DESTINATIONS: Exploration and Discovery

Most accounts of significant cave discoveries were published in the newsletters of member clubs with maybe a brief note in ASF Newsletter, but occasionally somebody would write a comprehensive account for a wider audience. For some years the Newsletter ran a series on Caves of Australia to draw attention to the great variety of our caves and to encourage standards of documentation higher than in the traditional club trip report. Reports on exploration prospects or actual expeditions to remoter parts of Australia and overseas were more likely to feature in ASF Newsletter because of the wider readership.

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1. On the local scene

Caves of Australia : No. 14

RESURRECTION CAVE, MT ETNA, QUEENSLAND

John Webb

ASF Newsletter 81 (1978)

The full moon cast an eerie glow over the benches and rubble piles of the quarry. Crouched behind a lantana thicket, the party gave their equipment a final once-over and synchronised their watches. Clad in khaki overalls to blend with the light-coloured limestone of the quarry, their faces blackened, they looked a savage crew. One by one they checked the cloth wrappings on their karabiners, ensuring no noise would give away their position to the listening ears they knew were ahead. As a particularly large cloud eclipsed the moon, the group moved into action, scurrying along the benches and using fallen blocks of limestone for cover.

As they approached the target, each one unslung his or her gear ready for instant use. Was this a P.L.0. attack on a secret Israeli base? A drug squad raid on a lonely farmhouse? NO, just a routine trip to Resurrection Cave!

The cave, E22, is located on Mt. Etna, a conical limestone peak about 25 km north of Rockhampton. Mt. Etna has been quarried for limestone since 1966 and is the subject of a protracted conservation battle which is by no means finished.

Over the 1967 Easter holidays a party of University of Queensland Speleological Society members, led by Henry Shannon, visited Mt. Etna. On the night of Easter Sunday they decided to check a local rumour that the quarry had broken into a beautiful cave, and in the wall behind Bench 1 they discovered a small hole. This lead to an 8 metre drop, where a metal ladder, stabilised by ropes, had been installed by the quarrymen. The cave was large and possessed excellent decoration, with magnificent helictites, straws and shawls. In 1971 later recalled the heat and “humidity of a previously closed system, red slippery mud, the occasional drips showing its life, and, above all, the perfection of its formations”. It was named Resurrection or Quarrymans Cave, the former name having stuck.

It was necessary for parties to surreptitiously visit the cave at night because the entrance lies within mining leases held by Central Queensland Cement Pty Ltd (CQC), who operate the quarry. On several occasions company employees have seen cavers on Mt. Etna and forcefully demanded that they leave immediately. The opening paragraph of this article is only slightly exaggerated, as the foreman’s house is just 400 metres from the cave entrance. During World War Two, Mt. Etna was used by commandos of Z Special Unit under Captain Sam Carey, for training in the use of limestone caves deep within enemy territory. Some UQSS members felt that their night-time excursions were carrying on a worthy tradition, and, despite the difficulties, the cave was visited up to three or four times a year.

In June, 1968 Paul Caffyn discovered a major extension, again very well decorated, but in March, 1969 the cave entrance was found to be covered with rubble, presumably bulldozed over from the bench above. This must have occurred very soon after a party of scouts went through the cave and wrote of their visit in the local paper. Prior to this, CQC surveyed the cave and produced a fairly accurate map for their own purposes. A small hole above the original one still allowed access, with an entrance pitch of 12 metres. Sometime before August 1971 the old entrance was re-opened when the boulder pile was removed by the company, and a wooden extension ladder installed. This hole was bulldozed over again and in December 1974 the upper entrance was found to be gated with a series of steel bars. It was possible to squeeze behind these and they made excellent anchor points when rigging the pitch. However, a visit in December 1977 discovered a considerable number of solid steel rods added to the gate so as to make it impenetrable. It must be pointed out that the company’s rationale in gating the cave is at least partially legally based. If a person was injured in Resurrection, and it was suggested that CQC had been negligent in not preventing public access to a dangerous cave, then that person could possibly sue the company.

The cave itself is essentially linear and aligned WNW, with a surveyed length of 450 metres and a vertical range of 38 metres; the entrance is believed to be 4 to 5 metres below the original ground surface. The first chamber, at the foot of the entrance pitch, possesses excellent flowstone and gours. A long narrow passage connects with the second cavern of which on the north wall is a display of red-brown shawls edged with white. Above is a decorated aven with straws, and inset in the southern wall are live helictite clusters. The lowermost helictites have knife-like accumulations of mud on them, and indeed thick mud covers the floor and lower walls of much of the cave. This mud appears to have entered Resurrection some time ago, as unstained flowstone is forming over it in several places. In the north wall of the second chamber, a muddy crawl leads off but has not been surveyed. Blast damage in the first

and second caverns is noticeable, with large stalactites up to 0.8 metres in diameter having fallen from the roof and impaled themselves in the mud. Some formations also appear to have been vandalised, probably by visitors when the ladders allowed easy access to the cave.

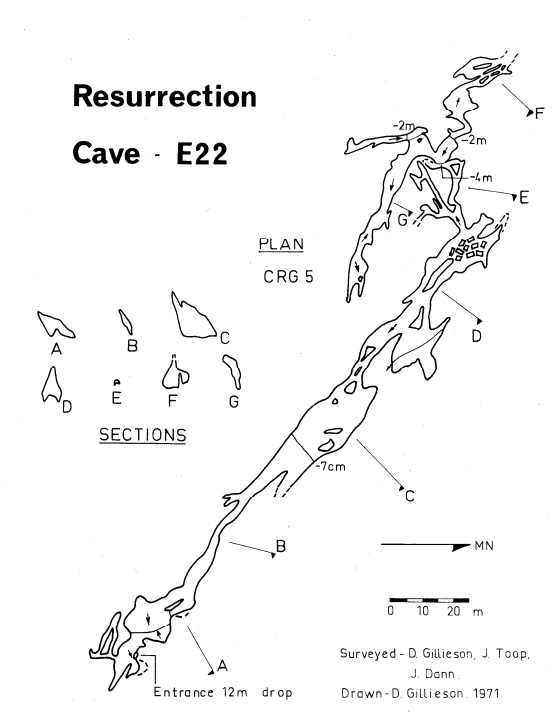
Continuing on, a series of narrow passages finishes in a large cavern. A crawl low down in the southern wall of this goes up a slope, through a squeeze and into the extensions, where passages lead off in three directions. The one going WNW has beautiful flowstone in its early sections, but soon degenerates as it has suffered heavily from blast damage. Huge boulders have fallen from the roof and cracks criss-cross the walls; some parts seem very unstable. This passage narrows but has been pushed until a smell of earth and vegetation became noticeable; a quick look at the quarry bench in this area has revealed a spot where this probably connects. The ESE part of the extensions has very good helictites in the roof and ends in a pitch which is unsurveyed. Another lead, yet to be fully explored, is a crawl off that going to the extensions; it becomes impassably narrow but a chamber can be seen ahead.

A few unidentified bats use Resurrection as a roosting site, which is interesting as the cave was probably completely closed before being broken into by the quarry. Small amounts of guano are present in places.

Resurrection Cave is without a doubt the best decorated cave in an area where good formations are uncommon, and its discovery added new impetus to the campaign then being waged against the limestone mining taking place. Today that battle continues, amid rumours that the quarry benches will be enlarged and Resurrection Cave will cease to exist. This is the cave that was "richly decorated in a way quite different to either of the existing groups of developed caves; it is extremely beautiful and would readily lend itself to tourist purposes".

This article is not only a description of Resurrection Cave but a plea for its salvation. YOU can help by writing to the "Courier Mail", Campbell Street, Bowen Hills, Queensland, 4006, and to the Queensland Premier (J. Bjelke-Peterson) and Mines Minister (R. Camm), c/- Parliament House, Brisbane, 4000, arguing that the quarrying should stop and Mt. Etna be made a national park.

(Much of the material in this article was derived from unpublished trip reports and personal communications from Mike Bourke, Lex Brown, Dave Gillieson and Henry Shannon. Other references cited in the original have been omitted)



Postscript: Under proposals received from Cement Australia, ownership of Resurrection Cave and the surrounding land will pass to ASF in 2008.

SCRUBBY CREEK CAVE

Lloyd Mill

ASF Newsletter 85 (1979)

In the North-West corner of the Buchan district is a cave called "Scrubby Creek". Not a very impressive name maybe, but the name belies the character of the cave. Scrubby Creek has been the scene of many an epic trip, not because of its being vertical and long, but

because of the mud and water. It certainly is one of the hardest Victorian Caves and is possibly one of the finest sporting caves in Australia.

Geology

The cave is situated along the western edge of the Buchan Basin. The surface Scrubby Creek flows along the contact between the rugged, heavily forested Snowy River Volcanics and the more gentle cleared slopes of the Buchan Caves Limestone. The contact is considered to be depositional, with the limestones sitting conformably on the volcanics. The beds dip at moderate (thirty to fifty degrees) angles toward the east. The first part of the cave appears to mainly cut across the strike until the sump is reached. The sump is a very low section of passage extending some fifty metres. This lowness is possibly due to presence of a dolomite-rich portion of the limestone. This hasn't been tested, but dolomite is quite common in this part of the sequence.

From this point, the cave roughly follows the dip. Where the Loo extension comes in, the passage swings around ninety degrees and follows the strike. This is quite obvious in the large galleries at the far end, the roofs of which are large expanses of bedding plane dipping at about thirty degrees to the east.

The final rockpile appears to line up with a fault shown on Teichart and Talent's geological map.

Description

The resurgence of the cave is at the head of some large, scrub-covered tufa banks. The usual entrance is nearby and leads down to a few metres of low, dusty crawls, past the gate to a high, narrow passage. This goes over a deep pool of water via a bridge of star stakes. A second pool is crossed using a wooden bridge. These pools are actually a large water-filled chamber over which one walks. Beyond this, there are two possibilities to get to the sump. The first way is straight ahead to a small pool with a waterfall. Above this is a hairy climb of three metres (usually requiring a scaling pole). Climbing through a short section of rockpile brings one to the stream. This is followed over some gravel terraces and in waist-deep water to the start of the sump. This way is usually reserved for gear carting on work trips. For those on sporting trips, the rockpile to the left is negotiated. These two routes converge at the start of the sump. The sump is the most famous part of the cave. It is about fifty metres long and up to five metres wide. In places the roof dips down to and under the water but a way can be found through the higher bits where most of the head is kept dry. Half way in is a small pocket where two people can get their heads and shoulders out. The next two to three metres is real 'roof-sniffing' stuff. The danger lies in that there are virtually no sides to the sump. A false move followed by panic could see the victim off to the sides with no air space whatsoever. Fortunately there have not been any accidents yet but there have been a number of near misses. A safety line is usually rigged through the sump.

After the sump the passage is still reasonably low but gradually increases in height, especially where the Grand Fissure comes in. This is a reasonably well decorated high passage running above and slightly to the side of the passage back towards the entrance. It is possibly the remains of an old upper level of the stream.

The main passage continues on as a spacious but sparsely decorated stream passage until the first rockpile. This presents a few difficulties owing to the muddiness of the rocks and cavers and the constriction of wet suits.

After the rockpile the stream is rejoined. To the right and through some rocks is the Loo extension. This is a drained phreatic tube, barely walking height, which is about 200 metres long. At the moment it is the principal floodwater feeder for the system. It ends at the Siren Sump which has been traversed once. It is about sixty metres long with air space ranging down to one nostril, and with pockets of foul air present. This sump ends in a small chamber with a water-filled siphon on the other side which is only sixty metres away from Storm-water Cave, an inflow cave.

Back at the rockpile, the main passage heads off to the left and is the start of the infamous Trogs Wallow, 200 metres of glutinous mud. Walking is impossible, backstroke alternating with freestyle is recommended. At the end of this is the second rockpile, incorporating a squeeze. Soon after the rockpile, Whispering Chamber starts. This is a large passage running along the strike, with a stream flowing along the floor and next to some large talus. The roof is formed by the bedding planes which disappear into the blackness to the left.

About 150 metres further on is a large pile of talus across the passage. The stream flows under it on the left. This is in Xmas Hall, which is thirty metres or more high up. Up on the left is the beckoning hole which has been the target of a number of scaling attempts.

The passage gives up about 100 metres beyond Xmas Hall in a smaller stream passage where it reaches the impenetrable jumble of the third rockpile. This rockpile has "temporarily" halted progress for fifteen years.

History of Exploration

The resurgence of Scrubby Creek was first noted by A.E.Kitson in 1907, when he recorded the tufa banks down to the Buchan River. Frank Moon, the man credited with a lot of the early exploration work around Buchan, was always convinced of a large system in the hill. Sometime in the 1930s he made a free diving attempt on the resurgence, where he almost came to grief.

VCES and SASS speleos knew about the resurgence in the late 1950s but had done nothing owing to the difficulties involved. However on 3 September 1960 John Driscoll of SASS made a diving attempt using a hookah line. He reached a chamber but his line wedged between some rocks and he had some difficulties. In July of the following year a blasting attempt was made to widen the fissure to make diving easier and safer. When this was finished Peter Matthews went to have another look at an unpromising hole

which he had found earlier, only this time the hole had a strong draught coming from a rockpile at the bottom. Serge Vercion and John Driscoll then joined Peter and they all commenced to dig out the rockpile. The first small chamber was entered and excavations came to a halt approximately where the gate is now located.

On the following weekend John Driscoll, Jan Ling and Peter Matthews completed the dig and broke through, exploring as far as the main sump. On the next day, a large party consisting of Jan John, Peter, Ron Addison, John Noonan, Serge Vercion, Silva Vercion and Lorraine Newman, again moved to the sump where John Driscoll and John Noonan pushed the sump far enough to hear running water on the other at this time the water was too high for the sump to be penetrated.

On 26/27 August 1961, an abortive trip was made on the sump by John Driscoll, where he once again had difficulties. As the water was again too high owing to heavy rain, a phone line was installed to the sump and a survey commenced.

During September access to the sump was made easier by the installation of two bridges over deep pools, which made gear hauling much easier. Finally on 24 December John Driscoll, John Noonan and Ron Addison penetrated the sump while Peter Matthews and Lorraine Newman tended the safety line and found the sump to be about fifty metres long. The advance party extended the phone line through the sump and then pushed on to the start of Trogs Wallow, where they stopped owing to lack of time.

Three days later, John Driscoll, Peter Matthews and W. Kunert went through the sump, backed up by Serge Vercion stationed at the telephone at the entrance side of the sump. In ten hours, the main party pushed on to the final rockpile and returned. At the time this rockpile was considered a temporary halt to progress. However this was not to be so and many attempts have been made at this barrier.

The first of these was in April 1962 when a camping trip was undertaken by Elery Hamilton Smith, Ron Addison, John Driscoll, Lorraine Newman and Beth Sowden. Their intention was to thoroughly explore the cave and collect biological specimens. Total caving time amounted to 84 hours, which at that time was an Australian record. It was on this trip that Whispering Chamber got its name owing to occasional rocks (whole chunks of strata) falling from the ceiling, and the apparent need to whisper to prevent more rocks from falling. During this time Noonan, Serge Vercion and Peter Matthews completed the survey in trips of twelve, sixteen and fourteen hours.

For ten years after reaching of the final rockpile, many trips entered the cave, but discovered nothing new. Many of these trips tried cracking the final rockpile by various means but all failed. However, in 1971, a number of side passages were discovered, and two of these turned out to be quite important. The first of these is the Loo and is on the right just before Trogs Wallow. This was discovered by Daryl Carr and Lou Williams who, when venturing up the cave after some heavy flooding, noticed a sudden drop in the flood levels on the wall. Poking around the rockpile wall on the right, they noticed a four gallon drum squashed against some rocks. Further poking revealed the start of the Loo. The first sixty-five odd metres were reasonably easy drained phreatic tube. The next 100 metres is Buchan's longest and most dangerous sump, which is named Siren Sump. A total of fifty hours was spent in digging an eighteen metre long channel to lower the water in this sump to get through. Lou and Daryl penetrated the sump and found it to be approximately 100 metres long with an air space ranging from three to twenty-two centimetres, containing pockets of foul air. The sump finished in a large chamber with a siphon halting further progress.

The second extension was found by Dave North around the same time. Little information is known about this for conservation reasons. When found it was supposedly incredibly beautiful. The discoverers kept it a deadly secret until they had formulated a way to keep it in its pristine state.

The discoverers surveyed it, photographed it, marked out trails and clean areas and then gated it. A comprehensive Conservation Policy was drawn up (Matthews 1973) which has been strictly adhered to. As a result, the section is probably still in immaculate condition (I don't know. I haven't seen it).

Soon after this Lou Williams noticed a large hole in the Xmas Hole wall. To get to it would require at least twenty-seven metre climb. So in November 1973, he led a trip in to try and scale the wall. (Williams, 1974). Derek Lord and Daryl Carr tried using conventional rock climbing techniques, but failed owing to the walls being of case-hardened mud

A re-think was needed, so in the first week of 1976, Lou led two parties equipped with scaling poles to Xmas Hall (Mill 1970). This also failed because there were not enough poles.

Since then a number of trips have gone into the cave, mainly to familiarize the younger members with the cave. One of these trips penetrated the final rockpile a little further, with some prospects of cracking it. All signs point to more big stream passage beyond it. The surface above the cave has a few small holes and caves, which at times emit gusts of hot air.

Scrubby Creek still has excellent prospects for extensions, and who knows, maybe the next generation of cavers will make the big breakthrough.

GATING OF PHOENIX CAVE

Graeme Smith

ASF Newsletter 81 (1978)

Phoenix Cave was dug from the surface by members of Highland Caving Group in April, 1974. After breaking through to the cave it was explored for about 100m of passage to a depth of 38m. The passage at this stage was generally small and awkward. Progress was stopped by a squeeze (subsequently found to be 15m in length) and high levels of $C0_2$. Members noted a remarkable display of etched fossils through much of the cave.

It was decided not to publish the discovery of the cave in the hope that this would distract traffic. Later in 1974 members of the St. George Area Caving Team were shown the cave by HCG and, being smaller in stature, succeeded in passing the squeeze and discovering a further 340m to a total depth of 70m. News of the discovery soon got around despite attempts to keep the location secret.

Macquarie University Speleological Investigation Group visited the cave shortly afterward and noted a remarkable fossil to which they returned on a later week-end with a palaeontologist. However, the fossil had been removed. No-one has claimed responsibility for its removal.

During the survey of the cave a silverfish was found and this has been identified as a new species which is found in a number of caves at Bungonia, and in large numbers (initially) in Phoenix (B60). It has not been found outside Bungonia caves. Also a large number of crickets were noted in the entrance. Such large numbers in one place is unusual at Bungonia and in early 1977. Glen Campbell of UNSWSS began a long term study of the ecology of the crickets of this cave.

In August 1976 Stephen Bunton of HCG/SUSS began a fauna survey, hoping to relate cave species to its derivations from surface species. This project is still continuing. However it was noted that there had been a steady decline in the numbers and types of animals encountered. After the cave entrance was blocked for six months, the number of specimens again proved high. It was presumed that the faunal demise was simply due to the increasing usage of the cave. To minimise this usage permission to gate the cave was obtained from the Bungonia Caves Trust and a gate was installed by HCG in March 1978.

This cave is a unique faunal preserve. It is hoped that its sanctuary will be respected. We have lost many of the fossils but there are still excellent sediment banks and helictites. It is believed that the fauna will re-establish itself if left undisturbed for a few years.

2. Expedition Country

Vast areas of outback Australia were almost inaccessible until barely a generation ago and our longest cave is located in dolomite not known to speleologists until the late 1980s. Remote area expeditions require much advance examination of topographic maps and aerial photographs. Although now long superseded, Joe Jennings' interpretation of aerial photographs was immensely valuable in assisting exploration and documentation by successive expeditions to the Nullarbor. Later, ultra-light aircraft were pressed into service. Next, GoogleEarth?.

AIR PHOTOGRAPHS AND THE NULLARBOR PLAIN CAVES

J. N. Jennings

ASF Newsletter 23 (1964)

Last year during a visit to Perth and the Southwest, I had a look at the three deep Nullarbor caves then known in Western Australia but not included in the 1957 Expedition programme, namely: Cocklebiddy, Murra-el-elevyn, and Firestick Cave. This stimulated me on return to examine the new air photograph cover of the Plain stereoscopically. For the 1957 Expedition only a coastal run of wartime trimetrogon photography was available. Though it revealed something, it wasn't much use for finding possible cave entrances, for example. Since then the Commonwealth and the two States concerned have had nearly the whole plain photographed vertically. It is rather small scale, about 1:85000 (roughly 3/4 inch to 1 mile) but the quality is good, particularly over much of the South Australian side; with a good stereoscope a great deal can be seen. For instance I could pick out the entrances to Murrawijinie Caves Numbers 2 and 3 (N8 and N9), which are rather small features; dolines like that of Murrawijinie Number 1 (N7) – roughly 150 feet across – are easily discerned. Certainly it is unlikely that large collapse dolines would be missed and all the known deep caves lead off from large collapse dolines or even larger related features like the valley leading to Abrakurrie Cave (N3). I haven't finished examining the photos yet, but the parts which remain are peripheral, not very great in extent and unlikely to yield many dolines.

While I was doing this, several things were happening. David Lowry of the Western Australian Geological Survey and WASG was writing to me in connexion with a prospective Nullarbor trip; Rob Bailey, formerly of VCES, and almost a frequenter of the Nullarbor, was corresponding about a January 1964 trip and I was in touch with Ted Anderson, Assistant Leader of the (SUSS) Nullarbor Expedition 1963-4. To David and SUSS, who were going far enough west, I suggested that an important task was to survey the three deep caves mentioned above, and not previously mapped.

David responded by surveying two, Cocklebiddy and Firestick. I was unable to help him with the location of collapse dolines because up to that time I was working on the South Australian photographs at the request of National Mapping Office. He had access himself, however, to the relevant photographs and with their help found two new deep caves about 20 miles north-east of Madura. The photos had already proved their worth for cave hunting!

Meanwhile I had passed to Rob Bailey the locations of various dolines in the east, which as far as I knew had not been examined for caves. Whether he has managed to do anything I do not know, but he and Dr. Gallus were primarily concerned to do further archaeological work.

I furnished Ted Anderson with maps showing the location of nearly all the collapse dolines from Koonalda to Cocklebiddy, the proposed scene of their operations. Newspaper reports of January 15, of a somewhat garbled nature, suggest that the photographs have led SUSS also to discoveries of new deep caves with lakes in them.

I have sent lists, with photo co-ordinates, of all the collapse dolines I have located so far (together with location maps of many) to CEGSA and WASG as being the groups most nearly concerned and the ones which should be kept informed of all work in the Plain

So far I have listed 105 dolines from the air photographs. Of these 16 are known to have caves of some sort or another, though this includes mere overhangs; 3 are known to have no caves at all, and from examination of the photos it seems unlikely that another 30, approximately, will have caves. This leaves a round figure of 55 where discoveries may be made. Some are distinctly inaccessible and won't be visited for a long time. I suspect that many will yield nothing speleologically and others will lead to shallow caves only. However with the help of the photographs over the next few years some new discoveries of deep caves can be expected. Additionally of course many new shallow caves will be found because many of those shallow caves we already know have solution pipe entrances or small roof windows, which cannot be picked up on the air photographs. So the Nullarbor is an area where the attractive possibility of new cave finds remains a very real one.

To keep things in proper perspective, however, I must say that the view I have previously expressed[1], that the Nullarbor is far from being proportionately rich in caves seems to be supported as far as deep caves are concerned by the air photos. Even if 50% of the promising unexamined collapse dolines yield deep caves, a total of about 35 deep caves remains very meagre for an area of limestone of about 65000 square miles. It has been too dry for too long.

The distribution of the dolines supports this assertion for nearly all of them lie within 25 miles of the coastal cliffs or the old sea cliffline which runs behind the Roe Plain. This is the rainier part of the Plain today, and it can be inferred to have been the wetter part during any climatic vicissitudes of the late Tertiary and the Pleistocene. As a result most underground solution leading to caves and collapse dolines has gone on in this coastal belt. Other explanations such as changes in the lithology of the limestones seem less likely; at least along the railway line the Nullarbor and Wilson Bluff Limestones seem to have much the same purity as in the belt where caves and dolines are thickest. A few shallow caves are known from the inner part of the Plain, e.g. Lynch Cave, Loongana suggesting that least the Nullarbor Limestone there is capable of forming caves. Underground drainage will of course increase in volume seawards through integration of supplies from ever increasing areas behind; this, together with greater direct input from the rainier coastal belt, probably accounts for the localization of-the deep caves and collapse dolines there.

[1]JENNINGS, J.N. 1961. A Preliminary Report on the Karst Morphology of the Nullarbor Plain. CEGSA Occasional Papers Number 2, page 37.

A new era in exploration opened with the advent of diving under the Nullarbor, eventually locating world-class dives such as the more than 6km long tunnel beyond the lake in Cocklebiddy Cave

NULLARBOR DIVING EXPEDITION

Ian Lewis

ASF Newsletter 55 (1972)

The Expedition covered three main caves: Weebubbie, Cocklebiddy and Mullamullang, with brief visits to Abrakurrie, Murra-el-elevyn, Pannikin Plain and Kestrel Caves. The complement included 7 divers of whom 4 did most of the work in 2 groups of 2.

Weebubbie Cave

One week was spent camped around the entrance. During the week Nick White (VSA) and Mike Miles (Sydney) found 650' of passage circumnavigating the entrance doline, including a new chamber 150' x 80' x 40' high which contained very large mounds of quite fresh guano. Thus it appears to be a major bat chamber, far eclipsing the one already known further round the doline. This was called the Eastern Ring Route.

250' of water filled chamber with broken rock floor was found beyond the small lake with a maximum depth of 85'. A 3' high flattener at the end of the chamber was not entered due to silting. Six different specimens of weed were recovered from this lake and taken by Nick White to Melbourne.

A 300' long sump was negotiated beyond the main lake, leading to New Lake, which is oval shaped, 150' x 100' x 12' deep at the shallowest, and having a maximum roof height of 18'. A further extension 250' long and up to 100' deep was entered beyond New Lake. It consists of a sump and tunnel 100' wide closing off to 3 tunnels of 4' diameter at the end. The main sump reached 90' at some points; the floor is all very clean white broken rock with weed for some distance (samples were collected both by us and by Murray Thomas of WASG) extended in vast amounts throughout the length and depth of the main lake. The roof of the main sump was no less than 50' below the surface. The "Railway Tunnel" (the name will stick, I hope) is exactly 500' long to the point where it closes down to a 10' x 10' tunnel, and standby divers in the main sump could clearly see the torches of the advance divers 500' away without

any trouble!! Two tunnels off the side of the Railway Tunnel each about 15' x 15' were simply left for the future; both disappear into darkness. Maximum depth of the Railway Tunnel is 100' and roof height was 60' below water level.

The main lake was plumbed all round and found to vary in depth from 45' to 100' near the walls, with an average in the 70s.

Cocklebiddy Cave

1000' of passage found beneath the lake, still going. Only 2 small air pockets were found, one 40' in diameter and 1' high, the other 50' x 12' x 18' high. Maximum depth of the tunnel is 40' and the diameter is 60' - 70'. A dig was commenced in the south end of the entrance valley to the cave using gelignite. The chamber excavated is 15' x 8' x 6' deep and air is howling out. A rare spectacle was witnessed as a waterfall poured over the entrance pitch of the doline after a 1½" downpour in 3 hours.

Murra-el-elevyn Cave

A new crawl was located extending laterally from the lake just above water level. A new chamber at the end contained salt or gypsum encrustations, a 30' deep lake and a new bat colony.

Pannikin Plain Cave

Both lakes were dived with snorkels only, and both were seen to have large underwater tunnels leading off into the unknown. A “dead cert” for a future diving trip. A blind spider was found similar to a specimen in Weebubbie found earlier.

Mullamullang Cave

All lakes were dived with snorkels and all were established to be going nowhere. Maximum depth is 15'. A new addition to Easter Extension was entered – 400' of maze generally heading almost due southeast. 14 side tunnels were not entered as the survey was made, due to lack of time. We were actually pushing as close to southeast as possible because I wanted to see if there was another nearby major passage parallel to the main one. Clearly there are still immense possibilities in Mullamullang and elsewhere on Nullarbor.

AN AIR-PHOTO INTERPRETATION OF THE KARST FEATURES OF THE QUEENSLAND PART OF THE BARKLY TABLELAND

Ken Grimes

ASF Newsletter 63 (1974)

Summary

A study of the air photos of the Lawn Hill, Camooweal and Mt Isa 1:250,000 sheet areas revealed the presence of 80 definite dolines and 69 possible dolines within an area of carbonate rocks covering about 17,000km^2. Only dolines larger than about 50 metres across would have been visible at the scale of the photos used.

In addition to the dolines, large scale grike fields could be seen in parts of the northern dissected area, and the general area of springs feeding the permanent streams in the north could be delineated although the springs themselves could not be seen.

Introduction

The main part of the area is a flat plateau (the Barkly Tableland) with a black soil cover and scattered outcrops of dolomite and dolomitic limestone. In the north the plateau has been strongly dissected to give an extremely rugged terrain.

The study was prompted by a reference in Down Under to large springs and caves in the Lawn Hill area, and It was later extended to include the Camooweal area to the south The reference appears to derive from reports by Cameron (1901), Ball (1911) and Whitehouse (1940). Cameron refers to numerous springs, which “well out from under the limestone". Those feed Lawn Hill and Louis Creeks in their lower reaches before they leave the limestone country. Cameron also refers to "caves which have been worn out and show rude rock paintings and tracks of animals"; this description is more indicative of rock shelters than true caves. Ball, who visited the area with Danes comments that "the caves in the limestone (are) almost completely free from stalactite deposits”, but he does not describe them further. Ball estimated the discharge from the spring fed Lawn Hill and Louie Cks as 16,000,000 gallons day (21 cusecs). Whitehouse quotes a measurement of 113.5 cusecs for the spring-fed Gregory River in 1931. He also found evidence that the rate of flow of the springs was decreasing.

Danes published two papers about his visit to the Queensland cave areas. The main paper (Danes 1911) is unfortunately in German but J.N.Jennings has translated the relevant parts. The other paper (Dane 1911) is in English and describes several caves near Camooweal but does not discuss the Lawn Hill area. Other more recent publications of interest are a geomorphological study of the region by Stewart (1954) and geological reports by Smith (1972) and De Keyser (1973; the latter has the most up to date stratigraphy. A comprehensive description of the caves near the Camooweal area has been given by Shannon (1970).

The air photographs examined during this study cover a strip of limestone country between Lawn Hill (latitude 18º35'S) and Bullecourt (lat. 21º00'S) - see map. The photographs used were the RC-9 series of 1:85,000 scale flown in 1966 (Lawn Hill, Mt lsa and Camooweal sheet areas). I also examined a set of 1:20,000 scale photos flown by Adastra in 1957 over part of the Lawn Hill area. The Northern Territory part of the carbonate belt was not examined.

The Dolines

A total of 80 definite dolines and 69 possible dolines were identified. These represent depressions larger than about 50m across as smaller depressions would not be recognisable at the scale of the photographs used. The locations have been plotted on a set of the three 1:250,000 map sheets for the area and this set will be placed in the UQSS library. The map with this report shows the approximate locations at a smaller scale.

The doline distribution is not uniform through the region and I have grouped them into five areas which together cover only half the total area of carbonate rocks (see map). The densities of the dolines within these areas are set out in the table below.

DISTRIBUTION OF DOLINES BY AREAS

Area	definite dolines	possible dolines	area (km2)	Density (no./km2)
1. MUSSELBROOK	10	2	250	0.048
2. LAWN HILL – GREGORY RIVER	19	19	3,750	0.010
3. THORNTONIA	3	3	330	0.018
4. CAMOOWEAL	46	28	1,570	0.047
5. BARKLY DOWNS	1	16	1,010	0.017
Remaining area	1	1	9,620	0.0002
T O T A L S	80	69	16,530	0.009

The main area of doline development is in the Camooweal area, and cave exploration so far has generally been limited to this area, The former Mt Isa caving group apparently visited several caves in the Barkly Downs area but the locations of' these seem to have been lost (Shannon 1970). Henry Shannon tells me that of the 14 dolines he has visited in the Camooweal area 8 contained caves. Whether such a percentage will be maintained in the other areas is uncertain.

The size of the dolines varied from the minimum visible on the air photos up to about 250m diameter in the case of an unnamed doline 15.5km northeast of Camooweal. In most cases the area of centripetal drainage was limited to the sink itself; drainage channels beyond the rim are uncommon and short, the longest was an exceptional 4 km. The few depressions with large external drainage systems include a stream sinking at the base of a semicircular cliff and are better regarded as blind valleys. In the southern part of the region northeast of Mt Michael, the black soil plains have shallow circular or elliptical depressions with central swamps. These could be due to subsidence over covered karst.

On the Barkly Tableland the dolines are scattered across the plains but are most common where black soil cover is thin or absent. In the dissected country in the north of the area the dolines are generally found on small residual plateaux and on or near the ridge tops.

Other karst features

Most other karst-forms in the area are of a scale too small to be visible on the air photos. The springs feeding Lawn Hill and Louie Cks and the Gregory River and O'Shannassy River cannot be seen on the photos however their general extent can be deduced from the long permanent reaches of water found in these streams in the last few miles before they leave the limestone area.

The highly dissected country of the northern area corresponds with the drainage basins of these streams. The main features here are the very close dendritic drainage pattern and the high local relief. The dissection has probably resulted from Pliocene (?) upwarping of the tableland relative to the Gulf Country with a consequent rejuvenation of the streams. Apart from scattered dolines in higher areas the only karst features visible are belts of strongly jointed limestone which have developed large scale grikes. The main belt of these is shown on the map.

In a visit to the Riversleigh area I saw numerous small scale sculpturing forms. The limestone in this area tends to form conical and turreted blocks with solutional runnels and flutes. Cameron (1901) figures two photographs of these forms.

In conclusion

The main area of dolines is adjacent to Camooweal itself and this may well remain the main cave area. Exploration further afield will be hampered by long distances and poor access, especially in the north. However the transport problems are no greater than in the Nullarbor karst and the cave potential could be as great, as the collapse doline densities of the Nullarbor are even lower than this part of the Barkly Tableland karst. However the differences in geology and hydrology forbid too close a comparison at-this stage.

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BULLITA CAVE SYSTEM, GREGORY NATIONAL PARK, NORTHERN TERRITORY

(by Canberra Speleological Society members)

Australian Caver 145 (1998)

For the last 8 years Canberra and Top End Speleological Societies have been exploring several network maze caves in Gregory National Park. Written by members of CSS this article summarises progress so far in the most extensive of these systems.

In the west of the Northern Territory, half way between Katherine and Kununurra, the Gregory Karst is one of the most distinctive in Australia and is mentioned in notes accompanying the relevant geological sheet (Sweet 1973). Caves were probably known to stockmen during a pastoral period which lasted a century until the late 1980s, and were certainly known to the traditional owners, the Ngarinman people. One or two speleologists had been in the area previously but there is no mention of it in the Australian Karst Index. The first speleological investigations were conducted by two British speleologists (Storm & Smith 1991) and there have been two subsequent preliminary descriptions of the karst and caves (Dunkley 1993; Bannink et al. 1995). CSS and TESS have each organised expeditions at least once a year since 1991, and various members of NUCC, ISS, VSA, CEGSA, SRGWA Hills SG and Mole Creek CC have taken part in these.

In 1993 the CSS trip led by John Brush located the entrance to a new cave and surveyed more than 11km (Brush 1994). Annual trips have gradually extended the surveyed length successively to 19, 29, 42 and 57km to its present length of nearly 65km, and exploration continues. Some of this (about 8km) was achieved by connection to other caves previously known to TESS and CSS.

The passage length does not include open grikes which could not be characterised as a cave. All this is contained within a surface area of perhaps 3 sq.km, and passage densities reach as high as 45km per sq.km To minimise impact, no exploration has been undertaken without surveying, and it is likely that some parts of the cave will never be visited again.

The cave is a complex network maze of passages forming an angular grid developed primarily along parallel and sub-parallel joints. Passages vary considerably but the vast majority are walking size. Decoration is sparse, the most common being cave coral. However there are stalagmites and a few stalactites, crystal streamways and some calcified floor deposits over lengths of at least 20 metres. Sometimes emerging from small cracks and fissures, fig tree roots are often encountered in the cave. Peter Bannink (TESS) has conducted an initial survey of the interesting and diverse fauna in this high energy environment (Bannink 1996).

Passage shapes relate closely to the lithology. In much of the cave the typical cross-section is triangular, higher than wide and tapering upwards, but in deeper parts there are wide and generally lower flat-roofed chambers, More than 99% of the cave is roofed over but there are often daylight holes varying from a few millimetres up to a metre or more in size, inaccessible because of overhanging walls and difficult to reach or identify on the surface because of the rugged terrain. Most of the cave is in the dark zone although the glimmer of daylight is often visible some distance away. Closer to the contact with an overlying non-cavernous dolomite caprock, passages are smaller and completely in the dark zone.

Some ASF members attending the Quorn conference in 1997 were fortunate enough to see Don Glasco's coloured maps of the system. Orderly recording and processing of the data has been a major task, with more than 5,000 survey stations and 500 loops to be adjusted, and this would not have been possible without the fortuitous and dedicated involvement of Don, an American caver living in Canberra from 1994 to 1997. Don transferred all data to the COMPASS cave survey program and integrated it with the powerful ARC/INFO software to produce A3 and A0 sets of maps relating cave passages to surface features.

Management authorities have tentatively named the system after the local property and we refer to it as the Bullita Cave *System* in recognition of the fact that there are many numbered entrances. BAA34 is presently the lowest numbered of the approximately 24 tagged entrances. Quite a number of distinctive features within the cave have been named but these have no formal status.

There are other cave systems in the area up to 24km long, and the total surveyed length exceeds 100km. The very length and complexity of the cave counsels a need for caution about publicity, and even after 8 years work the full extent and significance of the resource has yet to be evaluated. The Parks and Wildlife Commission of NT is presently drafting a management plan and CSS/TESS have made a lengthy joint submission about the management of what is certainly one of Australia's most significant karst and cave resources.

Following concerns expressed by the managing authority, a year or three ago CSS placed a notice on the Internet through OzCavers requesting that there be no publicity about the cave. Subsequent discussion at the ASF Conference, in The Australian newspaper and in this article has been undertaken with the consent of the Parks and Wildlife Commission. The caves are sensitive and vulnerable. We ask that speleologists respect our wishes and those of the managing authority, and avoid publicising or speculating about the caves while there is no management plan in place. This means avoiding publicity or speculation about the caves, especially outside the speleological community, and not reprinting from or quoting this article.

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Postscript: see Caves Australia 169 for an update. On the 16th Expedition in 2006 the cave length reached 109km.

YEAR OF THE SOUTHERN NING-BING

David Woods

Caves Australia 162 (2004)

The Southern Ningbings never appeared to have much potential in comparison to other areas in the 40 kilometre long Devonian Reef System north of Kununurra. So in the last four years we had been concentrating our exploration and relocating caves in the Central Ningbing, where potential seemed greatest for finding an extensive system.

The only time I had been in to the Southern Ningbing area was with Stefan Eberhard in 1998. He was keen to check out the sump at the end of KNI 19 (Mapped and surveyed by SRG 1991- Ian Riley), for a possible cave dive. And possible it was. KNI 19 became the first Ningbings cave dive and Stefan found no end to this underground system. On this trip I did find a nice joint-controlled cave associated with a grike, only about 150 meters from the entrance of KNI 19. We began surveying that same weekend in 1998 but we hadn't managed to get back to this area since then. Until July 2002 the area received little attention.

Paul Hosie and Geoff Swann, both cave divers and club members, had been in contact with Stefan about KNI 19 as they too were keen to explore the underwater passages of this partially explored cave. Geoff and I had organized a time earlier in the year and on the 20th July 2002 the cavers and divers headed out to the southern Ningbing. Upon arrival I geared up along with Paul Hosie and Geoff Swan and took them into KNI 19 to have a look at the sump and to check the bat populations in the cave. A leaf nose bat roosts in this humid system and numbers vary throughout the year. There were only a couple hundred of bats, which was not many compared to the thousands of bats that can sometimes inhabit this cave. The sump was at a higher level than when I was here with Stefan in '98. The divers inspected the sump and we exited the 110 meters out of the powerfully sculpted phreatic tube.

We waited until after dusk, just to let the bats exit with no obstruction and then the gear was hauled into the cave. Shortly after, Paul and Geoff began their first dive in KNI 19. They came out sometime just before midnight with big smiles and plans to go in again next day to map and survey the area so far explored.

The next morning after sleeping in (that was everybody!), John pulled a long one and stayed up way past his usual bedtime of 8.00pm. Toni and John were drinking and talking the night away until about 2.30am when he noisily found his way to bed. At 3.30am I was awoken again to the sound of Johno hurling and heaving all over his swag … probably because he couldn't move by this stage. Another repeat wake up call at about 4.00am, at which point I moved my sleeping positions to avoid the pungent, fumes wafting my way!! When John arose he was looking rather seedy, but after a bit of brekkie we began deciding our plans of what to do with the day. Geoff and Paul Hosie were off to do their second dive. John, Paul Cornish, Leonie and Clive decided to trek down to a spring marked on a map not too far from KNI 19. The spring had also been tagged as a feature by SRG (KNI 18), but had not been relocated by John or myself. I had been given a bit of vague information on an aboriginal art site by a local bulldozer contractor, it was a bit of a long shot but I thought they had enough people going to try and find the spring, so off I went in the opposite direction to see what I could find.

After walking along the base of the range for a couple of uneventful kilometers, I rounded a corner and saw a small dense patch of vegetation. As I got closer I noticed that there was a dry creek bed amongst the trees. This started looking a lot like the creek that comes from the outflow, which is KNI 19. I started to get excited as I followed the creek up to the foot of the range. I jumped for joy, as this also was another outflow!

This cave was phreatic also and it was evident that during the wet season a great deal of water would flow at pressure from its 1.5 metres wide and 0.5 metre high exit.

On the bare limestone at the entrance were exoskeletons of fresh water crabs, already bleached by the hot Kimberley sun. This was an encouraging sign as maybe a permanent source of water lay within. Being alone, I had only a short crawl beyond the entrance. Once in the cave it widened to about 4 meters but stayed quiet low. I crawled about 20 meters in, to shine my light another 15 meters with no sign of the cave petering out. It now felt even more promising but I crawled out, GPSed the location of the cave and kept on wandering above ground to where I discovered the Aboriginal rock art. The old fellow who told me about the paintings was accurate with his location and I managed to find it, however the art was very weathered and most of it was hardly visible. However it appeared to be an undisturbed site, which is always good to see.

After a short break in an overhang that looked out over the Southern Ningbing, I explored a few other possible depressions to see if there were to any more nice surprises waiting to be found. I followed the base of the range as it started to cut back into a shallow valley with some fig trees scattered around. I explored the area but only found a few exposed limestone plates. After checking another shallow valley with no luck it was time to head back to base camp to help pack up.

However, instead of retracing my steps, I took a short cut back to the first outflow. This took me up into the range a little and I walked a course parallel to the one at the base of the range. Being 20 metres higher and about 100 metres in. I checked all depressions and large fig trees on my way back to my first find of the day. I thought my luck must have ended when only 100 metres from finishing my search a large fig tree gave way to a collapse in the limestone. Yes! This was definitely an entrance of exciting proportions. The tree shaded a fairly gentle slope down 8 metres to the bottom of a chamber. I decided to gear up and go take a short look.

Once at the bottom of the daylight chamber, I noticed signs of water that had flowed down at this level and on to a passage leading into a low phreatic tube. After a short crawl this passage had kept its size of 3 metres wide and 1 metre high. The cave showed no signs of ending so I exited the cave and GPSed the location of its entrance, and walked gleefully back to camp.

I arrived back to camp and cracked a nice cold stubby. The crew who had gone to find KNI 18 strolled in shortly afterwards. I was amazed that no tag had been located, or the spring, as the map had suggested. And it was only 1.5 kilometres away. However, they did stumble into another joint-controlled cave. A nice one too. Paul Hosie and Geoff completed their dive with great success and they had found no end to KNI 19. The area was definitely exceeding its previous reputation.

When I was walking back to the camp, I was thinking about what had been discovered that day and how I had thought the area would hold little potential. With its low limestone hills covered in cane grass and boabs, it looked to be bare of any caves, especially in comparison to the block limestone of the Central Ningbing.

Until this day, the area kept its secrets well disguised!

I decided I would definitely be back sooner, rather than later.

Postscript: So, where the hell are the Ningbings?

David Woods

The Ningbing Range lies 50kms North of Kununurra in the East Kimberley Region Of Western Australia. This rugged limestone range was formed in the Devonian Period, around 350 million years old. In this time the sea covered large amounts of the Kimberley Region and a reef complex was formed by calcium secreting organisms. The reef has since been through many geological changes including uplifting and erosion from ice, water and wind, forming the caves that we have today. The Devonian Reef complex that makes up the Ningbing Range is quite similar to the Devonian Limestones of the West Kimberley.

The Ningbing Range runs for about 40 kilometres in a north–south direction. The old grey limestone is studded with large boab trees and ranges from tower karst (up to 70 meters in height) to incredible pavement terraces spanning hundreds of square metres – at its widest point it is up to 7 kilometres wide!

We have a tropical wet and dry season in the Kimberley. The dry season is from April through to October, as is our active caving season. Heavy monsoonal rains in the wet make access to the Ningbings impossible. The Ranges are surrounded by black soil floodplains, which no 4WD or motorbike can get through. Depending on budget, a helicopter would be helpful but the caves have very dangerous flash floods through the wet and caving is done with extreme caution.

The Ningbing Range is situated on Carlton Hill Station. Permission is necessary to gain access to this property. This area also has traditional owners that live at a community in the area. Cultural sensitivity is acknowledged and respected. Anyone wishing to cave the Ningbing area or Kimberley can contact local cavers David Woods (0417-178-310) and John Cugley (9169-1465).

Exploration has been sporadic since the late eighties with most of the work being done by SRG and WASG. Myself and four other members of WASG are permanent locals in Kununurra and since 1998 exploration and surveying has begun again. We have also been relocating lost features that were tagged and surveyed in the late eighties and early nineties. Through the passage of time these locations had been misplaced, but slowly these missing features are being rediscovered.

The area, as with the whole Kimberley, holds great caving potential in the future.

3. International

During the period of Australian administration of Papua – New Guinea, Australian expatriates formed an ASF member club based in Port Moresby, recording discoveries in Cave Talk-talk and Niugini Caver and assisting visiting expeditions. However apart from ventures to New Zealand and New Caledonia and the occasional peripatetic traveller further afield, few Australian cavers could afford to travel overseas before the advent of mass travel in the 1970s. Since then there have been numerous expeditions to Mexico, Thailand and Indonesia in particular.

AUSTRALIANS CAVING IN INDIA AND KASHMIR

ASF Newsletter 9 (1962)

Reports of caves in the massive limestones of the foothills of northern India and Kashmir have enthused two Sydney (SSS) cavers so much that they have set off for these areas, and hope to get there for the month and a half of clear weather between the monsoon and the winter. As far as they can ascertain no serious speleological activity has been carried out in this part of Asia apart from investigation of "temple caves". Many of us would like to have our gear on the yaks which these two, Paull Rose and Tom Hayllar, intend to hire.

WANTED: EXPLORERS FOR PAPUA NEW GUINEAS CAVES

R. Michael Bourke

ASF Newsletter 73 (1976)

For many years the tremendous caving potential of Papua New Guinea has been talked about. Now that this potential is being realized, it is becoming apparent that we resident cavers are too few to handle the exploration on our own. Not that we are inactive – far from it! The pages of Niugini Caver testify to that. But seven active cavers scattered around five centres cannot hope to explore the thousands of virgin caves that are to be found all over the country.

So I want to make a plea to Australian cavers to consider Papua New Guinea for a caving trip. The larger and highly organised expeditions have been very successful in exploration, but small informal trips can be just as successful. Obviously three or four cavers could not tackle remote areas such as the Star or Nakanai Mountains, the Hindenburg, Muller, Raulei or Sarawaged Ranges or the Lelet or Keriaka Plateaux. But there are other easily accessible areas where such a group could make an impression, even if they don't break any new records. Australian cavers have a good record in Papua New Guinea. They formed the bulk of members for six of the eight overseas expeditions and have been the backbone of Papua New Guinea caving since 1960. Let's extend this to smaller trips as well.

Where to go?

Even if you simply want "tourist" trips to big caves, Papua New Guinea is the place to come. There are six surveyed caves over 300m deep, including the deepest in the southern hemisphere; Selminum Tem at 20km plus is the longest surveyed cave in the southern hemisphere; a cave on Bougainville ranks as one of the largest chambers in the world; Ora and Tuki dolines on New Britain are amongst some of the world's largest; stream flows in some of our caves, such as Atea, Ora and Iaro, are gigantic by any standard; and some of the pitches (150 - 180m) are quite respectable. Admittedly most of these are well off the beaten track, but there is plenty of dramatic caving in accessible areas.

For a one or two man surface reconnaissance trip, there are areas with depth potential in excess of 1,000 metres, such as the Saruwaged Range where no caver has yet visited (see map).

Caves are reported from all 19 provinces in the country but obviously some areas are more worthwhile than others. For a small group I would suggest one of the following four areas:

Chimbu Province

Both the Porol Range and the Chuave-Nambaiufa area contain many unexplored caves. You can cave without wheels provided you don't mind lugging a pack up some steep hills. The climate is mild by Papua New Guinea standards; the scenery is good; the people are interesting; there is a reasonable amount published on the province's caves; and the potential for further extensive and deep caves is good. If you're anthropologically minded, there are cave art, burial sites and legends to be found.

A brief synopsis of the recent PNGCEG highland meet might convey why I am so enthusiastic about the area. our first stop was the impressive Hell's Gates not far from Goroka in the Eastern Highlands Province (not the Chimbu). A stream disappears into the 51m entrance pitch - impressive stuff! After descending that and traversing through the main passages, we started some exploration in a small passage that may not have been entered before, despite the relative popularity of the cave over the years. Lack of time cut our trip short. Even our well known caves offer scope for new exploration.

We then moved up to Kundiawa, the provincial capital of the Chimbu. A day was spent in the four kilometre long Irukunguai Cave. Some of the passage here is very beautiful. We did not push possible leads here but spent another day surveying a 740 metre long cave nearby. The rock art and bullet scars (legacy of the first Government-native contact) near the entrance provided an interesting diversion.

Another day was spent pushing an unfinished deep cave last looked at in 1973. We got down almost 200 metres but ran out of rope - not cave! With two days to go, the party pulled out to the Chuave area. Here, a previously unexplored stream sink was descended. The passage at the base of the 45m entrance pitch led into a large river passage which was explored but a short distance before it was deemed wise to leave it till the dry season. (See Niugini Caver 4(l):17-19 for the complete trip report).

The Porol Range is also the location of Bibima, 494 metres deep. There are numerous shafts and stream sinks in the Chimbu that have never been looked at by cavers. Three potentially deep caves, Darua Muru, Mebile and Angunga, await bottoming. The Chimbu would be my first choice for a small informal trip from overseas.

Coastal New Ireland

The Lelet Plateau is where the deep ones will be found on New Ireland. But as we noted in a review article on the island, "Caves are very numerous on New Ireland. At almost every village on the north-east coast from Mangai south, the people know of caves nearby." (N.C. 2(3):193-205). No really extensive or deep caves are known but some are respectable enough. Matapara is a chamber 308 metres long, up to 60 metres wide and 43 metres tall; Kabase is estimated as 100 metres deep and 400 metres long.

Coastal New Ireland is beautiful – it's what unspoiled tropical islands are meant to be; the people are friendly; there is a road along of the north-east coast; caves are plentiful; cave legends and war relics abound. If you're not too heavy on single ropes, but are into relaxing on white sand beaches, fishing, diving, sleeping in attractive villages and finding "new" caves, then New Ireland could be your scene. It costs more to get there than the highlands – but then you can take in a bit of New Britain on the way.

South Coast of New Britain

The extensive karst areas of New Britain have barely been touched, caving wise. Enough has been done to show that caves are abundant both on the coast and inland. Like New Ireland, much of the south coast is pretty, but here transport is a problem. If you would like to see a remote area not so touched by the 20th century with a bit of caving thrown in, then a couple of weeks based at Pomio or Kandrian could be most rewarding.

There is one major advantage to this area: the seasons are the reverse of much of the rest of the country, including the Chimbu and New Ireland, so at Christmas it is relatively dry when most other areas are having their wet. This coast has an annual rainfall of up to 6,000mm so a trip in the wet (July-September) would definitely not be on.

Southern Highlands

Again karst areas are very extensive and cave exploration has not progressed far. The potential is there but the accessible areas such as Mendi-Poroma-Kagua and TariKoroba do not have anything like the potential of the Chimbu. Nevertheless, a cave like Omai near Mendi, where local cavers spent 40 hours exploring without finishing it, cannot be small (See N.C. 1(3):56-58). The people are very interesting and the region is primitive in more ways than one. As in other areas, large rivers disappearing underground are not uncommon and there are plenty of unexplored caves to be had. This is an area for a group interested in colourful people as well as caves.

Information

Much of the PNG caving information is to be found in the pages of Niugini Caver (good value at only $2.00 per annum from the author – end of free advertisement). Kevin Wilde (Box 1055, Goroka) is the local highland caver; Mal Pound (Box 319, Port Moresby) knows his way around the caves near Port Moresby; and I'm the source for the islands (D.P.I., Keravat, E.N.B.). So get in touch if you're contemplating a trip.

If you come to reside in PNG, make contact with the local cavers. Too often Australian cavers have spent several years in the country and done no significant caving for want of local information or anyone to come out with.

Do's and Don'ts

It's worth remembering that PNG is an independent nation and not an extension of Australia. The laws, customs and people, including the expatriates, are different. For example, the exportation of wildlife, including insects and bats, is prohibited without a permit.

Learn Tok Pisin – if you can communicate with the villagers, it will greatly enhance your appreciation of the country.

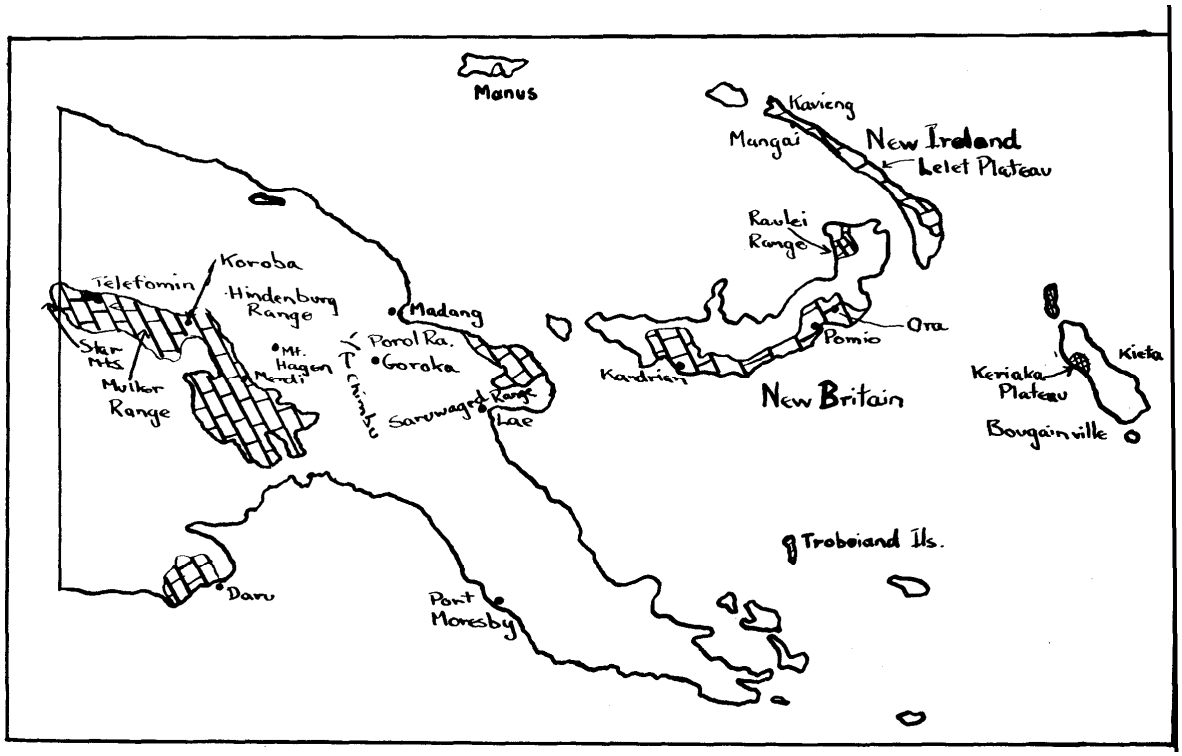
Get into the villages - there are a lot of nice people there. In the towns you're more likely to find spivvy Papua New Guineans and jaded whites. You don't want to come 3,000km to listen to some ocker from Balmain complaining about his local workmates!

Don't condemn the racist expatriates – and then proceed to rip off local employees.

Do publish your caving findings, preferably in a major newsletter or journal. The PNG Government is particularly sensitive about overseas research workers who come to PNG and leave no published record in an accessible form.

Finally

A caving trip to PNG should be a most rewarding and memorable experience. Aside from the caves, there is some magnificent karst country to be seen. The field is wide open for the biologist or other scientist. PNG is the place to come, not only for the big expeditions seeking world depth records, but also for smaller groups intent on some good caving.



UNDER THE GOLDEN TRIANGLE – EXPLORATIONS IN THE NORTH OF THAILAND

John Dunkley & Paul Greenfield

Postscript - Third Expedition, January 1984

ASF Newsletter 102 (1983)

Levering this expedition out of the comforts of Chiang Mai wasn't easy either. However the four days in the mountains were immensely productive. Four of us: Thai guide/leader Diu, John Spies, John Dunkley and ex-Jenolan guide Mark McPherson. Another slow, dusty, eight hour bus ride up, down and over the mountains.

"Look at the map. That's where we were last year, the Nam Lang, 30 cusecs disappearing, well a cumec then. Couldn't get in, anyway. Looks like there's where the water comes out again. You can see the bend in the contours near the cliff line. That depression up on the plateau in between the sinking and the rising of the Nam Lang must be the "spirit well" near the Lahu village. A collapse doline. Hundred metres deep, overhung on all sides. Must be a cave in there somewhere."

Local Shan intelligence says, yes, there is a lot of water coming up through rocks at the foot of the big red cliff. No, there's no cave. Counter-intelligence had it that, yes, if you climbed up over the rocks there is a cave. For a small consideration we'll show you. So we spent several hours sploshing along, fording the Nam Khong a dozen times, turn east up the Nam Lang, eh, yes, the water does come up through huge rocks, hell, no way in there. Climb up over the rocks to the very foot of a 300m high, overhanging cliff. Christ, how come no-one knew about this? 30m high, 40m wide, it must be nearly 150m to where the water comes around the corner over there. Resolution: always double check local rumours.

Yes, says the guide, we Shans knew about the cave but nobody's been able to get past the entrance chamber because of the water. Well, what are we waiting for? Down the rock pile, down the water. Running a bit fast and deep, isn't it? And this is only the dry season, well you can see how it banks up there in the wet. We'd better leave the packs here, won't need the compass or batteries or camera, just take a torch, it won't go anyway.

But it did. Round the corner, over some superb, white, metre-deep rimstone pools. Wow, just like the Golden Staircase in Croesus. Back to the river, walk, wade. Big isn't it? Hell, look, bats, millipedes, big blind white fish, how long would they have to be in here

to go like that? Walk, wade, water, wade. Incredible, still 20m high, 10m wide. Ever been to Exit Cave, Mark? Rather similar, water's a lot warmer though. More massive flowstone and rim pools. Formed by that small tributary stream I'd say. Probably drains that other big doline west of the Red Lahu village. The Lahu reckon there's a cave there you know, they used to have their village in the doline, only place for water. Can't waste time on it now.

Walk, wade. How far do you think we've come? Can't even see the roof over that rock fall. Looks rather recent, wonder what the rock fell out of? Wouldn't it be fantastic if we came out of the bottom of the Spirit Well up near the Lahu village? Well, the spirit well is obviously a massive collapse doline, it had to collapse into something, didn't it? Yeah, but the map suggests it's a good 400m higher up the mountain. Must be 40m to the roof, maybe there's a high level passage up there, well we haven't got time to check it out. Walk, wade. Diu'll be wondering where we are. The Shan fellow's keen, isn't he, coming all this way. I thought you said they never go into caves? No, that's the Black Lahu further north. Look, if we're not careful it'll be dark when we get out, and it's 10 km walk back. Better start conserving light too. Walk, wade. OK, another 20 minutes. Another ten. Five. We'll stop at the next corner. Well, alright, the next for sure. Frustrating, eh? A bit smaller here only 10m high and wide. Still going strong though.

We'd better pace the return trip to estimate the distance. I'll pace it, Mark, you remember the hundreds. One hundred, five, a thousand, walk, wade, two thousand, light's not the best, three, four. Hell, that makes it well over 2 km, maybe 2.5. And no sign that we were anywhere near the end. We must have been at least half way to the other side of the mountain. Well, we still have to walk back up the river and over the road 10km. I'm wrecked, there's always next year, got to leave something for the next generation you know … .

FURTHER UNDER THE GOLDEN TRIANGLE

John Dunkley

Australian Caver 108 (1985)

May 1984: The north-west corner of Thailand, near the border of Burma. Driven by the kind of obsession that grips you when you've made a really big discovery, the two of us are 3.5km from the entrance of Nam Lang Cave, the cave now filled with waist deep water and mud continuing into the darkness, still 10m high and 10m wide. Tending camp near the entrance, Diu was the only person who knew where we were. We were tired, short of time and didn't fancy risking even a minor accident so far from help. A larger party, a rubber boat and more time needed. For the second time in this cave John Spies and I decided to leave it for another day, another-year … .

May 1985: The swimming pool at the Airport Hotel in Bangkok, getting our money's worth. A lot of talk, the six members of the sixth expedition hoping John and Diu will wait for us in Mae Hong Son, considering that the early flight on which we're expected has been cancelled. Strange, Thai customs curiously uninterested in yellow rubber boots, hundred metre lengths of rope, spools of polypropylene, a pack full of black garden plastic, or tins of grey powder. Keith is still talking about aeroplanes, having spent almost the entire leg from Sydney to Singapore glued to the rear window of the 747 in a haze of smoke, this being his first plane trip of any kind.

A 737 to Chiang Mai, a 3 hour wait, then the little Shorts 330 across the mountains to Mae Hong Son, and fortunately John and Diu waiting, accompanied by pre-monsoon waves of heat. We couldn't see how the 20 year old short wheel base Land Rover could take 8 of us with gear, but it later did sterling service with 14 passengers and John assured us it had a capacity of 20 Shans. By 6pm we were in wilderness Asia, walking the track down the Nam Khong to the cave entrance, a whole world away from that swimming pool a few hours earlier.

Monday May 6: Into Tham Nam Lang, the whole day spent winding and unwinding the 130m measuring rope. There were several stretches where that wasn't long enough, the longest line of sight reaching about 200m. Next day John Spies, John Dunkley and Keith Oliver continued surveying, photography and exploration of high side passages. Reaching the top of one 50m high rockfall (Doi Hin Yai - Big Rock Mountain), we found the rocks were coming from a vast shaft rising beyond the limits of strong torchlight. Meanwhile, John Taylor, Dorothy Nichterlein, Kevin kiernan and Kerry Hamilton launched the rubber boat at 3.5km and paddled off. Exhilarated and exhausted they returned at 3am, having reluctantly turned back 5.4km along the main stream passage at King Khlong, and having discovered an enormous upper level (Tham Ban Khong Kwan - the Cave Home of Kwan) so superbly decorated as to affect Kerry and Kevin emotionally. A forest of stalagmites (Khan Thai) each rivalling the Khan in Kubla Khan. No end in sight in either case, just shortage of time once again.

A pleasant day was then spent floating the gear down the river on the boats, and a new camp established opposite some small waterfalls next to the Nam Khong (river). These have been built up in travertine deposited by spring water from Tham Susa, and provided delightful refreshment after a hot day as well as safe drinking water. Next morning we breakfasted to the sound of thunder. Pre-monsoon thunderstorms, eh John? Strange though, at 8 in the morning? Especially as there's not a cloud in the sky. Then John recalled 500 Chinese Kuo Min Tang troops filtering through Ban Tham a week or so earlier. Good grief, it's one of those perennial opium wars you read about between rival private armies of drug traders. Later, we learnt that it was a mortar barrage involving a coalition of the KMT with the Shan United Army of Shan State (Burma) against the private army of Khun Sa. Soon a Thai army helicopter choppered overhead, presumably on a reconnaissance. So much for wilderness Asia.

The noise of battle continued to be audible in the entrance passages of Tham Susa, a large outflow cave which below its spring has formed a magnificent delta of travertine. Kevin located some pebble tools in the impressive entrance chamber; this cave is only a few kilometres downstream from one of the seminal archaeological sites of South-Esat Asia, at Spirit Cave, where evidence for early

agricultural communities was first found in 1965. The boat was launched and the cave stream followed about 700m to a series of waterfalls requiring climbing assistance for further exploration. Some interesting white (possibly blind) salamander-like creatures were captured trying to climb up the waterfall, adding to an impressive fauna] variety of Tham Susa and Tham Nam Lang. Some other caves in the area were also incompletely explored. Visions of locally manufactured bamboo scaling poles or ladders now arise; these would be easy to find and construct and have the advantage that steps can be cut in the side.

After a night in the comparative luxury of John and Diu's new house at Ban Tham we checked out the Spirit Well, a large collapse feature walled in on all sides, with a 100m high cave entrance visible on one side. Lying close to but 500m above the course of the cave, this had real promise. Kerry and Kevin abseiled down about 80m and demonstrated conclusively that large cave entrances can be disappointing.

Back at Ban Tham, 2 in the morning and Kerry is ill, very ill indeed. We waited until 7, then took him to a small clinic in the nearest village. There was nothing they could do so we took off across the mountains, 3 hours to the nearest hospital at Pai, where doctors correctly diagnosed cerebral thrombosis. Next day, another 4 hours and 4000 bends to Chiang Mai and a good hospital. Six days of anguish, telephone calls, putting on of the hard word, and despair in all before Kerry was delivered to an ambulance at Brisbane Airport. Exacerbated by dehydration and fatigue, something as serious as thrombosis is unlikely on a remote area expedition, but the possibility of evacuation has to be allowed for in planning. All the previous trips have used local buses for transport; how we'd have got by without John Spies and Diu Intikat and their Land Rover. I just don't know. Not to mention Ken Grimes, who was the only person we could reach to handle the Australian end of things. Thai International Airways was also very understanding.

That was about the end of the trip, though there are other tales to tell. There was, for example, the cave deep in the forest with tracks of a tiger in the entrance chamber. Later we had a pleasant chug through the limestone on the River Kwai (Khwae) railway west of Bangkok. By looking at tourist caves at Chiang Dao and near Ratburi and Kanchanaburi, Keith was able to justify his 'on-duty' status to the Tourism Commission of NSW and the tax man, and Kevin was able to contrast the Nam Lang karst with tower karst further south. On this trip sufficient work was done to justify a preliminary scientific paper (Helictite 23 (1), in press), and to establish an organizational pattern for a yet larger expedition. Exploration prospects are still excellent, there is a wealth of potential scientific work and there are about 1,000 dolines awaiting attention, ranging in size up to the massive Nam Lang polje which drains 425 sq.km. No less than 312 of these are at least 20m deep and the Nam Lang polje is about 400m deep! Susa Cave lies nearly 800m below the dolines on the plateau - is there a connection? Circumstances prevented the planned investigation of where the water sinking in Mae Lana polje goes; this promises another a large cave since the water is potentially highly aggressive and there's plenty of it. Finally, the whole area has a compelling beauty and a mystique heightened by the exotic environment and the ubiquitous opium poppies.

Tham Nam Lang, at 7km already the longest cave reported on the mainland of Southeast Asia, is hopefully ready to reveal another 5 or 10km to a well organized assault. Of course, the Lahu and even the Thais would say that assaulting the Spirit Well, we have incurred the displeasure of the phi (spirit) of the cave. In particular, we may have offended Kwan, the spirit in the head responsible for health, wealth and general comfort. Kwan has attacked Kerry. Personally, I think Kwan lives in the newly discovered upper levels of Tham Nam Lang (at Tham Ban Khong Kwan - the Cave Home of Kwan), and will be appeased by finding that the cave and all the features in it have received Thai names rather than the conventional allusions to western speleological mythology. What's more, perhaps Kwan tempers his capriciousness; he seems to be helping Keith give up smoking.

May 1986: Bangkok again. An expedition of 10 or 12 including all the 1985 contingent. Twice as much time, twice as many people, twice the length of cave. But be warned. Kwan is waiting.

(ed. note: In the following 3 years Mae Lana Cave was explored for over 12km. Keith never did give up smoking)

4. Who was here before us?

THE SPELEO BUSHRANGERS

Greg Powell

ASF Newsletter 91 (1981)

Now be honest with yourself. Can you think of a cave system in New South Wales that is not associated with a bushranger? If these evil-doers had banded together to form a Speleo Club, it would have been the biggest and richest that the state has ever seen.

However, they did all their caving alone or in small groups and I doubt whether they would have gained membership to the ASF anyway. They had atrocious safety records.

Let us now examine the exploits of some of these Speleo Bushrangers and to keep it brief they will hereafter be referred to as the BMSC, (Bushrangers Mutual Speleological Club).

We will begin with our faithful James McKeown (whom Jenolan guides will refer to as an escaped convict, not a bushranger). McKeown explored the open arches at Jenolan in the 1830s. His caving career was short, as he was soon evicted by James Whalan. Perhaps McKeown should have applied for a permit for the weekend. His grave is said to be at Hazelgrove near Oberon, though I haven’t been out to see.

We must leave Jenolan now as it becomes far too law abiding and travel across the ranges to Abercrombie, the haunt of many a bushranger.

History tells us that Ralf Entwhistle and his Ribbon Gang fought it out with the 39th Regiment around the Arch in November 1831. Three of the gang were shot and the remaining ten were captured after three days when their ammunition ran out. They were hanged in Bathurst in February 1832. The leg irons on display in the Arch date from this time. So ended the longest cave inspection at Abercrombie. Imagine the cost for tickets!

We have to be careful when reading references to Abercrombie that they refer to the Caves, and not the Abercrombie Ranges. I can find no reference to Ben Hall's using or even visiting the Abercrombie Caves. He had friends in the Abercrombie Ranges whom he visited when travelling between the Lachlan and Goulburn districts, but the caves were too well known in the mid 1860s for these to be used as a bushranger's hideout. The caves had been known and visited by everyone from miners to Governors for thirty years prior to Ben Hall's day. They had been explored, lived in and built in (dance floor) before Ben Hall turned to unlawful pursuits. Hardly a place for any self respecting bushranger to try to stay concealed in. A bushman such as Hall would never allow himself to be caught in the enclosed trap which is the Abercrombie Caves.

However, if any bushranger of note ever used the caves to advantage, it would have to have been Johnny Piesley whose territory was the Abercrombie area. He ranged in the late 1850s, teaming up with Frank Gardiner for a few famous shootouts with police in the area. If Piesley used the caves, it must have only been for a short time, as he was caught and hanged in 1862.

Assuming then that Ben Hall avoided the Abercrombie 'traps', and was not going to be caught like Entwhistle, we will follow him back across the Lachlan Plain where the mail coaches crossed – Ben Hall permitting. In his own Weddin Mountains, he used sandstone and quartzite overhangs for shelter and storage. The question remains – did he use limestone caves?

In Bungonia Caves (1972:9) a reference is made to the possibility of Hall, Gilbert and Dunn's using those caves in 1865, but, as the book suggests, this is doubtful. The bushrangers were not in the area long enough to use the caves. Furthermore, the area was not known to them, the police were close (in a matter of months, all three would be dead) and the unknown terrain at Bungonia would not lead to a safe getaway if the police did close in on them there. Besides, they were not up on SRT and they had forgotten their ladders this time.

Earlier, in 1863, the hooves of the gang's horses had clattered over limestone, at Cliefden, when they were raiding in the area. The caves at Cliefden and Walli are not the type that would be attractive to an outlaw. The caves were hard to find, with small entrances and a little close to Carcoar and the 'traps'. Even old William Montague Rothery, the owner of Cliefden, who was tied to a chair while the bushrangers enjoyed themselves at his expense, never entered the caves. Perhaps the early miner/settler cavers were attracted by large open arches such as Jenolan and Abercrombie, which resulted in the early popularity of these areas and not others.

The Nelungaloo Caves near Parkes have the distinction of being called Ben Hall's Caves. The Lachlan Tourist writes "The legend suggested that Ben Hall frequented an inn on the Forbes-Bogan Gate road and that this escape route, if strangers were sighted, involved having horses tethered in Goobang Creek and a swift ride upstream to a cave. The legend also suggests that Hall rode into the cave mouth from the creek and that the cave could be negotiated for a mile underground".

SUSS, who have been working in the area, have been unable to prove this latter part of the legend. Although the caves are near where Ben Hall was shot, the area is a bit too far north for him to have visited often. But who knows?

As George Knox, the Superintendent at Abercrombie Caves puts it "Of Ben Hall, we are sure of three things only – where he was born, where he lived and where he died. All else is mere speculation".

Not a bad thing to remember, especially in relation to cave areas.

Moving now to other areas we find reference to a man called Glover who was said to be a member of the Hall gang. 1 can find no reference to this. He was supposed to have planted gold in the Cooleman – Blue Waterholes area.

At Timor, the Main Cave is supposed to have 'F Ward 1885' written on the ceiling. Fred Ward was the name of Captain Thunderbolt, a New England bushranger who was shot in 1870. Yes, 1870!

Another inscription in carbon on the ceiling in Cleatmore Cave near Braidwood reads "T Clarke July 1862". The Clarkes (one was Tom) roamed this area before turning to bushranging. As a bushrangers' haunt, Cleatmore Caves are ideal. The Clarkes were hanged in 1867. The inscription may be genuine though the style of handwriting does not look old. However, the fact that the month and year are given adds to the authenticity.

The Hunter River Valley bushranger 'Jewboy' Davis is said to have stored his loot on Pilchers Mountain. There are caves at Pilchers Hill, near Dungog. Where?

Well, maybe they caved and maybe they didn't. Whatever the case, the legends will continue to grow and the facts will become as foggy as a pair of spectacles in Main Cliefden. We do know however, of Bushranging Speleos who are active today, either collecting loot from tourists before a cave inspection or after a speleo trip in the form of trip fees.

5. When things go wrong …

ASF's safety record is outstanding, accidents and rescues in Australia's caves are relatively rare, and the only fatality ever suffered on ASF member club trip occurred more than 40 years ago. Although S & R arrangements exist in all states, only NSW has continuously maintained an autonomous, viable Cave Rescue organisation over the long term, holding numerous S&R practice weekends at Bungonia and elsewhere.

SEARCH & RESCUE CALL-OUT

Tony Culberg

ASF Newsletter 81 (1978)

On Sunday 30th July, the Tasmanian Search and Rescue organisation was given a full scale check.

The officer in charge of a University college had reported that a party of four from his college had not returned from a one day trip to Midnight Hole, part of Entrance cave at Ida Bay. The full Police Search and Rescue Squad and members of both Hobart-based caving clubs and other active cavers assembled on Sunday to plan the rescue. As Midnight Hole is a vertical cave with old bolts (about 9 years), it was feared that there may have been a serious incident.

The local police (Dover) were asked to check the parking-lot at Ida Bay Quarry, and when it was reported that the car was still there we were sure that we had a real exercise.

The gear was taken in a Range Rover and a Toyota 4WD, the people in a Coaster Bus (19 seats) and an ambulance and Holden Sedan went in case.

The Holden, containing senior Constable Keith Harper, Brian Collin and myself arrived first to find the 'lost' party packing gear into their car, and quite adamant that they did not need rescuing. They were further more embarrassed when the rest of the convoy arrived close behind us.

It appears that the trip had been quite okay and it had been planned for two of the party to squeeze out through Matchbox Squeeze and the other two to prussik back to the surface. The prussik team had not taken the correct rope for the final (45 metres) pitch and had abraded half-way through the rope with one person's ascent. (It seems that no rope protectors were used).

On a later pitch (35 metres) a pack had been dropped and much time was wasted retrieving it. The party had reached the surface about midnight, and had not bothered to make the effort to reach a phone (forty minutes walk plus ten minutes drive away) to notify their college.

The only other comment is that the organiser of this trip is a member of an ASF club and is not a trip leader. It should also be stressed that this was not an official club trip, and that this is not the first time that this person has led trips without informing the club and with unsuitable gear.

Perhaps if all clubs had minimum standards for trip leaders and enforced them, as well as conducted training sessions in trip leader techniques then this type of incident need not have occurred. As a result, the time of 20 or more people was wasted, as was a significant amount of fuel, wear and tear etc. on a pointless rescue.

5. And if all that gung-ho stuff is just too hard …

ADVANTAGES OF CAVING IN AN AREA WITH HEAPS OF SMALL CAVES

(Author is anonymous, but denies being from Victoria!)

Australian Caver 141 (1997)

- No more false hopes and aspirations.
- Unless a total nut case, you will never hold false hopes of possibly finding the world's longest or deepest cave. In fact, you'll never have false hopes of ever discovering Australia's longest or deepest cave.
- Safety issues – It is difficult to get lost.
- For experienced cavers it is a simple case of keeping a cool head and remembering to crawl backwards. If a panic attack occurs and you forget which direction is backwards, your mates waiting outside can just grab hold of your legs and pull you out. In the larger caves, where your mates outside can't see your legs (and this is rare), just turn off your light and the daylight beaming in will point the way out.

- Light failure is rarely a problem. Just remember to look around for the light entering the cave from the entrance. This can be a little more difficult if caving at night. The moonlight is not as obvious as the brighter sunlight streaming in but experienced cavers can usually pick it out.

- If you get in any sort of trouble your mates on the outside can always grab your legs and pull you out again.

Exploration and Survey.

- You can honestly say you have seen every bit of the cave if you've entered it. Small caves require less effort to explore. You can often do a complete exploration without even entering the cave . . . just shine the light in and see it all from the outside. (This type of caving is most popular with those who practice minimal impact caving techniques.)

- No need to be weighed down with vertical equipment, struggling up to the cave and spending hours or even days in rigging the thing. In a small cave area its more likely to be a simple chimney down a two meter drop requiring no gear. As a bonus You can easily 'bomb' the 10 deepest caves in the area in an hour or two.

- You can completely survey several caves in a single weekend and still have plenty of free time. Just imagine how impressive it will sound when you tell your caving colleagues at the next ASF conference that, over the past year, you have surveyed 236 caves while your Tasmanian colleagues are still surveying the same passage in Exit cave.

Other worthwhile advantages

- Cave gates are not needed. They tend to take most the cave space anyway.

- It's never more than a minute to the surface if you have to have a smoke, eat lunch or attend to important bodily functions.

- No need to join in the track-marking debate

- No fear of newspaper headlines blaring 'Cave rescue attempt now in 20th hour'

and if even that's too difficult, caving is only a mouse-click away (is it really only 12 years since this article appeared?)

CAVING ON THE INTERNET

Chris Bradley

Australian Caver 136 (1994)

The Internet is a way to send electronic mail to other people throughout the world. It is where you can discuss topics of interest, obtain answers to questions, find out almost anything. Access to the internet is becoming more common every day. Even if you don't work in a university of a government department, you can access the Internet.

One good reason to access the internet is to join some caving discussion groups. To join a discussion group, you have to get yourself on to the discussion group's mailing list.

In the Internet, a list may or may not be moderated. A moderated list is one where each message is checked by someone to make sure each message is appropriate to the list. An unmoderated list accepts and distributes all e-mail messages from anyone registered to the list. Unmoderated lists generally use programs such as LISTSERV. LISTSERV is a program that manages discussion groups, controlling functions such as subscribing etc.

There are two caving lists that I know of on the Internet and most probably there are more.

The Cavers Mailing List is a moderated list, it is an open forum to share information about caving. Almost daily, the moderator sends out a digest including equipment reviews, caving accident reports, new discoveries and exchanges of cave related information. Anyone on the list can make submissions, which may vary in length from a few to a thousand words. The Cavers Mailing List is particularly helpful if one is travelling overseas or to another caving area and wishes to arrange a caving trip. Anything that is caving related will be accepted. This list is located at Boston University, hence the .bu in the address.

Once you join the Cavers Mailing List you will be sent a Cavers Digest on a daily basis. The digest comprises all the mail sent to the forum.

To join, send a mail message to cavers-request@vlsi.bu.edu. You will be sent a complete listing of the Cavers Digest Archives. So far there are eight index listings, each is about 50k (50,000 bytes) or 16 pages. A reader can then request an article from the archives by sending a mail message to cavers-archive@vlsi.bu.edu.

You will be asked to send a self-introduction which will be included in the Cavers Mailing List Digest.

To send an article, mail to cavers@vlsi.bu.edu.
……..
Have fun!!!

Editors' Note - Update 2006 - This list is still active and can be accessed by the following addresses:
Send all submissions to cavers@caversdigest.com
Send all subscribe/unsubscribe requests to cavers@tomichicreek.com
Visit the cavers digest on the web at http://www.caversdigest.com/