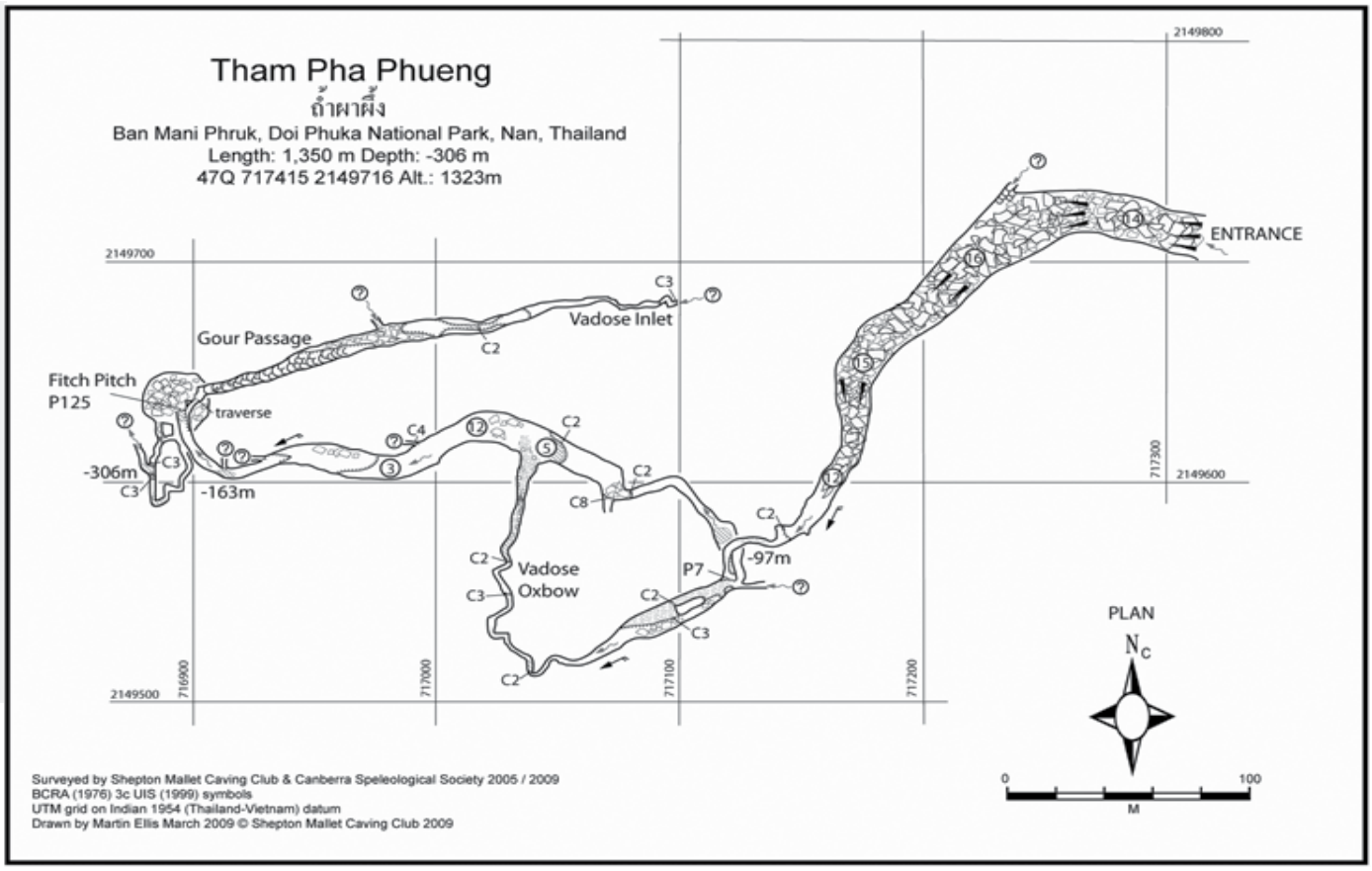
Team B (Jo, Martin, Phil, Tiggy) started to survey the lead from 2005 in the opposite direction, following a big fossil passage with an underfit stream which became a narrow vadose canyon. After scrambling down a couple of 2 m cascades and wading across a couple of pools they reached the head of a more serious 3 m drop.

Meanwhile, after tossing some rocks down the big pitch for the benefit of the newcomers, Team A set about rigging the rope. We discovered that despite all our preparations the cave spirits had hidden the spits so we were unable to get far with the rigging.

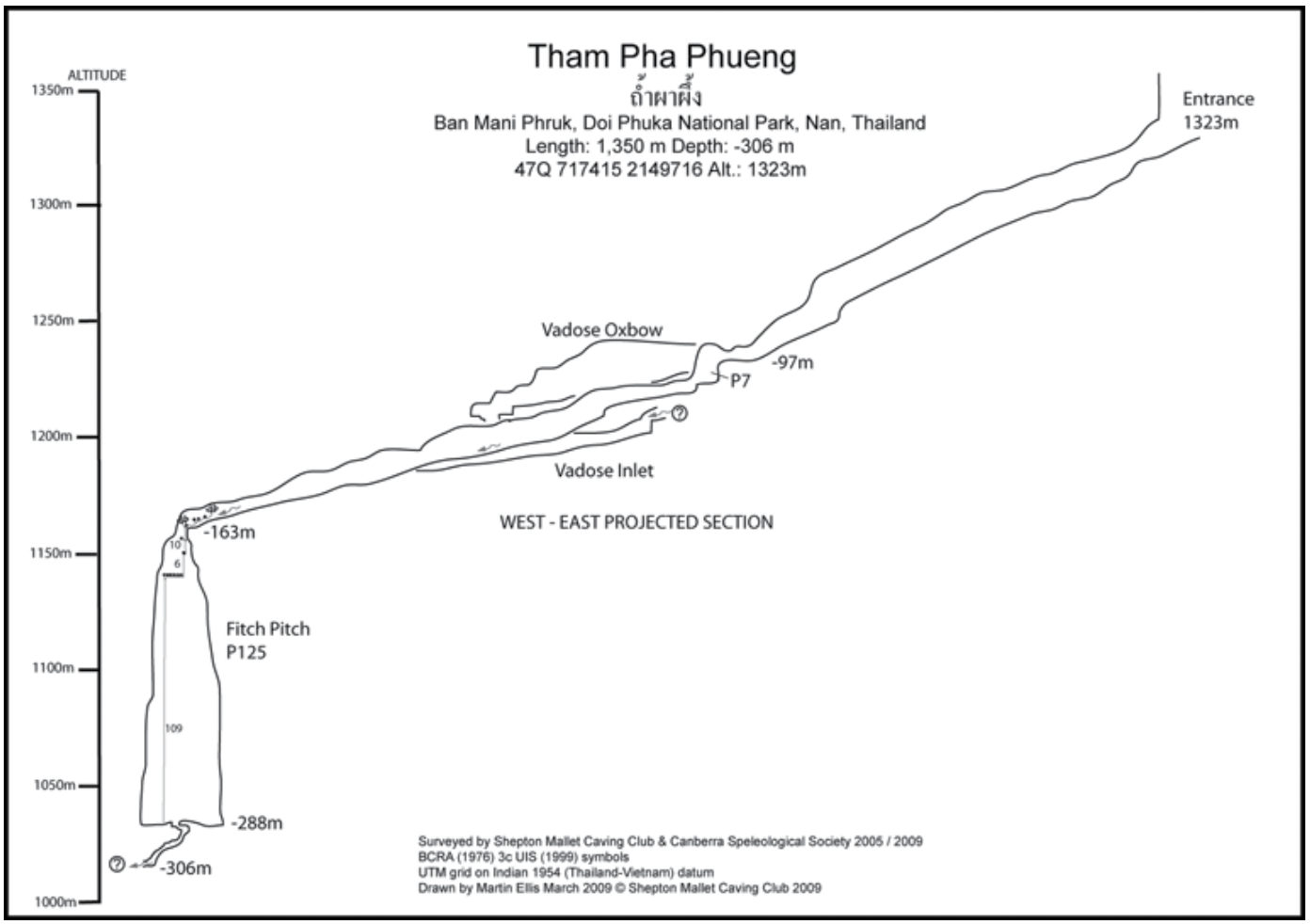
A sling was secured around a large stalagmite next to the pitch head, allowing us to lean over to get a good look down and assess the pitch.

On the way out we investigated the vadose canyon inlet explored in 2005 and timed it well to arrive at the bottom of the 3 m climb while Team B was rigging a rope at the top. Some of the group did an exchange

Tham Pha Phueng : Thailand's Deepest Cave



Tham Pha Phueng (plan)



Tham Pha Phueng (vertical section)

TERRY BOLGER

The 2009 Expedition Team (L-R): Jo Campbell, Supatra 'Nom' Hollis, Claire 'Tiggy' Dummer, Paul Dummer, Martin Ellis, Eng 'Ann' Prommaviang, Yuphin Sopha, Terry Bolger, Andy Manners, Ivan Hollis and Phil Collett

and the two parties headed on out of the cave.

Day Two and the keen Team A (Andy, Jo, Paul and Terry) went back to the big pitch in Tham Pha Phueng – this time with plenty of spits. Team B went by 4x4 for a bit of surface prospecting to the south-east of Ban Mani Phruk where several dolines and a couple of sinking streams are shown on the map. Team A managed to install the spits (the holes for the spits were hand drilled) and rig the rope at the top of the pitch and also rig a traverse round the top of the pitch to a large inlet passage with a very fine set of gours. Team B parked the car on the ridge and walked down into the bottom of the doline of the Huai Poen stream. By following a dry stream bed they found the sink, where the stream drops into a cave via a rift with a 3 second drop. This cave is named Tham Huai Poen.

Day Three saw everyone back in Tham Pha Phueng. The keen Team A (Andy and Jo) continued rigging the big pitch, reaching a ledge about 20 m down. There they found that the rock was too poor for placing spits. On the way back up they noticed a smaller ledge with better rock, which might allow a traverse around the side of the pitch to give a free hang down it.

Team B (Phil, Tiggy, Paul, Terry and Martin) surveyed up the Gour Passage which reached a breakdown chamber (with an unexplored muddy inlet) and then became a vadose canyon. This was ascended until a 3 m climb. Although Paul got up the climb, he had some fun getting back down so the survey was stopped at this point. This vadose canyon is heading towards the main entrance boulder passage and it is thought that it might come up underneath the boulders.

PHIL COLLETT

Tiggy in main stream-passage of Tham Pha Phueng.

Day Four was a 'rest day' where no one went underground. Terry had a solo walk to look at some dolines to the east of Ban Mani Phruk while Jo, Andy, Paul and Tiggy walked downhill to the west of the village to look for possible resurgences. Phil and Ivan had an epic walk to the doline to the south of the Nam Dan valley. It was a beautiful day for surface reconnaissance, but no promising cave leads were found.

Day Five and back to the caving. In Tham Pha Phueng, Jo, Andy and Paul rigged across the traverse at -16 m on the big pitch while Tiggy and Phil took photos. Back near our base, Martin, Ivan and Terry surveyed Tham Nam Dan which unfortunately became blocked with boulders after 100 m. Terry and Martin looked at the huge boulder-pile where the Nam Dan stream sinks and, although a cold breeze could be felt, no way in could be found.

Also of interest on this day, our Hmong neighbours sacrificed a pig in a ceremony to appease the spirits. This seemed to work as the cave spirits stopped hindering our progress, though Jo says they still talked to her while waiting at the top of the pitch.

Day Six was going to be the 'make or break' day for getting down the big pitch, as the next day would be the last day of the expedition and would be needed for de-rigging the cave.

Our main concern was that the rope would not reach the bottom of the pitch, as we had used about 50 m of the 200 m rope rigging to the end of the traverse. Andy, Jo and Terry went down to the pitch to rig the Y-hang at the end of the traverse and lower a bright torch down on the end of the rope to see if it reached the floor. If it didn't reach, then it would be a short day and we would be derigging on our way out of the cave.

On the surface Ivan, Phil, Paul, Tiggy and Martin went for another walk into the Huai Poen doline which had been visited on day two. By heading north along tracks and paths they reached the Huai Poen stream which was then followed to where it went over a 20 m waterfall into a huge collapse doline.

A path led around to the other side of the collapse where a large cave entrance could be seen. Ivan was the only one to scramble down the very steep slope where he was able to look into a huge cave passage. Unfortunately, a short, slippery slope and lack of a handline prevented him from going any further. The cave is named Tham Nam Tok Nam Poen.

Back at the big pitch, Andy went down

PHIL COLLETT

Tham Nam Tok Nam Poen entrance.

to the traverse and after rigging the Y-hang he began lowering the torch. Being on the traverse hadn't been too bad until we realised how much space was below us as the torch spun round and round, only occasionally lighting up the walls. After a while it stopped spinning. It took a few minutes of raising and lowering the torch before we were convinced it was on the bottom. Andy descended first, with a carbon dioxide meter tethered below him and he radioed up to let us know when the rope was free. Jo and then Terry followed.

Descending from the free hang, the rope hung well away from the walls of the pitch as the shaft gradually belled out. Before long we intersected the water spray again, which removed any worry of our descenders getting too hot. We could generally see a wall, decorated with flowstone in places, but we were mostly aware of the void around us and the thin, white line of the rope disappearing into it. It was a long way down! Even when the rope weight diminished and we thought we were close, the light from those below was still a long way off.

Andy and Jo started to explore while Terry descended. The bottom of the pitch was a large chamber with a pool of water in the middle surrounded by gravel banks. The water flowed out of the pool in a shallow trench and down into several holes in the floor. Jo followed the water down one of the larger holes, descending a series of short drops until she was stopped at a large gour pool with a 3 m drop.

By now Terry was down the pitch and the group set off to explore the final lead. The trench in the floor of the chamber continued, getting deeper and eventually became a large, smooth-polished passage. We followed this down a series of climbs, until we were stopped by an overhung downclimb that we weren't game to try without a rope. From here however we could see across to a large gour pool which we thought might be the place where Jo had been stopped.

Terry stayed there, while Andy and Jo went back to where Jo had gone to check it out. We couldn't see each other, but could see each other's lights, confirming that the passages converged. The stream passage below continued downward in a vadose canyon.

It was getting late, so Andy started prusiking out. In the meantime, Terry and Jo began placing spits at the top of two of the climbs for rigging on future trips. Just as we finished placing the first spit, Andy radioed that he was up. As Jo was prussiking, Terry placed the other spit. Once we were all up the pitch we headed out to tell the others the news and celebrate!

JO CAMPBELL

Andy descending Fitch Pitch during rigging.

The big pitch was measured to be 125 m deep with a 109 m free hang from the traverse ledge, and has been named Fitch Pitch in memory of Terence Fitch, an SMCC member who had died recently. We explored and surveyed Tham Pha Phueng to -306 m, making it the deepest cave in Thailand, with the cave continuing. We also found two other promising caves which we haven't yet explored. Following this successful trip, plans are being made for a return to the area early next year.

Acknowledgements and Thanks

- Mr Phinit for allowing us to use the facilities of the Ban Mani Phruk Security Development Project free of charge.
- Eng, Yuphin and Nom for doing all the cooking and shopping.
- The Shepton Mallet Caving Club for purchase of the 200 m rope and carbon dioxide meter.

Gunns Plains Centenary

Stephen Blanden
NC

DISCOVERY

William (Bill) Woodhouse (a local farmer) first discovered the cave entrance in about 1894 when he noticed vapours rising from a hole in the ground, but deemed it too dangerous to enter. In 1906, he re-located the entrance whilst out hunting possums by lamplight.

A few days later, Bill Woodhouse and a couple of neighbouring farmers lowered themselves by ropes down the entrance of the cave and their lamps revealed for the first time the beautiful formations.

EARLY HISTORY

By 1908 reports of the discovery of a new grand cave had filtered through to the Ulverstone Tourist Association. In November 1908, a trip was organised to view the cave and ascertain whether or not to proceed with the development as a tourist cave. Following this trip, the first description was written of the cave and appeared in the local newspaper *North-West Post* on 11th November 1908:

"A party organised by Mr. E. Frith set out on Monday to explore the new cave at Gunns Plains. The party arrived at the caves at 10.30 a.m. The access to the caves was found a little difficult and the party had to slide down a rope some 20 feet, then, with candles and acetylene gas lamps in hand, they started exploring.

A small creek was found running through the bottom of the cave, but everything was nice and dry.

The first thing they came across was a bed of what looked exactly like cauliflowers, and their white heads looked extremely real. Then the cave opened into a large hall some 30 feet high and 20 feet to 30 feet wide, with magnificent stalactites, 10 to 20 feet long hanging from the ceilings, from the thickness of a pencil to a foot or two, and on the sides great organ pipes, which when tapped by the hand sounded like bells; and a peculiarity hanging from top to bottom, like a folded blanket hung edgeways showing several colours.

The next room was christened the Bridal Breakfast room, where a large five-decker wedding cake was found, from four to five feet wide at the bottom and several feet high. The stalactites in this apartment are really magnificent. The stalactites are also very fine in both these latter places, and the light of the lamps around the walls and on the great boulders gave a reflection like thousands of diamonds.

The caves were explored for several hundred yards and were pronounced the best any of the party have yet seen. They need further exploring as there are likely to be found many and much larger rooms. The caves being in a state of nature are really worth seeing, and are fully equal to those at Mole Creek."

STEPHEN BLANDEN

Geoff Deer (left) with son Benjamin, Ian Gadsby and James Maskell outside Gunns Plains Cave

At a monthly Ulverstone Tourist Association meeting, held on 23rd December 1908, it was decided to fix the official opening of the cave for January 6th 1909 and also not to admit anyone under the age of sixteen years.

OFFICIAL OPENING

The official opening of the Gunns Plains Cave took place on Wednesday, January 6th, 1909. The opening ceremony was performed in the afternoon by the then Premier of Tasmania, the Hon. John W Evans and was conducted in the presence of a large gathering of people including several well known and distinguished personalities of the time—Mr. Urquhart (State Treasurer), Sir John Quick (member for Bendigo in the Federal House of Representatives) and Lady Quick, the Hon. H Nichols MLC, the Hon. J McCall MHA, and Mrs McCall, R J Sadler, H J Payne, W R C Jarvis, C Metz, B Watkins, A C Solomon, W Henry, T Collett, J Boag (Launceston) and Councillors E Hobbs, T Bingham and W E Lewis.

All parties arrived at William Wood-

house's residence by 11 am and then were conducted on tours of the cave in groups of 12 under the guidance of the caretaker, William Woodhouse. A flight of steps descending 56 feet led visitors into the cave which had been well illuminated with several large acetylene lamps, of 150 candle power as well as a large number of bicycle lamps and lanterns. After the tours the visitors were invited to a lunch prepared by Mrs Woodhouse. At the conclusion of the lunch Dr McCall called upon the Premier to officially declare the caves open to the public.

100 YEARS LATER

On 6th January 2009, Geoff and Trish Deer (the current operators under a lease arrangement with the Tasmanian Parks and Wildlife Service) celebrated the centenary of the Gunns Plains Cave being open to the public by holding an open day and conducting tours for a gold coin donation. A wide range of visitors, totalling 145 people, from as far as Finland and New Zealand, as well as from Queensland, Victoria, New South Wales, Western Australia and Canberra viewed the cave throughout the day. A few comments regarding their underground experience included "great tour", "fantastic!", "cool glow worms", "very interesting", "awesome" and "Great to see something so cool in its natural state – keep up the good work!"

The celebrations continued over the following weekend of 10th—11th January. A large marquee was erected on the site, next to the car park, and showcased inside were various memorabilia pertaining to the cave. There was information on the past and present guides—William Woodhouse, Ephraim Maxwell, Graham Maxwell, Des Wing, Leo Wilcox, Trish and Geoff Deer; along with examples of the old lighting system. Stephen Blanden was also on site to sign and sell copies of his publication *Gunns Plains Cave—Tasmania.* A sausage sizzle was carried out throughout the day and did a roaring trade.

The operators, Trish and Geoff Deer, with their son, Benjamin and three casual guides, James Maskell, Vicki Rolfe and Ian Gadsby all dressed up in period costumes to run tours through the cave every half hour. They all looked very impressive dressed up. On Saturday, 213 visitors arrived from as far as New Zealand, also Western Australia, South Australia, Queensland, Victoria, New South Wales and also a large Tasmanian contingent. One comment from Christchurch New Zealand was "Second time in 62 years". Other comments on the cave included "very good", "was fantastic thanks a lot", "just super – thankyou", "incredible, great" and "I thought it was wonderful, it has been around 40 years since I was here".

STEPHEN BLANDEN

Cave guides in period costume (from left) Vicki Rolfe and Trish Deer

STEPHEN BLANDEN

Cave guides in period costume: (from left) James Maskell, Vicki Rolfe and Geoff Deer

The centenary celebrations continued on Sunday January 11th with 193 visitors arriving from Victoria, Queensland, New South Wales, Tasmania and India. There were a large number of visitors from the local Ulverstone and Devonport areas. Several comments from visitors on the day included "great", "magnificent", "great guides – back after 50 years and more!!", "still as good as ever", "Thankyou. It's worth every penny we spent" and "good experience". Of the visitors on Sunday, there was Rita Maxwell who was the wife of the past guide Graham Maxwell (from 1947 until his death in 1966); Robert Wing, who is the son of Des Wing, and Bradley Belbin, a nephew of Des Wing (who ran tours from 1966 to 1991).

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STEPHEN BLANDEN

On tour with guides Ian Gadsby (far left) and Vicki Rolfe (right)

The Big Bangs of Caving

Stephen Bunton
STC

I'VE BEEN teaching science now for thirty years and it's interesting to look back at some of the developments that have occurred in that time. There are a vast number of things that I teach or tell my students about that weren't invented, discovered or dreamt up when I was a student; recombinant gene technology, MRI, introns, prions, bucky balls or anything to do with nanotechnology. The accepted fact that the dinosaurs met their demise as a consequence of a meteorite impact was not even a notion when I was at school, now we don't even question it. The biggest change, of course, has been the invention of the computer. As I sit and type this on my laptop it is hard to think back to my kindergarten where, in 1962, I wrote the letters of the alphabet on a slate.

To say that today we do caving differently to the way it was done when I first started would be a gross understatement. It is interesting, therefore, to reflect upon the question of what were the big breakthroughs in caving. Here is my list of caving's big bangs:

0. Maps

Caving is about exploration and explorers have always made maps of their discoveries. So making maps of caves is not really a monumentally new or Earth-shattering idea and therefore, does not really count. Nevertheless, over the years cave maps have improved dramatically and the concept of survey standards and standardised symbols for cave features on maps have improved the quality and aesthetic appeal of cave maps.

1. Helmets

The helmet is the caver's signature item of apparel. Since cavers first started to wear helmets nobody has questioned their value and there has never been a move to abandon their use.

Everyone realises the value of a helmet to stop falling rocks or its much more significant role in preventing nasty head wounds when cavers bang their heads on the roof.

However, the most important contribution of the helmet has been the fact that it offers a place for mounting a light. This has freed up cavers' hands to make climbing and scrambling easier, which in turn has meant faster travel times through caves and increased the range that cavers can penetrate into the unknown.

2. Entrance Tags

Unlike mountains or any other geographic feature, the extent or nature of a cave is not shown on topographic maps. From the surface it is impossible to tell what a cave is like or even tell the identity of the cave from the shape of its entrance.

Tagging cave entrances has eliminated ambiguity of a cave's identity and then combined with a map of the cave it is possible to know the nature of the cave.

These days, photo-tagging of caves makes identification of caves much more certain.

3. Rechargeable Electric Lights

From the dawn of time cavers have relied on fire; faggots, candles, kerosene lamps and carbide miners' lights.

My first caving light was a Chinese "Good Luck" brand implement of amusement and torment.

Acquisition of rechargeable electric miners' lights added greatly to the reliability with which a caver' s footsteps were illuminated. This has been of untold value for weekend cavers but for expeditions, the limitations of having to recharge their caving light has meant that the re-engineered carbide light, the Petzl "kaboom" enjoyed a resurgence in popularity. Nowadays solar panels and rechargeable cells are a viable option.

4. SRT

Cavers have always used ladders to descend caves. Whether they were made of wood, rope, rope and wood or even steel was of no consequence.

The lightweight aluminium and stainless steel electron ladder extended the depth to which cavers could descend.

Laddering still required belay ropes and thus the amount of gear required to explore deep caves was mountainous.

The biggest breakthrough in caving technology was the invention of the Jumar ascender.

This heralded the start of SRT and deep caving received its greatest impetus. Taking just the rope and forgetting the ladders lead to a global boom in exploration and dramatically increased the number of deep caves discovered and explored.

5. The Bolt

The biggest problem posed by SRT is that a caver's life literally hangs by a thread. Caves need to be rigged in such a way that the rope doesn't abrade.

The ability to place an anchor point where the rope hangs free has been a very liberating and empowering breakthrough. Initially, bolts were "carrots"; filed down, bashed in, machine bolts. These were replaced by "spits"; Terrier self-drilling casings with a high tensile bolt screwed into them. Unfortunately, these casings rust or fill with mud and therefore deteriorate and become useless over time.

The answer to this has been the installation of stainless steel bolts with a greater longevity.

6. Synthetic Fibres

Throughout the history of humanity we have passed from the Stone Age to the Bronze Age and then the Iron Age. The Iron Age ended not so long ago with the post-World War II technological boom, which launched us into the plastics age.

The advantages of plastics—that they are lightweight, cheap and long lasting—has seen them exploited in every imaginable manner. For cavers it has meant nylon harnesses, durable cave packs, PVC waterproof suits, synthetic rubber boots and gloves, thermals and fleece clothing.

Waterproof garments and those that provide warmth when wet have revolutionised alpine caving because they are lighter and more durable than wool, which is the only natural fibre alternative.

7. SCUBA

When I started caving the Gouffre Berger was the world's deepest cave. I remember our Scout troop watching the black and white film masterpiece *Siphon 1122.* Many of the world's deepest caves have bottomed out at sumps and then these have subsequently been passed by cave diving.

The Gouffre Berger extends through four sumps to a fifth sump at a depth of -1191 m and an overall depth of 1243 m.

The adaptation of scuba diving techniques to caving has yielded untold cave passage, adding great depth and length to many caves. The world's deepest cave, Voronia (-2050 m), would only be about two-thirds its depth if exploration had stopped at the sump at -1440 m. Significant in this has been the use of neoprene wetsuits as well as dry suits, which are a further application of synthetic fibres as outlined above.

8. Accessible Air Travel

During my working life the workload has probably more than doubled, wages have grown about five-fold, whereas airfares have less than doubled in this time. Relatively cheaper airfares have meant that air travel became more accessible and thus the concept of the jet-set caver was born. Expeditions to many exotic destinations became increasingly popular. Historically, for Australians this has meant trips to New Zealand, New Guinea, Mexico and Thailand. Recently, the fall of China's bamboo curtain and the advent of tourism to Vietnam, have provided new destinations for cave expeditions with great success.

9. Computers and Survey Reduction Programs

Caves are surveyed from go to whoa, taking bearings, inclinations and distances, and a system of polar co-ordinates. Cave maps are drawn in plan and cross-sections, which are more easily drawn from Cartesian, x, y and z co-ordinates; Eastings, Northings and depth. The mathematics to convert from one to another, trigonometry, has been known for over two thousand years.

Electronic calculators made these sums much easier but the invention of the computer has meant that a day's cave surveying can be reduced in a fraction of a second.

Computer surveying programs are also able to present this information as viewed from any direction and as a next step, the relationship between various caves can be shown easily. Drawing and graphics programs have increased the quality of cave maps and having them digitised is of great value. Combined with modern GIS packages, cave cartography is enjoying a boom period. Computers have also been used effectively to store, archive and share information. The computer of course has helped in the production of caving magazines, the quality of which has been increasing rapidly and continuously.

10. GPS

Locating caves has never been easier, especially if you have the GPS co-ordinates. In the past, grid references only placed a cave within 100 m of its precise location, now GPS units can position the cave within the satellite accuracy of a few metres; differential GPS even closer.

More significantly, the fact that GPS units are quoting cave locations to the nearest metre means that there is a compatibility of scale with cave surveys which are also drawn to the nearest metre. The level of precision quoted when using GPS i.e. to the nearest millimetre, is rather impractical. Cave depths are only ever quoted to the nearest metre and lengths to about the nearest ten metres.

Modern GPS units now have topo-maps built into them and with better aerials they are easier to operate, even under a thick canopy of trees. Combined with the facilities of Google Earth, for places where there is no scrub, the possibilities for gaining and utilising precise cave locations are endless.

11. LED Lighting

Lighting is essential to caving and my career has been punctuated with landmarks of trips where lighting failures led inexorably to epics. After disposing of the "Good Luck" headlamp, which required just that, and three D-cells, I used a wet-cell which was even heavier and messier. Gell-cells eliminated the mess but not the weight nor the mucking around re-charging. Petzl headlamps solved the reliability problem and when these were redesigned using LEDs a whole new era in lighting technology was born.

As much as I have appreciated my various electric lights over the years and loved every minute of the intimate, tactile relationship I had with my "Premier" carbide cap lamp, I can't believe how good LED lights are. They are lighter, brighter, use hardly any power i.e. the batteries last forever, and LEDs seem to be unnaturally reliable. Gone are the days of stumbling along in a puddle of light.

12. The Portable Electric Drill

Anyone who has put a bolt in by hand will immediately appreciate the value of the portable electric drill.

The big breakthrough here is in the time and effort saved during installation. The magic behind these devices lies in the battery technology and the reliability of the machines themselves.

Caves are guaranteed to destroy anything that enters them. Humans and hardware are all reduced to rubble after a certain number of caving trips, so the concept of taking a costly power tool underground may seem ridiculous but it is worth it.

13. Capping

If you have used caps, you will appreciate their value. Digging has always been accepted as a legitimate way to discover new cave passage, despite the questionable ethics of interfering with airflows and disturbing karst biospaces.

Numerous cave rescues have only been possible with capping and the odd recent discovery has been as a result of a bit of cosmetic squeeze enlargement.

Capping is the modern equivalent of the lump hammer but don't think the lump hammer is redundant, capping wouldn't occur without it.

14. Laser Distance Measuring Devices.

Distos are my last big bang. Although they have been around for some time, I have only just appreciated their value. The main advantage is that we are no longer dragging a measuring tape through the cave, wasting time and knocking the ends off straws or putting mud onto other formations. The other conservation benefit lies in the fact that cavers don't have to crawl all over the place in order to take the end of the tape measure to the far wall in order to get passage widths.

In the bush they are likewise significantly faster and less frustrating; flicking fern fronds and busting twigs out of the way to get a decent length sight is now a thing of the past. On several occasions we have completed over a kilometre of surface surveying through hideous scrub well within a day.

Similarly to the precision quoted by GPS units, laser distos can read out figures to within half the width of a bee' s dick, which is not really appropriate for most cave surveys. The station error is considerably more than this and for cave heights and passage widths it all depends which part of the wall you shoot at.

Pretending you are in some sort of science fiction battle is also fun when you are bored off your stal whilst surveying.

When I first started teaching, an English/History teacher pointed out that we were members of the luckiest generation to have ever lived. We didn't go through the Great

Depression, either World War and we were just too young for Vietnam.

We have enjoyed the health benefits of vaccinations and antibiotics, we know enough about the evils of smoking, cholesterol and sloth. If any of these did catch up with us then heart surgery became routine and by the time we get old they will probably have cured cancer. There is the chance that we can cave forever!

Although we have enjoyed times of plentiful food and untold employment prospects, there is a dark cloud looming on the horizon. A long retirement of living in poverty seems likely since some financial gambler fritted our life savings away on the stock market. Oh well, you can't have it all.

During the last three decades cavers of my vintage have seen the total amount of cave passage on this planet increase possibly four-fold. Much of this boom in exploration can be attributed to these big bangs. More importantly, these developments have made the caving experience much more enjoyable. As I watch the manner in which the younger generation of cavers undertake their exploration, it is more methodical, highly technological and incredibly productive. I therefore tend to feel that THEY never had it so good. Good luck to them.

EXIT CAVE RE-SURVEY – JANUARY 2010?

STC has provided the Tasmanian Parks and Wildlife Service with a report outlining the activities and findings of the Exit Cave re-survey project scoping study.

The report contains recommendations detailing the feasibility of a long-term Exit Cave re-surveying (where necessary) and mapping project. Success of the long-term project is dependent upon cavers willing to volunteer their time.

To get the project under way STC is tentatively planning a survey "expedition" in January 2010.

If you (the cavers of Australia) want to be involved please contact Matt Cracknell on the details below before the end of October.

crowdang@yahoo.co.uk 0409 438 924

VALE CLYDE STIFF

It is with deep regret that we learn of the death of Clyde Stiff late on Tuesday 25th August. He was in his 88th year.
Clyde was a long-term manager of Wombeyan Caves, the immediate predecessor of Mick Chalker.
He had been in frail health for several years.

ASF Awards Ceremony
Brisbane, February 2009

John Dunkley

JOHN DUNKLEY

Attendees L to R ; Top: Andrew Robson, Maria Comino, Stephen Comino, Chris Dunne, Kerry Hamilton, Craig Hardy, Peter Berrill & Diane Berrill; Bottom: John Dunkley, Grace Matts and Arthur Comino

EIGHT new and earlier recipients of ASF Awards were among the 11 attending a dinner in February at the Caravanserai in West End, Brisbane, to make a presentation to Stephen Comino AM and to Maria Comino, recipients of the 2009 ASF Award of Distinction for Conservation, and to John McCabe of Rockhampton (in absentia) of a Certificate of Merit. In fact, this was probably the largest gathering of speleologists in Brisbane for over 20 years!

As mentioned in *Caves Australia* 177, Stephen Comino AM has a long and distinguished record in conservation and was appointed a Member of the Order of Australia in 1994, "in recognition of service to conservation and to law, particularly as it affects the environment" (largely arising from the battle to save Fraser Island, now a World Heritage site).

He was active in the Cooloola Sands campaign in the 1970s, was the solicitor for the Fraser Island Defence Organisation (a continuing role) and continues to mentor environmental lawyers including an ASF Fellow not able to be present.

ASF felt that there was little honour that we could add to such a distinguished record, but we wanted to express our thanks and appreciation for all the work he had done (mostly pro bono) for us and for Central Queensland Speleological Society in the long battle for Mt Etna, for recommending that ASF become a Registered Environmental Organisation, for assisting us in the establishment of the ASF Karst Conservation Fund, and acting for us in negotiations with the cement company culminating in the handover to Queensland Parks & Wildlife Service of the land at Mt Etna.

Stephen regaled the gathering with stories of a Queensland hopefully forever gone but never forgotten - of the Bjelke-Peterson years of development at any cost, the victimisation and vilification of environmentalists, the ban on protests, the sheer inanity of some of the politicians, and the innate conservatism of most of the legal profession at the time. Arthur, Stephen's brother and partner in legal practice, described how he had tramped the streets of Brisbane in the 1970s, soliciting support for the campaign against mining of the Cooloola Sands and gradually helping to turn the public's attention to environmental degradation.

Stephen's daughter, Maria Comino, is

JOHN DUNKLEY

John McCabe (R) with Craig Hardy & the QPWS Regional Manager Lee Harris

JOHN DUNKLEY

Maria Comino

also a lawyer who did much of the behind-the-scenes legal work during the Etna campaign, often working nearly all night. After graduating, she had doubts about actually becoming a lawyer but others said that the Mt Etna campaign was the making of Maria and confirmed her commitment to conservation.

She became an environmental lawyer and has remained in the profession ever since in Brisbane and Sydney. As a Director of ASF's Karst Conservation Fund she has been an invaluable source of advice.

John McCabe was unfortunately not able to come to Brisbane for the occasion. With a long professional track record in vegetation rehabilitation, he was Chairman of MELMAC (ASF's Mt Etna Land Management Committee) during negotiations with the cement company. Earlier, he was President of the Queensland Conservation Council and after moving to Rockhampton was the first President of the Capricorn Conservation Council, roles which greatly assisted in strategic advice about conduct of the Mt Etna campaign, in which he was very active behind-the-scenes as a member of CQSS.

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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